NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

B32 14153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER	**CONTRACT PERIOD**
Amendment #011	January 1, 2018 through December 31, 2018
REQUISITION/REQUEST NUMBER	**SAM II VENDOR NUMBER/MissouriBUYS SYSTEM ID**
NR 300 22007000088	3709087450 1/MB00093573
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
WALTER LOUIS FLUID TECHNOLOGIES 530 S 5TH ST QUINCY IL 62301-4808	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #011, dated 11/21/17.

BUYER	BUYER CONTACT INFORMATION
Jason Kolks	Email: jason.kolks@oa.mo.gov Phone: (573) 522-1620 Fax: (573) 526-9816
SIGNATURE OF BUYER	**DATE**
Jason Kolks	12-4-17

DIRECTOR OF PURCHASING

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING
CONTRACT RENEWAL

AMENDMENT NO.: 011
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 11/08/17

REQ NO.: NR 300 22008000020
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: WALTER LOUIS FLUID TECHNOLOGIES
530 S 5TH ST
QUINCY IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 11/22/17 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	jason.kolks@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

VENDOR NAME	MissouriBUYS SYSTEM ID (SEE VENDOR PROFILE - MAIN INFORMATION SCREEN)
WALTER LOUIS CHEMICAIS & ASSOC, INC	MB00093573
MAILING ADDRESS	
530 south 5thsSTREET	
CITY, STATE, ZIP CODE	
QUINCY, II 62301	

CONTACT PERSON	EMAIL ADDRESS
David Lomax	Lomax@WalterLouis.com
PHONE NUMBER	FAX NUMBER
217-223-2017 x151	217-223-7734
VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)	
X Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___ IRS Tax-Exempt	
AUTHORIZED SIGNATURE	DATE
Walter I. Giesing	11/21/2017
PRINTED NAME	TITLE
Walter I. Giesing	President

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING
CONTRACT RENEWAL

AMENDMENT NO.: 011
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 11/08/17

REQ NO.: NR 300 22008000020
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PHONE NO.: (573) 522-1620
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Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

VENDOR NAME	MissouriBUYS SYSTEM ID (SEE VENDOR PROFILE - MAIN INFORMATION SCREEN)
Walter Louis Chemicals & Associates, Inc	MB00093573
MAILING ADDRESS	
530 South 5th Street	
CITY, STATE, ZIP CODE	
Quincy, IL 62301	

CONTACT PERSON	EMAIL ADDRESS
David Lomax	Lomax@WalterLouis.com
PHONE NUMBER	FAX NUMBER
217-223-2017 x 151	217-223-7734
VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)	
_X_ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___ IRS Tax-Exempt	
AUTHORIZED SIGNATURE	DATE
	11/21/2017
PRINTED NAME	TITLE
Walter L. Giesing	President

AMENDMENT #011 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2018 through December 31, 2018

The State of Missouri hereby exercises its option to renew the above-referenced contract.

The contractor shall indicate on the attached pricing page(s) the firm fixed prices for the above contract period. Any price increases quoted must not exceed the maximum price stated in the contract.

The contractor shall understand and agree if the contractor responds with any renewal period pricing increase, such increase may result in a justification request or in the state conducting a new procurement process rather than accepting the contractor's proposed renewal option pricing.

All other terms, conditions and provisions of the contract shall remain and apply hereto.

The contractor shall sign and return this document, along with completed pricing, on or before the date indicated.

NOTE: The contractor's failure to complete and return this document shall not stop the action specified herein. If the contractor fails to complete and return this document prior to the return date specified or the effective date of the contract period stated above, whichever is later, the state may renew the contract at the same price(s) as the previous contract period or at the price(s) allowed by the contract, whichever is lower.

PRICING PAGE

Water Treatment Services

Line Item	FACILITY	SECOND RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Corrections Facilities		
001	Algoa Correctional Center	$2,271.00
002	Boonville Correctional Center	$14,914.00
003	Central Missouri Correctional Center	$0.00
004	Chillicothe Correctional Center	$10,112.96
005	Crossroads Correctional Center	$10,059.00
006	Eastern Reception Diagnostic and Correctional Center	$27,797.00
007	Farmington Community Supervision Center	$0.00
008	Farmington Correctional Center	$64,680.00
009	Fulton Reception & Diagnostic Center	$3,569.00
010	Hannibal Community Supervision Center	$0.00
011	Jefferson City Correctional Center	$42,831.00
012	Kansas City Community Release Center	$0.00
013	Kennett Community Supervision Center	$0.00
014	Maryville Treatment Center	$2,812.16

Line Item	FACILITY	SECOND RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Corrections Facilities (Continued)		
015	Missouri Eastern Correctional Center	$0.00
016	Moberly Correctional Center	$14,677.00
017	Northeast Correctional Center	$0.00
018	Ozark Correctional Center	$19,144.00
019	Poplar Bluff Community Supervision Center	$0.00
020	Potosi Correctional Center	$13,362.00
021	South Central Correctional Center	$12,819.00
022	Southeast Correctional Center	$14,515.00
023	St. Louis Community Release Center	$0.00
024	St. Joseph Community Supervision Center	$0.00
025	Tipton Correctional Center	$11,573.00
026	Western Missouri Correctional Center	$1,839.00
027	Western Reception Diagnostic and Correctional Center	$36,234.00
028	Women's Eastern Reception Diagnostic and Correctional Center	$24,120.00
029	MVE Complex (Jefferson City)	$2,001.00

Line Item	FACILITY	SECOND RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Division of Facilities Management, Design and Construction Facilities		
030	Fletcher Daniels State Office Building	$9,950.72
031	Kansas City DOLIR State Office Building	$0.00
032	Prince Hall State Office Building	$5,192.00
033	St. Joseph Career Center	$0.00
034	St. Joseph State Office Building	$4,543.00
035	Wainwright State Office Building	$5,300.00
174	8800 E. 63rd. Street, Raytown, Missouri	$4,868.00
179	Landers State Office Building	$8,944.00
180	Penney State Office Building	$0.00
181	Springfield DOLIR Building	$0.00
Department of Elementary and Secondary Education Facilities		
036	B.W. Robinson State School	$0.00
037	Boonslick State School	$0.00
038	Cedar Ridge State School	$0.00
039	College View State School	$0.00
040	Delmar Cobble State School	$0.00

Line Item	FACILITY	SECOND RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Elementary and Secondary Education Facilities (Continued)		
041	Gateway/Hubert Wheeler State School	$0.00
042	Greene Valley State School	$0.00
043	Lakeview Woods State School	$0.00
044	Maple Valley State School	$0.00
045	Missouri School for the Blind	$8,436.00
046	Missouri School for the Deaf-Kerr	$0.00
047	Missouri School for the Deaf-Resource Center	$0.00
048	Missouri School for the Deaf-Rice	$0.00
049	Missouri School for the Deaf-Stark	$4,218.24
050	Missouri School for the Deaf-Tate	$1,514.00
051	Missouri School for the Deaf-Vocational	$0.00
052	Missouri School of the Deaf-Wheeler	$6,273.28
053	Oakview State School	$0.00
054	Prairie View State School	$0.00
055	Rolling Meadows State School	$0.00
056	Shady Grove State School	$2,595.84

Line Item	FACILITY	SECOND RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Elementary and Secondary Education Facilities (Continued)		
057	Trails West State School (Dale M. Thompson)	$1,947.00
058	Verelle Peniston State School	$0.00
175	Missouri School for the Deaf – Central Supply Building	$11,776.00
Department of Mental Health Facilities		
059	Albany Regional Center	$0.00
060	Bellefontaine Habilitation Center	$7,247.00
061	Fulton State Hospital	$42,236.00
062	Hawthorne Children's Psychiatric Hospital	$0.00
063	Higginsville Habilitation Center	$1,731.00
066	Metropolitan St. Louis Psychiatric Center	$6,949.00
067	Missouri Sex Offender Treatment Center	$0.00
068	Nevada Habilitation Center	$9,085.00
070	Northwestern Missouri Psychiatric Rehabilitation Center	$11,119.00
071	Sikeston Regional Office	$0.00

Line Item	FACILITY	SECOND RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Mental Health Facilities (Continued)		
072	South County Habilitation Center	$0.00
073	Southeast Missouri Mental Health Center	$9,313.00
074	St. Charles Habilitation Center	$0.00
075	St. Louis Psychiatric Rehabilitation Center	$13,520.00
076	Western Missouri Mental Health Center	$8,177.00
173	Springfield Regional Center	$0.00
Missouri State Highway Patrol Facilities		
077	MSHP Crime Lab – Springfield	$0.00
078	MSHP General Headquarters Academy: Jefferson City	$0.00
079	MSHP General Headquarters Annex: Jefferson City	$0.00
080	MSHP General Headquarters – Jefferson City	$8,761.00
081	MSHP Troop A – Lee's Summit	$0.00
082	MSHP Troop B – Macon	$0.00
083	MSHP Troop C Service Center – Park Hills	$0.00
084	MSHP Troop F – N. Shamrock Rd, Jefferson City	$0.00
085	MSHP Troop I - Rolla	$0.00

Line Item	FACILITY	SECOND RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Missouri Veterans Commission Facilities		
086	Missouri Veterans Home-Cameron	$7,030.00
087	Missouri Veterans Home-Cape Girardeau	$7,139.00
088	Missouri Veterans Home-Mexico	$8,328.00
089	Missouri Veterans Home-Mt. Vernon	$8,869.00
090	Missouri Veterans Home-St. James	$7,247.00
091	Missouri Veterans Home-St. Louis	$5,365.00
092	Missouri Veterans Home-Warrensburg	$9,302.00
Division of Social Services, Youth Services Facilities		
093	Fulton Treatment Center	$0.00
094	Hogan Street Youth Center	$0.00
095	Montgomery City Youth Center	$0.00
096	Mt. Vernon Treatment Center	$0.00
097	Riverbed Treatment Center	$0.00
098	W.E. Sears Youth Center	$0.00
177	Missouri Hills Youth Center	$0.00

Additional Chemicals:

Line Item	Product Name BOILER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	Second Renewal Period (Firm, Fixed Price)
[illegible]	89-L Boiler Compound	5 gal, 15 gal, 55 gal	$86.36 / gal
[illegible]	155-L Single Blend Boiler Compound	15 gal, 55 gal, bulk	$20.80 / gal
[illegible]	157-L Single Blend Boiler Compound	15 gal, 55 gal, bulk	$20.80 / gal
[illegible]	1435 Boiler Compound	15 gal, 55 gal, bulk	$51.36 / gal
[illegible]	1450 Boiler Compound	15 gal, 55 gal, bulk	$39.14 / gal
[illegible]	1460 Boiler Compound	15 gal, 55 gal, bulk	$46.47 / gal
[illegible]	1495 Boiler Compound	15 gal, 55 gal, bulk	$39.14 / gal
[illegible]	1655 Boiler Compound	15 gal, 55 gal, bulk	$26.92 / gal
[illegible]	LC-25 Liquid Caustic Soda 25%	15 gal, 55 gal, bulk	$4.00 / gal
[illegible]	LC-50 Liquid Caustic Soda 50%	15 gal, 55 gal, bulk	$6.83 / gal
	Contingency Chemicals		
[illegible]	123 Acid Cleaner	15 gal, 55 gal	$18.67 / gal
[illegible]	29-A Boiler Banking Lay Up	15 gal, 55 gal	$20.36 / gal
[illegible]	1146 Liquid Alkaline Boil Out	15 gal, 55 gal	$22.22 / gal
[illegible]	1147 Alkaline Boil Out (Dry)	50 lb	$2.71 / lb.

Line Item	Product Name DEAERATOR / FEEDWATER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	Second Renewal Period (Firm, Fixed Price)
[illegible]	592-L Oxygen Scavenger	15 gal, 55 gal, bulk	$12.86 / gal
[illegible]	595 Oxygen Scavenger	15 gal, 55 gal, bulk	$18.36 / gal

Line Item	Product Name STEAM SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	Second Renewal Period (Firm, Fixed Price)
[illegible]	358 Steamline Treatment	15 gal, 55 gal	$13.15 / gal
[illegible]	1535 Steamline Treatment	15 gal, 55 gal bulk	$48.90 / gal
[illegible]	1565 Steamline Treatment	15 gal, 55 gal, bulk	$48.90 / gal
[illegible]	1575 Steamline Treatment	15 gal, 55 gal, bulk	$49.90 / gal
[illegible]	PAC-50 Flocculant	15 gal, 55 gal	$23.18 / gal

Line Item	Product Name COOLING TOWER AND SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	Second Renewal Period (Firm, Fixed Price)
[illegible]	206 Biodispersant`	15 gal	$100.26 / gal
[illegible]	290 Dispersant (Oil Problems)	5 gal, 15 gal	$101.49 / gal
[illegible]	1248 Cooling Tower Wet Lay Up	5 gal, 15 gal, 55 gal	$70.58 / gal
[illegible]	4707 Cooling Water Treatment	15 gal, 55 gal, bulk	$36.70 / gal
[illegible]	4709 Cooling Water Treatment	15 gal, 55 gal, bulk	$31.81 / gal
[illegible]	4714 Cooling Water Treatment	15 gal, 55 gal, bulk	$26.92 / gal
[illegible]	7116 Cooling Water Treatment	15 gal, 55 gal, bulk	$61.14 / gal
[illegible]	7221 Cooling Water Treatment	15 gal, 55 gal, bulk	$48.90 / gal
[illegible]	7351 Cooling Water Treatment	15 gal, 55 gal, bulk	$36.75 / gal
[illegible]	AM-545 Microbiocide	5 gal	$97.83 / gal
[illegible]	AM-66 Microboiocide Tablets	50 lb	$9.81 / lb.
[illegible]	AM-714 Microboicide	6 gal	$79.47 / gal
[illegible]	CTT Tabs	43 lb	$14.70 / lb.
[illegible]	ISO-15 Microbiocide	5 gal	$88.04 / gal
[illegible]	Verox-8 Microbiocide	5 gal, 15 gal, 55 gal	$77.38 / gal
[illegible]	1237 Passivating Tower Blend	5 gal, 15 gal, 55 gal	$20.41 / gal
[illegible]	Sulfuric Acid 66 BE	55 gal	$7.85 / gal
	Contingency Chemicals		
[illegible]	123 Acid Cleaner	15 gal, 55 gal	$18.67 / gal

Line Item	Product Name DEALKALIZER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	Second Renewal Period (Firm, Fixed Price)
[illegible]	LC-25 Liquid Caustic Soda 25%	15 gal, 55 gal, bulk	$4.00 / gal
[illegible]	LC-50 Liquid Caustic Soda 50%	15 gal, 55 gal, bulk	$6.83 / gal

SECOND RENEWAL PERIOD					
	Product Name	**Firm, Fixed Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP COOLING SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
140	839 Closed System Inhibitor	$45.26 / gal	15 gal, 55 gal, bulk	40 gallons	$1,810.40
	Contingency Chemicals				
141	0225 Closed System Treatment	$51.35 / gal	15 gal, 55 gal, bulk		
142	96 System Precleaner	$25.68 / gal	15 gal, 55 gal, bulk		
143	996 Resin Cleaner	$25.68 / gal	15 gal, 55 gal, bulk		
144	AM-50 Microbiocide	$48.90 / gal	15 gal		
145	Thermal-Guard HT-1	$18.67 / gal	15 gal, 55 gal, bulk		
146	Thermal-Guard FG	$21.25 / gal	15 gal, 55 gal, bulk		
147	ISA-10 Cleaner	$8.91 / lb.	50 lb		

SECOND RENEWAL PERIOD					
	Product Name	**Firm, Fixed Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP HEATING SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZEAND UNIT	Amount of Chemical Required	Total Price
[illegible]	839 Closed System Inhibitor	$45.26 / gal	15 gal, 55 gal, bulk	40 gallons	$1,810.40
[illegible]	Contingency Chemicals				
[illegible]	0225 Closed System Treatment	$51.35 / gal	15 gal, 55 gal, bulk		
[illegible]	96 System Precleaner	$25.68 / gal	15 gal, 55 gal, bulk		
[illegible]	996 Resin Cleaner	$25.68 / gal	15 gal, 55 gal, bulk		
[illegible]	AM-50 Microbiocide	$48.90 / gal	15 gal		
[illegible]	Thermal-Guard HT-1	$18.67 / gal	15 gal, 55 gal, bulk		
[illegible]	Thermal-Guard FG	$21.25 / gal	15 gal, 55 gal, bulk		
[illegible]	1193 Aluminum Corrosion Inhibitor	$45.26 / gal	5 gal, 15 gal, 55 gal, bulk		
[illegible]	2193 High Temp Corrosion Inhibitor	$45.26 / gal	5 gal, 15 gal, 55 gal, bulk		

SECOND RENEWAL PERIOD					
	Product Name	**Firm, Fixed Unit Price**		*****Treatment of 400,000 Gallons of Diesel Fuel**	
	FUEL OIL SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
[illegible]	Sludge-Free Dispersant	$37.01 / gal	5 gal, 15 gal, 55 gal	13 gallons	$481.13
[illegible]	Fuel-Save Stabilizer (Anti-bacterial)	$84.31 / gal	5 gal	1.8 gallons	$151.76

Resin Analysis and Elution Study and Cleaning Solution:

		SECOND RENEWAL PERIOD FIRM, FIXED PRICE
[illegible]	Resin Analysis and Elution Study	$321.72 (per study)
[illegible]	Resin Cleaning Solution	$25.68 (per gallon)

Domestic Water System:

		CONTAINER SIZE	SECOND RENEWAL PERIOD UNIT PRICE
[illegible]	Polymerized Sodium Polyphosphate	55 gal	$33.48 / gal
[illegible]	Sodium Hypochlorite Bleach	55 gal or bulk	$2.95 / gal
[illegible]	Chlorine Dioxide Solution	55 gal drum	$17.84 / gal

Waste Water System:

		CONTAINER SIZE	SECOND RENEWAL PERIOD FIRM, FIXED PRICE
[illegible]	Calcium Nitrate, or approved equal, for control of odor, and Hydrogen Sulfide	55 gal	$12.86 / gal
[illegible]	Aqueous Organic Sulfides for control of Flocculent Precipitant	5 gal, 15 gal, 55 gal	$38.62 / gal
[illegible]	Ferrous Sulfate for Sludge Conditioning	15 gal, 55 gal, bulk	$9.80 / gal
[illegible]	Bio-L-220 Grease Digesting Bacteria, or approved equal	5 gal	$34.24 / gal

Test Equipment and Refractometer:

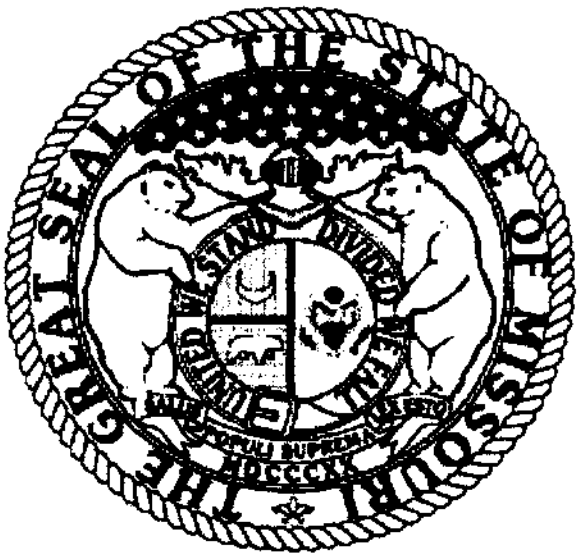
		SECOND RENEWAL PERIOD FIRM, FIXED PRICE
[illegible]	Bench top PH. Meter/Microcomputer	$546.82
[illegible]	Bench top T.D.S. Conductivity Meter	$546.92
[illegible]	Propylene Glycol & Ethylene Glycol Refractometer	$207.67
[illegible]	TPHl Combination pH/Conductivity	$1,043.75

Chemical Feed Equipment:

	FIRM, FIXED PERCENTAGE
Percentage Over Actual Net Cost	10%

Storage Tank:

	FIRM, FIXED PERCENTAGE
Percentage Over Actual Net Cost	10%



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Kolks, Jason

From: Brinkley, Rebecca
Sent: Friday, December 01, 2017 4:18 PM
To: Kolks, Jason
Subject: RE: C314153001 Water Treatment Services

Please proceed with the renewal pricing as submitted.

Thank you!

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

From: Kolks, Jason
Sent: Friday, December 01, 2017 9:07 AM
To: Brinkley, Rebecca <Becky.Brinkley@oa.mo.gov>
Subject: FW: C314153001 Water Treatment Services

Ms. Brinkley,

Please advise if the attached renewal pricing is acceptable.

Thank you,

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

From: David Lomax [mailto:Lomax@walterlouis.com]
Sent: Wednesday, November 29, 2017 11:44 AM
To: Kolks, Jason <Jason.Kolks@oa.mo.gov>
Subject: RE: C314153001 Water Treatment Services

Corrected copy attached.
DL

From: Kolks, Jason [mailto:Jason.Kolks@oa.mo.gov]
Sent: Tuesday, November 28, 2017 1:40 PM
To: David Lomax
Subject: C314153001 Water Treatment Services

The Division of Purchasing is in receipt of your signed Amendment #011 for the renewal of Contract C314153001 for Water Treatment Services.

However, the pricing that you requested **exceeds the maximum allowable price for Line Item 014 for the renewal period and is not acceptable**. In addition, we are asking contractors to renew contracts with no increase, even if the contract allows an increase for the renewal period. Therefore, I'm attaching another copy of the renewal amendment for you to complete and return with acceptable pricing. Although the pricing you submit must be within the maximum allowable pricing for the renewal period, we are requesting that you review your prices and give consideration to a reduction from the maximum allowable price.

As you review your pricing, be advised that any renewal period pricing increase over the previous contract pricing may result in the state conducting a new procurement for the services. Therefore, if any increase in pricing is requested over the previous contract period price, be sure to submit documentation supporting the increase requested.

Please respond to this email by no later than Friday, December 1, 2017.

Thank you for your consideration and feel free to contact me with any questions.

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

PURCHASING **CONTRACT AMENDMENT ROUTING GUIDE** C31415300 1 A# 011 #22

NR 300-22008000020 Revised 08/17/15

RENEWAL: 2 PERIOD OF 3 TOTAL

- ____ Renewal - % Increase ____ Cost Savings
- ____ Renewal - $ Increase ____ Cost Savings
- ____ Renewal – W/O Increase
- ____ SFS Renewal – Prices In Original Contract
- ____ SFS Renewal – Prices Not in Original Contract

EXTENSION PERIOD: _____

- ____ Extension – 30-Day Termination
- ____ Extension - $ Increase ____ Cost Savings
- ____ Extension – W/O Increase
- ____ Assignment
- ____ Cancellation/Termination
- ____ Other Amendment

Performance Security Deposit: $_____

Surety Bond: $_____

Annual Wage Order Number: _____

Annual Wage Order Date: _____

County(ies): _____

Other Instructions: _____

A.	Section 34.040.6, RSMo	Buyer/Section Support	DT	11-8-17
B.	Purchasing Suspension List	Buyer/Section Support	DT	11-8-17
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	DT	11-8-17
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer		
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer		
		Buyer/Section Support	DT	11-8-17
		Buyer	JWK	11-8-17
		Buyer/Section Support	DT	11-13-17

Contractor E-Mail Address/Fax Number wlg@walterlouis.com wgiesing@walterlouis.com

State Agency Contact E-Mail Address Becky Brinkley

Section 34.040.6, RSMo, Letter Follow-Up Notes:

A.	Renewal/Extension Pricing	Buyer/Section Support	JWK	12-4-17
B.	Section 34.040.6, RSMo	Buyer/Section Support	JWK	12-4-17
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support		
D.	Renewal/Extension with Cost Savings Language	Buyer	JWK	12-4-17
E.	Statewide Notice	Buyer		
F.	SFS Authorized Limit $	Buyer		
G.				
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support		
	2. Assignment and Consent Form	Buyer/Section Support		
	3. Purchasing Suspension List	Buyer/Section Support		
	4. Federal Suspension – SAM.GOV	Buyer/Section Support		
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
		Buyer/Section Support	JWK	12-4-17
		Buyer	JWK	12-4-17
		Buyer/Section Support	DT	12-12-17
	AM 300 PMM 0007362 MB	Buyer/Section Support	DT	12-12-17
	Distribute E-Verify & SDV Documents	Buyer/Section Support		
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	DT	12-12-17
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support		
		Central Support-Participation	KW	12-19-17
		Central Support-Imaging		12:28

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

PO32141153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER	**CONTRACT PERIOD**
Amendment #010	January 1, 2017 through December 31, 2017
REQUISITION/REQUEST NUMBER	**SAM II VENDOR NUMBER/MissouriBUYS SYSTEM ID**
NR 300 22007000088	3709087450 1/MB00093573
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
WALTER LOUIS FLUID TECHNOLOGIES 530 S 5TH ST QUINCY IL 62301-4808	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #010, dated 7/12/17.

BUYER	BUYER CONTACT INFORMATION
Jason Kolks	Email: jason.kolks@oa.mo.gov Phone: (573) 522-1620 Fax: (573) 526-9816
SIGNATURE OF BUYER	**DATE**
Jason Kolks	7-12-17

DIRECTOR OF PURCHASING

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING (PURCHASING)
CONTRACT AMENDMENT

AMENDMENT NO.: 010
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 07/12/17

REQ NO.: NR 300 22007000088
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 07/26/17 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	jason.kolks@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technologies	Walter Louis Chemicals and Associates Inc.
MAILING ADDRESS	IRS FORM 1099 MAILING ADDRESS
530 S. 5th St.	530 S. 5th St.
CITY, STATE, ZIP CODE	CITY, STATE, ZIP CODE
Quincy, Il 62301-4896	Quincy, Il. 62301-4896

CONTACT PERSON	EMAIL ADDRESS
Walter L. Giesing	wgiesing@walterlouis.com
PHONE NUMBER	FAX NUMBER
217-2253-2017	217-223-7734

TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
37-0908745	___ FEIN ___ SSN	3709087450 1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)

_X_ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___ IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
Walter L Giesing	7/12/2017
PRINTED NAME	TITLE
Walter L. Giesing	President

AMENDMENT #010 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2017 through December 31, 2017

The State of Missouri desires to amend Contract C314153001 for Water Treatment Services to remove Joplin Regional Center at 3600 E. Newman RD in Joplin, MO 64802 (Line Item 064) to the provisions and requirements of the contract. As a result, Revised Attachment #1 is deleted and replaced with the Attached Revised Attachment #1 dated 7/7/17 and Attachment #2 is deleted and replaced with the attached Revised Attachment #2 dated 7/7/17.

All references to Attachment #1 shall be hereby deemed to mean Revised Attachment #1 dated 7/7/17 and all references to Attachment #2 shall be hereby deemed to mean Revised Attachment #2 dated 7/7/17.

All other requirements and provisions of the contract, including all other prices, shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it on or before the date indicated on the cover page of this document.

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF CORRECTIONS		
ACC - Algoa Correctional Center	**MONTHLY SITE VISITS**	
BCC - Boonville Correctional Center	**MONTHLY SITE VISITS**	
CMCC - Central Missouri Correctional Center	**MONTHLY SITE VISITS**	
CCC - Chillicothe Correctional Center	**MONTHLY SITE VISITS**	
CRCC - Crossroads Correctional Center	**MONTHLY SITE VISITS**	
ERDCC - Eastern Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
Farmington Community Supervision Center	**MONTHLY SITE VISITS**	X
FCC - Farmington Correctional Center	**MONTHLY SITE VISITS**	
FRDC - Fulton Reception and Diagnostic Center	**MONTHLY SITE VISITS**	
Hannibal Community Supervision Center	**MONTHLY SITE VISITS**	X
JCCC - Jefferson City Correctional Center	**MONTHLY SITE VISITS**	
KCCRC - Kansas City Community Release Center	**MONTHLY SITE VISITS**	X
Kennett Community Supervision Center	**MONTHLY SITE VISITS**	X
MTC - Maryville Treatment Center	**MONTHLY SITE VISITS**	
MECC - Missouri Eastern Correctional Center	**MONTHLY SITE VISITS**	X
MCC - Moberly Correctional Center	**MONTHLY SITE VISITS**	
NECC - Northeast Correctional Center	**MONTHLY SITE VISITS**	X
OCC - Ozark Correctional Center	**MONTHLY SITE VISITS**	
Poplar Bluff Community Supervision Center	**MONTHLY SITE VISITS**	X
PCC - Potosi Correctional Center	**MONTHLY SITE VISITS**	
SCCC - South Central Correctional Center	**MONTHLY SITE VISITS**	
SECC - Southeast Correctional Center	**MONTHLY SITE VISITS**	
SLCRC - St. Louis Community Release Center	**MONTHLY SITE VISITS**	
St. Joseph Community Supervision Center	**MONTHLY SITE VISITS**	X
TCC - Tipton Correctional Center	**MONTHLY SITE VISITS**	
WMCC - Western Missouri Correctional Center	**MONTHLY SITE VISITS**	X
WRDCC - Western Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
WERDCC - Women's Eastern Reception, Diagnostic Correctional Center	**MONTHLY SITE VISITS**	
MVE - MO Vocational Enterprise Complex	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF ELEMENTARY & SECONDARY EDUCATION		
B.W. Robinson State School	**MONTHLY SITE VISITS**	X
Boonslick State School	**MONTHLY SITE VISITS**	X
Cedar Ridge State School	**MONTHLY SITE VISITS**	X
College View State School	**MONTHLY SITE VISITS**	X
Delmar Cobble State School	**MONTHLY SITE VISITS**	X
Gateway/Hubert Wheeler State School	**MONTHLY SITE VISITS**	X
Greene Valley State School	**MONTHLY SITE VISITS**	X
Lakeview Woods State School	**MONTHLY SITE VISITS**	X
Maple Valley State School	**MONTHLY SITE VISITS**	X
Missouri School For The Blind	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Kerr	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Resource Center	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Rice	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Stark	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Tate	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Vocational	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Wheeler	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Central Supply	**MONTHLY SITE VISITS**	X
Oakview State School	**MONTHLY SITE VISITS**	X
Prairie View State School	**MONTHLY SITE VISITS**	X
Rolling Meadows State School	**MONTHLY SITE VISITS**	
Shady Grove State School	**MONTHLY SITE VISITS**	
Trails West State School (Dale M. Thompson)	**MONTHLY SITE VISITS**	X
Verelle Peniston State School	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF MENTAL HEALTH		
Albany Regional Office	MONTHLY SITE VISITS	
Bellefontaine Hab Center	MONTHLY SITE VISITS	
Fulton State Hospital	MONTHLY SITE VISITS	X
Hawthorn Children Psychiatric Hospital	MONTHLY SITE VISITS	
Higginsville Hab Center	MONTHLY SITE VISITS	X
Metropolitan St. Louis Psych Center	MONTHLY SITE VISITS	X
MO Sexual Offender Treatment Center	MONTHLY SITE VISITS	
Nevada Hab Center	MONTHLY SITE VISITS	X
Northwest Habilitation Center	MONTHLY SITE VISITS	
Northwestern MO Psych Rehab Center	MONTHLY SITE VISITS	X
Sikeston Regional Office	MONTHLY SITE VISITS	X
South County Habilitation Center	MONTHLY SITE VISITS	
Southeast MO Mental Health Center	MONTHLY SITE VISITS	X
Springfield Regional Office	MONTHLY SITE VISITS	X
St. Charles Habilitation Center	MONTHLY SITE VISITS	
St. Louis Psychiatric Rehab Center	MONTHLY SITE VISITS	
Western MO Mental Health Center	MONTHLY SITE VISITS	
FACILITIES OPERATIONS		
Fletcher Daniels State Office Building	MONTHLY SITE VISITS	
Kansas City DOLIR State Office Building	MONTHLY SITE VISITS	
Prince Hall State Office Building	MONTHLY SITE VISITS	X
St. Joseph Career Center	MONTHLY SITE VISITS	
St. Joseph State Office Building	MONTHLY SITE VISITS	
Wainwright State Office Building	MONTHLY SITE VISITS	
Landers State Office Building	MONTHLY SITE VISITS	x
Penney State Office Building	MONTHLY SITE VISITS	x
Springfield DOLIR Building	MONTHLY SITE VISITS	x
MISSOURI STATE HIGHWAY PATROL		
MSHP Crime Laboratory - Springfield	MONTHLY SITE VISITS	X
MSHP General Headquarters Academy-Jefferson City	MONTHLY SITE VISITS	
MSHP General Headquarters Annex-Jefferson City	MONTHLY SITE VISITS	X
MSHP General Headquarters-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop A-Lee's Summit	MONTHLY SITE VISITS	X
MSHP Troop B-Macon	MONTHLY SITE VISITS	X
MSHP Troop C Service Center-Park Hills	MONTHLY SITE VISITS	X
MSHP Troop F-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop I-Rolla	MONTHLY SITE VISITS	
DSS-YOUTH SERVICES		

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
Fulton Treatment Center	**MONTHLY SITE VISITS**	X
Hogan Street Youth Center	**MONTHLY SITE VISITS**	X
Montgomery City Youth Center	**MONTHLY SITE VISITS**	X
Mt. Vernon Treatment Center	**MONTHLY SITE VISITS**	X
Riverbend Treatment Center	**MONTHLY SITE VISITS**	X
W.E. Sears Youth Center	**MONTHLY SITE VISITS**	
Missouri Hills Youth Center	**MONTHLY SITE VISITS**	X
MISSOURI VETERANS HOMES		
MVH - Cameron	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Cape Girardeau	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mexico	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mt. Vernon	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. James	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. Louis	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Warrensburg	**Monthly Site Visits While Cooling Tower Is In Operation**	

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Kansas City Community Release Center	Eastern Reception Diagnostic and Correctional Center	Northeast Correctional Center	Boonville Correctional Center	Algoa Correctional Center	Hannibal Community Supervision Center
	Address	651 Mulberry Street Kansas City, MO 64101	2727 Highway K Bonne Terre, MO 63628	13698 Airport Road Bowling Green, MO 63334	1216 East Morgan, Boonville, MO 65233	8501 No More Victims Rd. Jefferson City, MO 656101	2002 Warren Barrett Dr. Hannibal, MO 63401
	Telephone No.:	816-842-7467	573-358-5038	573-324-9975	660-882-6521	573-751-3911	573-248-2450
Primary Boiler System	**Annual Steam Production (lbs)**	*I do not believe this* concerns KCCRC. KCCRC only has a water softener for domestic hot water. Water tube hot water Heater. Cooling by 24 A/C units.	56,245,000 LBS.	573,763 GAL.	48,676,693.59 lbs of steam	22909594	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	729,500 GAL.	Unknown	485176 gallons of Make- Make	448000	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	3,660 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	No way of gauging
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	604,700 GAL.	Unknown	No Meter to measure gals of Make-Up	10,000 gal and 450000	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	1,900 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	Unknown

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Maryville Treatment Center	South Central Correctional Center	Southeast Correctional Center	Farmington Correctional Center	Tipton Correctional Center	Western Missouri Corrections Center
	Address	30227 Hwy 136 Maryville, MO 64468	255 West Hwy 32 Licking, MO 65542	300 E. Pedro Simmons Dr. Charleston, MO 63834	1012 W.Columbia Farmington Mo. 63640	619 N. Osage Avenue Tipton, MO 65081	609 East Pence Road Cameron, MO 64429
	Telephone No.:	660-582-6542	573-674-4470	573-683-4409	573-218-7100	660-433-2031	816-632-1390
Primary Boiler System	**Annual Steam Production (lbs)**	No Steam meter onsite	N/A	N/A	4937630	35mbl	NONE
	Steam Boiler System Annual Makeup (gals)	7 Year average 7,715	N/A	N/A	131908	412,570 gal	NONE
	Heating Closed Loop Annual Makeup (gals)	Est 1000 to 1500 Gallons No water meter	623 Gals.	14764	35,510 Sept thru June	25	Major heating leaks= 17,000 gal Boiler Prevent. Maint.=8,000gal (Refill) Total= 25,000 gal
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	10,608,000 lbs.	N/A	N/A	N/A	Unknown
	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	N/A	N/A	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	2,729,538 gals.	3980533.3	UNKNOWN AT THIS TIME	Unknown	NONE
	Cooling Closed Loop Annual Makeup (gals)	N/A	93 gals.	571.44	UNKNOWN AT THIS TIME	25	NONE

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Women's Eastern Reception Diagnostic and Correctional Center	Western Reception Diagnostic and Correctional Center	Ozark Correctional Center	Central Missouri Correctional Center	Jefferson City Correctional Center	Fulton Reception & Diagnostic Center
	Address	1101 East Highway 54 Vandalia, MO 63382	3401 Faraon Street St. Joseph, Mo. 64506	929 Honor Camp Lane Fordland, MO 65652	2600 Highway 179 Jefferson City, MO 65102	8200 No More Victums Road Jefferson City, MO 65101	1393 Route O Fulton, MO 65251
	Telephone No.:	573-594-6686	816-387-2158	417-767-4491	573-751-2053	573-751-3224	573-592-4040
Primary Boiler System	**Annual Steam Production (lbs)**	Two Boilers - Provide steam to laundry and kitchen	Not metered	Unknown	8,585,192 lbs	53,120,714	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	2,000 Gal.	1,421,098 Gallon for boiler feed water	1,389,920	124,857 gals	643,987	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	54,000 Gal (Leaks Underground) Repaired	Not metered		15,000 gals	500	10000
Laundry Boiler System	**Annual Steam Production (lbs)**	Minimal Usage	Same boilers above supply this steam.	N/A	Zero (Facility Closed)	337973 lbs./yr. Based on gas usage	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**		Same boilers above supply this steam.	N/A	Zero (Facility Closed)	5000 gals for MVE boiler	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	Yes	Yes	No	No
	Total Cooling Tower Annual Makeup (gals)	Not Metered-Need Meter Installed	Not metered	N/A	N/A	5,005,000	700000
	Cooling Closed Loop Annual Makeup (gals)	51,000 Gal (Leaks Underground) Repaired	Not metered	N/A	N/A	1,200	100

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	DOC-MVE
	Facility	St. Louis Community Release Center	Kennett Community Supervision Center	Poplar Bluff Community Supervision Center	Chillicothe Correctional Center-New	Moberly Correctional Center	MVE Complex
	Address	1621 North 1st Street Saint Louis, MO 63102	875 County Highway V V Kennett 63857	1441 Black River Industrial Park Road Poplar Bluff, MO 63901	3151 Litton Road Chillicothe, MO 64601	5201 South Morley Street Moberly, MO 65270	1717 Industrial Drive Jefferson City, MO 65109
	Telephone No.:	314-877-0300	573-888-4900	576-840-9555	660-646-4032	660-263-3778 Ext. 1205	573-526-2893
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	New Facility - No Past Data	New Facility - No Past Data	N/A	N/A	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	NA
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	15 gals	N/A	N/A	Unknown	182,500	We have No meter on system but we do use about 30 gallons of 839 closed loop system treatment
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	12,420,000	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	900,000	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	Yes	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	Unknown	65,500	We have No meter on the system but we do use about 10 to 15 gallongs 4707 cooling tower treatment system
	Cooling Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	8,000	We have No meter on the system but we do use about 5 to 10 gallongs 839 closed loop system treatment

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF CORRECTIONS FACILITIES								
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)		
	Facility	Farmington Community Supervision Center	Crossroads Correctional Center	Missouri Eastern Correctional Center	Potosi Correctional Center	St. Joseph Community Supervision Center		
	Address	1430 Doubet Road Farmington, MO 63640	1115 E Pence Rd. Cameron, MO 64429	18701 Old Hwy 66 Pacific, MO 63069	11593 State Highway O Mineral Point, MO 63660	3305 Faraon St. St. Joseph, Mo 64506		
	Telephone No.:	573-218-7100, ext 428 (Rick Alvers at Farmington Correctional Center)	816-632-2727 ext1370 (Brett Adkinson at Crossroads Correctional Center)	636-257-3322 ext 1205 (Ed Moody at Potosi Correctional Center	573-438-6000, ext 1308 (Steve Helms at Potosi Correctional Center)	816-271-3131 ext 257		
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	N/A		
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A		
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A		
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	N/A	N/A		
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	N/A	N/A		
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	Yes	No	No	No		
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	2,250,000 gallons	N/A		
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A		

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Blind	Missouri School for the Deaf-Wheeler	Missouri School for the Deaf-Tate	Missouri School for the Deaf-Kerr	Missouri School for the Deaf-Stark	Missouri School for the Deaf-Vocational
	Address	3815 Magnolia St Louis, MO	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251
	Telephone No.:	314-776-4320, x125	573-592-2520	573-592-2520	573-592-2520	573-592-2520	573-592-2520
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Chilled water closed loop	Chilled water closed loop	chilled water closed loop	2 Steam to water heat closed loops.
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	650 Gals.	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	813, 937 and 800 gal est reported	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Deaf-Rice	B.W. Robinson State School	Boonslick State School	Gateway/Hubert Wheeler State School	Delmar Cobble State School	Lakeview Woods State School
	Address	505 E. 5th Street Fulton, Mo 65251	300 Lanning Lane Rolla, MO	321 Knaust Road St. Peters, MO	100 South Garrison St. Louis, MO	108 West Craig St. Columbia, MO	351 NE Gregory Lee's Summit, MO
	Telephone No.:	573-592-2520	636-931-0080 (KH's)	636-931-0080 (KH's)	636-931-0080 (KH's)	660-530-5575 (NK's)	660-530-5575 (NK's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown ,No meter	Unknown, No meter	Unknown ,No meter	Unknown, No meter	Unknown, No meter

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Maple Valley State School	Verelle Peniston State School	Rolling Meadows State School	Prairie View State School	Greene Valley State School	Cedar Ridge State School
	Address	2575 NE Barry Rd Kansas City, MO	1530 Clay Street Chillicothe, MO	1101 West 29th St. Higginsville, MO	945 North Miami Marshall, MO	1601 East Pythian Springfield, MO	901 North Olive St. Nevada, MO
	Telephone No.:	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	417-895-6848 (FC's)	417-895-6848 (FC's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown	No meter
Laundry Boiler System	***Annual Steam Production (lbs)***	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	***Yes/No***	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown, No meter	No meter	No meter

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES								
	Department	DESE	DESE	DESE	DESE			
	Facility	Oakview State School	Shady Grove State School	Trails West State School (Dale M. Thompson)	Missouri School for the Deaf-Central Supply Building			
	Address	200 Linden St. Monett, MO	2400 High Street Poplar Bluff, MO	4800 Grandview Road Kansas City, MO	505 E. 5th Street Fulton, Mo 65251			
	Telephone No.:	417-895-6848 (FC's)	417-895-6848 (FC's)	660-267-0099 (NK's)	573-592-2520			
Primary Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	N/A	Unknown			
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	N/A	Unknown			
	Heating Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			
Laundry Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	N/A	Unknown			
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
	Cooling Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	
	Facility	MO Sexual Ofender Treatment Center	Metropolitan St. Louis Psych Center	Albany Regional Center	Sikeston Regional Office	Fulton State Hospital	
	Address	1016 West Columbia Farmington, MO 63640	5351 Delmar St. Louis, MO 63112	809 North 13th Street Albany, MO 64402	112 Plaza Drive, Box 966 Sikeston, MO 63801	600 East 5th Street Fulton, MO 65251	
	Telephone No.:	573 218-6016	314 877-0707	660 726-1531	573 472-6536	573-592-3482	
Primary Boiler System	Annual Steam Production (lbs)	Recieve steam from FCC		N/A	Unknown	140,204,000	
	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	Unknown	4,229,000	
	Heating Closed Loop Annual Makeup (gals)	5 gallons annual Blair 5 gallons Hoctor	500 GALLONS	10 gallon	New system	N/A	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	Unknown	N/A	Unknown	NA	
	Steam Boiler System Annual Makeup (gals)	N/a	Unknown	N/A	Unknown	NA	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	921,500 GALLONS	N/A	Unknown	unable to estimate No gauges avail.	
	Cooling Closed Loop Annual Makeup (gals)	3 gallons Blair 5 gallons Hoctor	500 GALLONS	10Gallons	New System	unable to estimate No gauges avail.	

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Nevada Habilitation Center	Bellefontaine Habilitation Center	Higginsville Habilitation Center	Northwestern Missouri Psych Rehab Center	St. Louis Psych Rehab Center	Southeast MO Mental Health Center
	Address	2323 North Ash Nevada, MO 64772	10695 Bellefontaine Road St. Louis, MO 63137	West 1st Street Higginsville, MO 64037	3505 Frederick Avenue St. Joseph, MO 64506	5300 Arsenal St. Louis, MO 63139	1010 West Columbia St. Farmington, MO
	Telephone No.:	417 448-1145	314 340-6235	660 584-4834	816 512-7111	314-877-5880	573 218-6854
Primary Boiler System	**Annual Steam Production (lbs)**	15,330,000 lbs/year	71,700,000 lbs/year	22,995,000 lbs/year, assuming 50% load and 6 months of operation	N/A	14,000,000 lbs/year	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	1,460,000 gal.	15% or 10,755,000 lbs/year	15% = 3,500,000 lbs/year	N/A	2,100,000 gal/year	N/A
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Not metered	Did not meter (420 hp of water boilers)	Did not meter (300hp of water boilers)	1,500 gal/year	Staples Bldg. 4800 gal per year
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	6,132,000 lbs/year	N/A	Unknown	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	15% = 919,800 lbs/year	N/A	Unknown	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	60,000 gal	5,000 gpd or 1,825,000 gal/year	N/A	292,000 gal/year	2000000 gal/year	Staples Bldg. 85,000 gal/Forensics 28,000 gal.
	Cooling Closed Loop Annual Makeup (gals)	none if No leaks	N/A	Did not meter (630 tons)	N/A	Unknown	Staples Bldg. 2,400 gal

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	
	Facility	Northwest Habilitation Center	South County Habilitation Center	St. Charles Habilitation Center	Hawthorn Children Psychiatric Hospital	Center for Behavioral Medicine	
	Address	#11 Brady Circle Overland, MO 63114	2312 Lemay Ferry Road St. Louis, MO 63125	22 Marr Lane St. Charles, MO 63303	1901 Pennsylvania Ave St. Louis, MO	1000 East 24th Street Kansas City, MO 64108	
	Telephone No.:	314-541-9110	314-541-9110	314-541-9110	314-512-7564	(816) 512-7109	
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown/Automatic	Approx. 1,000 gal.	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	NA	NA	NA	NA	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	NO	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	125,000	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	N/A	Approx. 1,000 gal.	

REVISED ATTACHMENT #1, 7/7/17

DEPARTMENT OF MENTAL HEALTH FACILITIES								
	Department	Mental Health	Mental Health	Mental Health	Mental Health			
	Facility	Peery Apartments	New Prospects	Kansas City Regional Office	Springfield Regional Office			
	Address	2659 Peery Avenue Kansas City, MO 64127	2600 East 12th Street Kansas City, MO 64127	821 East Admiral Blvd. Kansas City, MO	1515 E. Pythian Springfield, MO			
	Telephone No.:	(816) 512-7109	(816) 512-7109	(816) 512-7109	(417) 895-7400			
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A			
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A			
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Estimated 500 gal.	Estimated 500 Gallons.	Estimated 500 gal.	Estimated 500 gal.			
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A			
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A			
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A			
	Cooling Closed Loop Annual Makeup (gals)	2 pipe syst. Shared w/ heating syst.	N/A	N/A	2 pipe syst. Shared w/ heating syst.			

REVISED ATTACHMENT #1, 7/7/17

FACILITIES OPERATIONS FACILITIES							
	Department	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings
	Facility	Fletcher Daniels State Office Building	St. Joseph State Office Building	Kansas City DOLIR State Office Building	St. Joseph Career Center	Wainwright State Office Bldg.	Prince Hall State Office Building
	Address	615 E. 13th Street Kansas City, MO	525 Jules Kansas City, MO	1410 Gnesee Kansas City, MO	301 South 7th Street St. Joseph, MO	111 N. Seventh St. Louis, MO	4411 N. Newstead St. Louis, MO
	Telephone No.:	816-889-2076	816-889-2076	816-387-2270	816-387-2270	314-340-6801	314-877-2007
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	29,000
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	1,046,000
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	Unknown	Unknown	4,800
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	no	no	no	no	No	NO
	Total Cooling Tower Annual Makeup (gals)	2463	Unknown	N/A	N/A	Unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	N/A	N/A	Unknown	6,000

REVISED ATTACHMENT #1, 7/7/17

FACILITIES OPERATIONS FACILITIES								
	Department	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings				
	Facility	Landers State Office Building	Penney State Office Building	Springfield DOLIR Building				
	Address	149 Park Central Square Springfield, MO 65806	101 Park Central Square Springfield, MO 65806	505 East Walnut Street Springfield, MO 65806				
	Telephone No.:	417-522-9196	417-522-9196	417-522-9196				
Primary Boiler System	**Annual Steam Production (lbs)**	NA	NA	NA				
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	NA	NA	NA				
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown				
Laundry Boiler System	**Annual Steam Production (lbs)**	NA	NA	NA				
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	NA	NA	NA				
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	NO	NO	NO				
	Total Cooling	Unknown	Unknown	Unknown				
	Loop Annual Makeup (gals)	Unknown	Unknown	Unknown				

REVISED ATTACHMENT #1, 7/7/17

MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	
	Facility	General Headquarters - Jefferson City	General Headquarters - ANNEX	General Headquarters - ACADEMY	TROOP A - Lee's Summit	TROOP B - Macon	MO. STATE HIGHWAY PATROL SPRINGFIELD CRIME LABORATORY	
	Address	1510 EAST ELM ST	1510 EAST ELM ST	1510 EAST ELM ST	504 S.E.BLUE PARKWAY LEE'S SUMMIT MO. 64063	308 PINE CREST DRIVE MACON MO 63552	425 EAST PHELPS ST. SPRINGFIELD MO. 65806	
	Telephone No.:	526-6286	526-6286	526-6286	816-622-0800	660-385-2132	417-868-9400	
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	N/A	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	Unknown	N/A	N/A	N/A	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	

REVISED ATTACHMENT #1, 7/7/17

MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol				
	Facility	TROOP F - Jefferson City	TROOP I - Rolla	TROOP C Service Center - Park Hills				
	Address	P.O. BOX 568 2920 NORTH SHAMROCK RD, JEFFERSON CITY, MO. 65102	P.O. BOX 128 NAGOGAMI RD WEST, ROLLA MO. 65402	P.O. Box 612 5268 Flat River R.D. Park Hills Mo. 63601				
	Telephone No.:	573-751-1000	573-368-2345	573-431-0176				
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	Unknown	Unknown				
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Lagoon Requiring Wastar Water Treatment Chemicals	Yes/No	No	No	No				
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A				
	Cooling Closed Loop Annual Makeup (gals)	Unknown	N/A	Unknown				

REVISED ATTACHMENT #1, 7/7/17

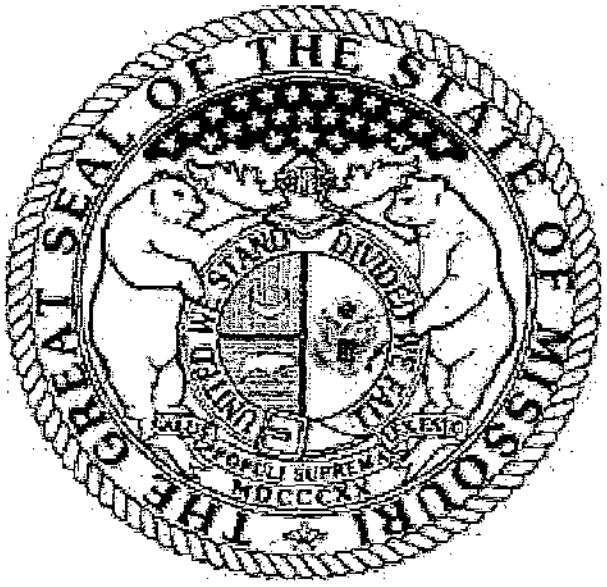
DSS-YOUTH SERVICES							
	Department	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services
	Facility	Fulton Treatment Center	Montgomery City Youth Center	W.E. Sears Youth Center	Hogan Street Youth Center	Riverbed Treatment Center	Mt. Vernon Treatment Center
	Address	1650 Highway O P.O. box 847 Fulton, MO 63251-0847	300 Niedergerke Drive Montgomery City, MO 63361-2616	9400 Sears Lane Poplar Bluff, MO 63901-9716	1839 Hogan Street St. Louis, MO 63106-3098	5910 Mitchell Avenue St. Joseph, MO 64507-7762	500 State Drive Mt. Vernon, MO 65712
	Telephone No.:						417-466-0292
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	Unknown
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A

REVISED ATTACHMENT #1, 7/7/17

DSS-YOUTH SERVICES							
	Department	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	
	Facility	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	
	Address	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	
	Telephone No.:	663-209-7153	663-209-7153	663-209-7153	663-209-7153	663-209-7153	
Primary Boiler System	Annual Steam Production (lbs)	None	None	None	None	None	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	None	None	None	None	None	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None	
Laundry Boiler System	Annual Steam Production (lbs)	None	None	None	None	None	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	None	None	None	None	None	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No						
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	
		Burnham	Burnham	Burnham	Peerless	Burnham	
		M# 4FW 78 45 LB	M# V805A	M# 4FW-78-45-LB	M# G-1561	M#P-208-WNI	
		S# 17301	S#6439-7703	S# 17501	S# 41751007	S#1719430	
		- Hot water Boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	
		Location – Fort Bellefontaine	Location – Discovery	Location- Lewis and Clark	Location- Spanish Lake	Location- Old Admin 5707-60197	

REVISED ATTACHMENT #1, 7/7/17

MISSOURI VETERANS HOMES								
	Department	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS
	Facility	MVH - Cameron	MVH - Cape Girardeau	MVH - Mexico	MVH - Mt. Vernon	MVH - St. James	MVH - Warrensburg	MVH - St. Louis
	Address	1111 Euclid Cameron, MO 64429	2400 Veterans Memorial Dr. Cape Girardeau, MO 63701	# 1 Veterans Drive Mexico, MO 65265	1600 S. Hickory Mt. Vernon, MO 65712	620 N. Jefferson St. James, MO 65559	1300 Veterans Road Warrensburg, MO 64093	4411 N. Newstead St. Louis, MO
	Telephone No.:	816-632-6010	573-290-5670	573-581-1088	417-466-7103	573-265-3271	660-543-5075	314-877-2007
Primary Boiler System	Annual Steam Production (lbs)	n / a	n / a	n / a	n / a	n / a	n / a	29,000
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	n / a	n / a	n / a	n / a	n / a	n / a	1,046,000
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	4,800
Laundry Boiler System	Annual Steam Production (lbs)	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	unknown	approx.993,000 gals make-up annually	16000	unknown	unknown	unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	6,000



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Purchasing
301 West High Street, Room 630
Post Office Box 809
Jefferson City, Missouri 65102-0809
(573) 751-2387 FAX: (573) 526-9815
TTD: 800-735-2966 Voice: 800-735-2466
http://oa.mo.gov/purchasing

Karen S. Boeger
Director

TO: File C314153001

FROM: Jason Kolks

DATE: July 7, 2017

RE: Contract Amendment to Delete Location

Contract C314153001 is for Water Treatment Services for the Office of Administration, Division of Facilities Management (OA/FMDC) and OA/FMDC is requesting the contract be amended to delete the Joplin Regional Center at 3600 E. Newman RD in Joplin, MO 64802 effective immediately. Paragraph 2.1.3 of the contract states, "*[d]ue to circumstances that may arise, the state agency may add or remove one or more facility(ies) at any time during the term of the contract.*" According to OA/FMDC, they are no longer responsible water treatment at the Joplin Regional Center.

Additionally, 1 CSR 40-1.050 (8) states, "*Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract.*"

Since the intent of the contract does not change with the amendment, I am proceeding to amend contract C314153001 for OA/FMDC to delete the Joplin Regional Center.

Kolks, Jason

From: Brinkley, Rebecca
Sent: Wednesday, April 26, 2017 4:09 PM
To: Kolks, Jason
Subject: WLFT C314153001 - Joplin Regional Office

Jason,

I will be processing an NR to remove the Joplin Regional Office from the contract. FMDC is no longer responsible for the water treatment at this location. The line item cost is zero.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

PURCHASING CONTRACT AMENDMENT ROUTING GUIDE C 31415 3001 A# 010 726
Revised 08/17/15

1. Indicate Contract Amendment Type

RENEWAL: _____ PERIOD OF _____ TOTAL

_____ Renewal - % Increase _____ Cost Savings
_____ Renewal - $ Increase _____ Cost Savings
_____ Renewal – W/O Increase
_____ SFS Renewal – Prices In Original Contract
_____ SFS Renewal – Prices Not in Original Contract

EXTENSION PERIOD: _____

_____ Extension – 30-Day
_____ Termination
_____ Extension - $ Increase _____ Cost Savings
_____ Extension – W/O Increase

_____ Assignment
_____ Cancellation/Termination
X Other Amendment

Performance Security Deposit: $_____

Surety Bond: $_____

Annual Wage Order Number: _____
Annual Wage Order Date: _____
County(ies): _____

Other Instructions: _____

	Tasks	Route	Initial	Date
2.	Preliminary Tasks/Verifications			
A.	Section 34.040.6, RSMo	Buyer/Section Support		7-7-17
B.	Purchasing Suspension List	Buyer/Section Support		7-7-17
C.	Federal Suspension – SAM.GOV	Buyer/Section Support		7-7-17
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		7-7-17
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer		7-7-17
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	✓	✓
3.	Prepare Contract Amendment	Buyer/Section Support		7-7-17
4.	Review/Approve Contract Amendment (If Signature Required)	Buyer		7-7-17
	Initial / Date	Supervisor 7/7/17	Section Manager 7/7/17	Asst Director	Director	
5.	E-Mail/Fax Contract Amendment (If Signature Required)	Buyer/Section Support		7-7-17
	Contractor E-Mail Address/Fax Number	wgiesing@walterlouis.com		
	State Agency Contact E-Mail Address	Becky Barkley		
	Section 34.040.6, RSMo, Letter	Follow-Up Notes:		
6.	Review Contract Amendment Response – Verifications			
A.	Renewal/Extension Pricing	Buyer/Section Support	✓	✓
B.	Section 34.040.6, RSMo	Buyer/Section Support	✓	✓
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support	✓	✓
D.	Renewal/Extension with Cost Savings Language	Buyer	✓	✓
E.	Statewide Notice	Buyer	✓	✓
F.	SFS Authorized Limit $	Buyer	✓	✓
G.	Contract Assignment Only Verifications – Complete unless completed in Step 2 above			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support		
	2. Assignment and Consent Form	Buyer/Section Support		
	3. Purchasing Suspension List	Buyer/Section Support		
	4. Federal Suspension – SAM.GOV	Buyer/Section Support		
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
7.	Prepare Contract Amendment Award Document/Statewide Notice	Buyer/Section Support		7-13-17
8.	Review/Approve Contract Amendment Award Document	Buyer		7-12-17
	Initial / Date	Supervisor 7/13/17	Section Manager 7/13/17	Asst Director	Director	
9.	Process Contract Amendment	Buyer/Section Support		7-20-17
	AM 300 PMM 00096047M11	Buyer/Section Support		7-20-17
	Distribute E-Verify & SDV Documents	Buyer/Section Support		
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support		7-20-17
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support		
10.	Log Participation Commitment Information	Central Support-Participation		
11.	Image Contract Amendment Packet	Central Support-Imaging		7-26

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

B82 14153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER	**CONTRACT PERIOD**
Amendment #009	January 1, 2017 through December 31, 2017
REQUISITION/REQUEST NUMBER	***SAM II VENDOR NUMBER/MissouriBUYS SYSTEM ID***
NR 300 22007000080	3709087450 1/MB00093573
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
WALTER LOUIS FLUID TECHNOLOGIES 530 S 5TH ST QUINCY IL 62301-4808	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #009, dated 5/14/17.

BUYER	BUYER CONTACT INFORMATION
Jason Kolks	Email: jason.kolks@oa.mo.gov Phone: (573) 522-1620 Fax: (573) 526-9816
SIGNATURE OF BUYER	**DATE**
Jason Kolks	5-22-17

DIRECTOR OF PURCHASING

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING (PURCHASING)
CONTRACT AMENDMENT

AMENDMENT NO.: 009
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 04/19/17

REQ NO.: NR 300 22007000080
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 05/01/17 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	jason.kolks@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technologies	Walter Louis Chemicals and Associates inc.
MAILING ADDRESS: 530 S. 5th St.	IRS FORM 1099 MAILING ADDRESS: 530 S. 5th St.
CITY, STATE, ZIP CODE: Quincy Il. 62301	CITY, STATE, ZIP CODE: Quincy Il. 62301

CONTACT PERSON	EMAIL ADDRESS
Walter L. Giesing	wgiesing@walterlouis.com
PHONE NUMBER: 217-223-2017	FAX NUMBER: 217 223-7734

TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
37-0908745	_X_ FEIN ___ SSN	3709087450 1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)

_X_ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
Walter L. Giesing	05/14/2017
PRINTED NAME: Walter L. Giesing	TITLE: President

AMENDMENT #009 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2017 through December 31, 2017

The State of Missouri desires to amend Contract C314153001 for Water Treatment Services to remove Marshall Habilitation Center at 700 East Slater Street in Marshall, MO 65340 (Line Item 065) to the provisions and requirements of the contract. As a result, Revised Attachment #1 is deleted and replaced with the Attached Revised Attachment #1 dated 4/17/17 and Attachment #2 is deleted and replaced with the attached Revised Attachment #2 dated 4/17/17.

All references to Attachment #1 shall be hereby deemed to mean Revised Attachment #1 dated 4/17/17 and all references to Attachment #2 shall be hereby deemed to mean Revised Attachment #2 dated 4/17/17.

All other requirements and provisions of the contract, including all other prices, shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it on or before the date indicated on the cover page of this document.

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF CORRECTIONS FACILITIES

	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Kansas City Community Release Center	Eastern Reception Diagnostic and Correctional Center	Northeast Correctional Center	Boonville Correctional Center	Algoa Correctional Center	Hannibal Community Supervision Center
	Address	651 Mulberry Street Kansas City, MO 64101	2727 Highway K Bonne Terre, MO 63628	13698 Airport Road Bowling Green, MO 63334	1216 East Morgan, Boonville, MO 65233	8501 No More Victims Rd. Jefferson City, MO 656101	2002 Warren Barrett Dr. Hannibal, MO 63401
	Telephone No.:	816-842-7467	573-358-5038	573-324-9975	660-882-6521	573-751-3911	573-248-2450
Primary Boiler System	**Annual Steam Production (lbs)**	I do not believe this concerns KCCRC. KCCRC only has a water softener for domestic hot water. Water tube hot water Heater. Cooling by 24 A/C units.	56,245,000 LBS.	573,763 GAL.	48,676,693.59 lbs of steam	22909594	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	729,500 GAL.	Unknown	485176 gallons of Make- Make	448000	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	3,660 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	No way of gauging
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	604,700 GAL.	Unknown	No Meter to measure gals of Make-Up	10,000 gal and 450000	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	1,900 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	Unknown

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Maryville Treatment Center	South Central Correctional Center	Southeast Correctional Center	Farmington Correctional Center	Tipton Correctional Center	Western Missouri Corrections Center
	Address	30227 Hwy 136 Maryville, MO 64468	255 West Hwy 32 Licking, MO 65542	300 E. Pedro Simmons Dr. Charleston, MO 63834	1012 W.Columbia Farmington Mo. 63640	619 N. Osage Avenue Tipton, MO 65081	609 East Pence Road Cameron, MO 64429
	Telephone No.:	660-582-6542	573-674-4470	573-683-4409	573-218-7100	660-433-2031	816-632-1390
Primary Boiler System	Annual Steam Production (lbs)	No Steam meter onsite	N/A	N/A	4937630	35mbl	NONE
	Steam Boiler System Annual Makeup (gals)	7 Year average 7,715	N/A	N/A	131908	412,570 gal	NONE
	Heating Closed Loop Annual Makeup (gals)	Est 1000 to 1500 Gallons No water meter	623 Gals.	14764	35,510 Sept thru June	25	Major heating leaks= 17,000 gal Boiler Prevent. Maint.=8,000gal (Refill) Total= 25,000 gal
Laundry Boiler System	Annual Steam Production (lbs)	N/A	10,608,000 lbs.	N/A	N/A	N/A	Unknown
	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	N/A	N/A	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	2,729,538 gals.	3980533.3	UNKNOWN AT THIS TIME	Unknown	NONE
	Cooling Closed Loop Annual Makeup (gals)	N/A	93 gals.	571.44	UNKNOWN AT THIS TIME	25	NONE

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Women's Eastern Reception Diagnostic and Correctional Center	Western Reception Diagnostic and Correctional Center	Ozark Correctional Center	Central Missouri Correctional Center	Jefferson City Correctional Center	Fulton Reception & Diagnostic Center
	Address	1101 East Highway 54 Vandalia, MO 63382	3401 Faraon Street St. Joseph, Mo. 64506	929 Honor Camp Lane Fordland, MO 65652	2600 Highway 179 Jefferson City, MO 65102	8200 No More Victums Road Jefferson City, MO 65101	1393 Route O Fulton, MO 65251
	Telephone No.:	573-594-6686	816-387-2158	417-767-4491	573-751-2053	573-751-3224	573-592-4040
Primary Boiler System	**Annual Steam Production (lbs)**	Two Boilers - Provide steam to laundry and kitchen	Not metered	Unknown	8,585,192 lbs	53,120,714	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	2,000 Gal.	1,421,098 Gallon for boiler feed water	1,389,920	124,857 gals	643,987	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	54,000 Gal (Leaks Underground) Repaired	Not metered		15,000 gals	500	10000
Laundry Boiler System	**Annual Steam Production (lbs)**	Minimal Usage	Same boilers above supply this steam.	N/A	Zero (Facility Closed)	337973 lbs./yr. Based on gas usage	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**		Same boilers above supply this steam.	N/A	Zero (Facility Closed)	5000 gals for MVE boiler	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	Yes	Yes	No	No
	Total Cooling Tower Annual Makeup (gals)	Not Metered-Need Meter Installed	Not metered	N/A	N/A	5,005,000	700000
	Cooling Closed Loop Annual Makeup (gals)	51,000 Gal (Leaks Underground) Repaired	Not metered	N/A	N/A	1,200	100

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF CORRECTIONS FACILITIES								
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	DOC-MVE	
	Facility	St. Louis Community Release Center	Kennett Community Supervision Center	Poplar Bluff Community Supervision Center	Chillicothe Correctional Center-New	Moberly Correctional Center	MVE Complex	
	Address	1621 North 1st Street Saint Louis, MO 63102	875 County Highway V V Kennett 63857	1441 Black River Industrial Park Road Poplar Bluff, MO 63901	3151 Litton Road Chillicothe, MO 64601	5201 South Morley Street Moberly, MO 65270	1717 Industrial Drive Jeffferson City, MO 65109	
	Telephone No.:	314-877-0300	573-888-4900	576-840-9555	660-646-4032	660-263-3778 Ext. 1205	573-526-2893	
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	New Facility - No Past Data	New Facility - No Past Data	N/A	N/A	N/A	
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	NA	
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	15 gals	N/A	N/A	Unknown	182,500	We have No meter on system but we do use about 30 gallons of 839 closed loop system treatment	
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	12,420,000	N/A	
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	900,000	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	Yes	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	Unknown	65,500	We have No meter on the system but we do use about 10 to 15 gallongs 4707 cooling tower treatment system	
	Cooling Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	8,000	We have No meter on the system but we do use about 5 to 10 gallongs 839 closed loop system treatment	

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	
	Facility	Farmington Community Supervision Center	Crossroads Correctional Center	Missouri Eastern Correctional Center	Potosi Correctional Center	St. Joseph Community Supervision Center	
	Address	1430 Doubet Road Farmington, MO 63640	1115 E Pence Rd. Cameron, MO 64429	18701 Old Hwy 66 Pacific, MO 63069	11593 State Highway O Mineral Point, MO 63660	3305 Faraon St. St. Joseph, Mo 64506	
	Telephone No.:	573-218-7100, ext 428 (Rick Alvers at Farmington Correctional Center)	816-632-2727 ext1370 (Brett Adkinson at Crossroads Correctional Center)	636-257-3322 ext 1205 (Ed Moody at Potosi Correctional Center	573-438-6000, ext 1308 (Steve Helms at Potosi Correctional Center)	816-271-3131 ext 257	
Primary Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	Unknown	Unknown	N/A	
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	
Laundry Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	Unknown	N/A	N/A	
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	Yes	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	2,250,000 gallons	N/A	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Blind	Missouri School for the Deaf-Wheeler	Missouri School for the Deaf-Tate	Missouri School for the Deaf-Kerr	Missouri School for the Deaf-Stark	Missouri School for the Deaf-Vocational
	Address	3815 Magnolia St.Louis, MO	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251
	Telephone No.:	314-776-4320, x125	573-592-2520	573-592-2520	573-592-2520	573-592-2520	573-592-2520
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Chilled water closed loop	Chilled water closed loop	chilled water closed loop	2 Steam to water heat closed loops.
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	650 Gals.	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	813, 937 and 800 gal est reported	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Deaf-Rice	B.W. Robinson State School	Boonslick State School	Gateway/Hubert Wheeler State School	Delmar Cobble State School	Lakeview Woods State School
	Address	505 E. 5th Street Fulton, Mo 65251	300 Lanning Lane Rolla, MO	321 Knaust Road St. Peters, MO	100 South Garrison St. Louis, MO	108 West Craig St. Columbia, MO	351 NE Gregory Lee's Summit, MO
	Telephone No.:	573-592-2520	636-931-0080 (KH's)	636-931-0080 (KH's)	636-931-0080 (KH's)	660-530-5575 (NK's)	660-530-5575 (NK's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown ,No meter	Unknown, No meter	Unknown ,No meter	Unknown, No meter	Unknown, No meter

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Maple Valley State School	Verelle Peniston State School	Rolling Meadows State School	Prairie View State School	Greene Valley State School	Cedar Ridge State School
	Address	2575 NE Barry Rd Kansas City, MO	1530 Clay Street Chillicothe, MO	1101 West 29th St. Higginsville, MO	945 North Miami Marshall, MO	1601 East Pythian Springfield, MO	901 North Olive St. Nevada, MO
	Telephone No.:	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	417-895-6848 (FC's)	417-895-6848 (FC's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown	No meter
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown, No meter	No meter	No meter

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES								
	Department	DESE	DESE	DESE	DESE			
	Facility	Oakview State School	Shady Grove State School	Trails West State School (Dale M. Thompson)	Missouri School for the Deaf-Central Supply Building			
	Address	200 Linden St. Monett, MO	2400 High Street Poplar Bluff, MO	4800 Grandview Road Kansas City, MO	505 E. 5th Street Fulton, Mo 65251			
	Telephone No.:	417-895-6848 (FC's)	417-895-6848 (FC's)	660-287-0099 (NK's)	573-592-2520			
Primary Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			
Laundry Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	N/A	Unknown			
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
	Cooling Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	
	Facility	MO Sexual Ofender Treatment Center	Metropolitan St. Louis Psych Center	Albany Regional Center	Sikeston Regional Office	Fulton State Hospital	
	Address	1016 West Columbia Farmington, MO 63640	5351 Delmar St. Louis, MO 63112	809 North 13th Street Albany, MO 64402	112 Plaza Drive, Box 966 Sikeston, MO 63801	600 East 5th Street Fulton, MO 65251	
	Telephone No.:	573 218-6016	314 877-0707	660 726-1531	573 472-6538	573-592-3482	
Primary Boiler System	**Annual Steam Production (lbs)**	Recieve steam from FCC		N/A	Unknown	140,204,000	
	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	Unknown	4,229,000	
	Heating Closed Loop Annual Makeup (gals)	5 gallons annual Blair 5 gallons Hoctor	500 GALLONS	10 gallon	New system	N/A	
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	Unknown	N/A	Unknown	NA	
	Steam Boiler System Annual Makeup (gals)	N/a	Unknown	N/A	Unknown	NA	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	921,500 GALLONS	N/A	Unknown	unable to estimate No *gauges avail.*	
	Cooling Closed Loop Annual Makeup (gals)	3 gallons Blair 5 gallons Hoctor	500 GALLONS	10Gallons	New System	unable to estimate No gauges avail.	

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Nevada Habilitation Center	Bellefontaine Habilitation Center	Higginsville Habilitation Center	Northwestern Missouri Psych Rehab Center	St. Louis Psych Rehab Center	Southeast MO Mental Health Center
	Address	2323 North Ash Nevada, MO 64772	10695 Bellefontaine Road St. Louis, MO 63137	West 1st Street Higginsville, MO 64037	3505 Frederick Avenue St. Joseph, MO 64506	5300 Arsenal St. Louis, MO 63139	1010 West Columbia St. Farmington, MO
	Telephone No.:	417 448-1145	314 340-6235	660 584-4834	816 512-7111	314-877-5880	573 218-6854
Primary Boiler System	**Annual Steam Production (lbs)**	15,330,000 lbs/year	71,700,000 lbs/year	22,995,000 lbs/year, assuming 50% load and 6 months of operation	N/A	14,000,000 lbs/year	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	1,460,000 gal.	15% or 10,755,000 lbs/year	15% = 3,500,000 lbs/year	N/A	2,100,000 gal/year	N/A
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Not metered	Did not meter (420 hp of water boilers)	Did not meter (300hp of water boilers)	1,500 gal/year	Staples Bldg. 4800 gal per year
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	6,132,000 lbs/year	N/A	Unknown	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	15% = 919,800 lbs/year	N/A	Unknown	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	60,000 gal	5,000 gpd or 1,825,000 gal/year	N/A	292,000 gal/year	2000000 gal/year	Staples Bldg. 85,000 gal/Forensics 28,000 gal.
	Cooling Closed Loop Annual Makeup (gals)	none if No leaks	N/A	Did not meter (630 tons)	N/A	Unknown	Staples Bldg. 2,400 gal

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Northwest Habilitation Center	South County Habilitation Center	St. Charles Habilitation Center	Joplin Regional Center	Hawthorn Children Psychiatric Hospital	Center for Behavioral Medicine
	Address	#11 Brady Circle Overland, MO 63114	2312 Lemay Ferry Road St. Louis, MO 63125	22 Marr Lane St. Charles, MO 63303	3600 E Newman Rd Joplin, MO 64802	1901 Pennsylvania Ave St. Louis, MO	1000 East 24th Street Kansas City, MO 64108
	Telephone No.:	314-541-9110	314-541-9110	314-541-9110	660 831-3029	314-512-7564	(816) 512-7109
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unkknown	Unknown/Automatic	Approx. 1,000 gal.
Laundry Boiler System	Annual Steam *Production (lbs)*	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	NA	NA	NA	N/A	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	NO	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	125,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	Approx. 1,000 gal.

REVISED ATTACHMENT #1, 4/17/17

DEPARTMENT OF MENTAL HEALTH FACILITIES								
	Department	Mental Health	Mental Health	Mental Health	Mental Health			
	Facility	Peery Apartments	New Prospects	Kansas City Regional Office	Springfield Regional Office			
	Address	2859 Peery Avenue Kansas City, MO 64127	2600 East 12th Street Kansas City, MO 64127	821 East Admiral Blvd. Kansas City, MO	1515 E. Pythian Springfield, MO			
	Telephone No.:	(816) 512-7109	(816) 512-7109	(816) 512-7109	(417) 895-7400			
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A			
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A			
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Estimated 500 gal.	Estimated 500 Gallons.	Estimated 500 gal.	Estimated 500 gal.			
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A			
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A			
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A			
	Cooling Closed Loop Annual Makeup (gals)	2 pipe syst. Shared w/ heating syst.	N/A	N/A	2 pipe syst. Shared w/ heating syst.			

REVISED ATTACHMENT #1, 4/17/17

FACILITIES OPERATIONS FACILITIES

	Department	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilities Operations State Owned Buildings
	Facility	Fletcher Daniels State Office Building	St. Joseph State Office Building	Kansas City DOLIR State Office Building	St. Joseph Career Center	Wainwright State Office Bldg.	Prince Hall State Office Building
	Address	615 E. 13th Street Kansas City, MO	525 Jules Kansas City, MO	1410 Gnesee Kansas City, MO	301 South 7th Street St. Joseph, MO	111 N. Seventh St. Louis, MO	4411 N. Newstead St. Louis, MO
	Telephone No.:	816-889-2076	816-889-2076	816-387-2270	816-387-2270	314-340-6801	314-877-2007
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	29,000
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	1,046,000
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	Unknown	Unknown	4,800
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	no	no	no	no	No	NO
	Total Cooling Tower Annual Makeup (gals)	2463	Unknown	N/A	N/A	Unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	N/A	N/A	Unknown	6,000

REVISED ATTACHMENT #1, 4/17/17

FACILITIES OPERATIONS FACILITIES								
	Department	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings				
	Facility	[redacted]	[redacted]	[redacted]				
	Address	[redacted]	[redacted]	[redacted]				
	Telephone No.:	[redacted]	[redacted]	[redacted]				
Primary Boiler System	Annual Steam Production (lbs)	NA	NA	NA				
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	NA	NA	NA				
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown				
Laundry Boiler System	Annual Steam Production (lbs)	NA	NA	NA				
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	NA	NA	NA				
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	NO	NO	NO				
	Total Cooling Loop Annual Makeup (gals)	Unknown	Unknown	Unknown				

REVISED ATTACHMENT #1, 4/17/17

MISSOURI STATE HIGHWAY PATROL							
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol
	Facility	General Headquarters - Jefferson City	General Headquarters - ANNEX	General Headquarters - ACADEMY	TROOP A - Lee's Summit	TROOP B - Macon	MO. STATE HIGHWAY PATROL SPRINGFIELD CRIME LABORATORY
	Address	1510 EAST ELM ST	1510 EAST ELM ST	1510 EAST ELM ST	504 S.E.BLUE PARKWAY LEE'S SUMMIT MO. 64063	308 PINE CREST DRIVE MACON MO 63552	425 EAST PHELPS ST. SPRINGFIELD MO. 65806
	Telephone No.:	526-6286	526-6286	526-6286	816-622-0800	660-385-2132	417-868-9400
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	N/A
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	Unknown	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1, 4/17/17

MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol				
	Facility	TROOP F - Jefferson City	TROOP I - Rolla	TROOP C Service Center - Park Hills				
	Address	P.O. BOX 568 2920 NORTH SHAMROCK RD, JEFFERSON CITY, MO. 65102	P.O. BOX 128 NAGOGAMI RD WEST, ROLLA MO. 65402	P.O. Box 612 5268 Flat River R.D. Park Hills Mo. 63601				
	Telephone No.:	573-751-1000	573-368-2345	573-431-0176				
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A				
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A				
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Unknown	Unknown				
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A				
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A				
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No				
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A				
	Cooling Closed Loop Annual Makeup (gals)	Unknown	N/A	Unknown				

REVISED ATTACHMENT #1, 4/17/17

DSS-YOUTH SERVICES							
	Department	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services
	Facility	Fulton Treatment Center	Montgomery City Youth Center	W.E. Sears Youth Center	Hogan Street Youth Center	Riverbed Treatment Center	Mt. Vernon Treatment Center
	Address	1650 Highway O P.O. box 847 Fulton, MO 63251-0847	300 Niedergerke Drive Montgomergy City, MO 63361-2616	9400 Sears Lane Poplar Bluff, MO 63901-9716	1839 Hogan Street St. Louis, MO 63106-3098	5910 Mitchell Avenue St. Joseph, MO 64507-7762	500 State Drive Mt. Vernon, MO 65712
	Telephone No.:						417-466-0292
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A

REVISED ATTACHMENT #1, 4/17/17

DSS-YOUTH SERVICES							
	Department	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	
	Facility	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	
	Address	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	
	Telephone No.:	663-209-7153	663-209-7153	663-209-7153	663-209-7153	663-209-7153	
Primary Boiler System	Annual Steam Production (lbs)	None	None	None	None	None	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	None	None	None	None	None	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None	
Laundry Boiler System	Annual Steam Production (lbs)	None	None	None	None	None	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	None	None	None	None	None	
Lagoon Requiring Wastewater Treatment Chemicals	Yes/No						
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	
		Burnham	Burnham	Burnham	Peerless	Burnham	
		M# 4FW 78 45 LB	M# V905A	M# 4FW-78-45-LB	M# G-1561	M#P-208-WNI	
		S# 17301	S#6439-7703	S# 17501	S# 41751007	S#1719430	
		- Hot water Boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	
		Location – Fort Bellefontaine	Location – Discovery	Location- Lewis and Clark	Location- Spanish Lake	Location- Old Admin 5707-60197	

REVISED ATTACHMENT #1, 4/17/17

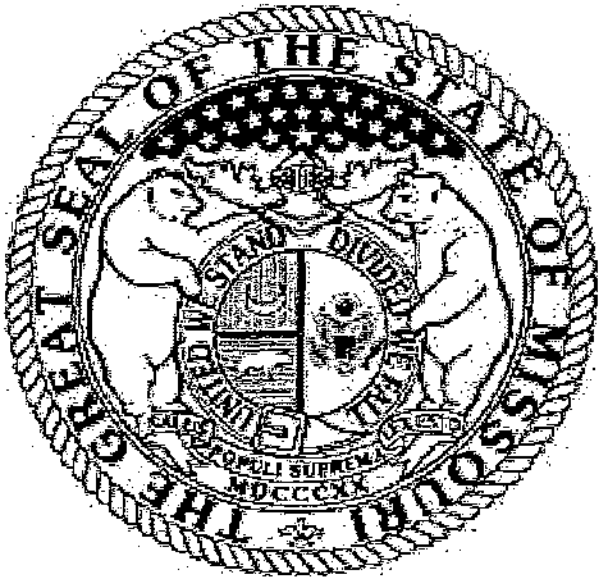
MISSOURI VETERANS HOMES								
	Department	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS
	Facility	MVH - Cameron	MVH - Cape Girardeau	MVH - Mexico	MVH - Mt. Vernon	MVH - St. James	MVH - Warrensburg	MVH - St. Louis
	Address	1111 Euclid Cameron, MO 64429	2400 Veterans Memorial Dr. Cape Girardeau, MO 63701	# 1 Veterans Drive Mexico, MO 65265	1600 S. Hickory Mt. Vernon, MO 65712	620 N. Jefferson St. James, MO 65559	1300 Veterans Road Warrensburg, MO 64093	4411 N. Newstead St. Louis, MO
	Telephone No.:	816-632-6010	573-290-5870	573-581-1088	417-466-7103	573-265-3271	660-543-5075	314-877-2007
Primary Boiler System	**Annual Steam Production (lbs)**	*n / a*	n / a	n / a	n / a	n / a	n / a	29,000
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	n / a	n / a	n / a	n / a	n / a	n / a	1,046,000
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	4,800
Laundry Boiler System	**Annual Steam Production (lbs)**	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No	NO
	***Total Cooling* Tower Annual Makeup (gals)**	unknown	approx.993,000 gals make-up annually	16000	unknown	unknown	unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	6,000

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF CORRECTIONS		
ACC - Algoa Correctional Center	**MONTHLY SITE VISITS**	
BCC - Boonville Correctional Center	**MONTHLY SITE VISITS**	
CMCC - Central Missouri Correctional Center	**MONTHLY SITE VISITS**	
CCC - Chillicothe Correctional Center	**MONTHLY SITE VISITS**	
CRCC - Crossroads Correctional Center	**MONTHLY SITE VISITS**	
ERDCC - Eastern Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
Farmington Community Supervision Center	**MONTHLY SITE VISITS**	X
FCC - Farmington Correctional Center	**MONTHLY SITE VISITS**	
FRDC - Fulton Reception and Diagnostic Center	**MONTHLY SITE VISITS**	
Hannibal Community Supervision Center	**MONTHLY SITE VISITS**	X
JCCC - Jefferson City Correctional Center	**MONTHLY SITE VISITS**	
KCCRC - Kansas City Community Release Center	**MONTHLY SITE VISITS**	X
Kennett Community Supervision Center	**MONTHLY SITE VISITS**	X
MTC - Maryville Treatment Center	**MONTHLY SITE VISITS**	
MECC - Missouri Eastern Correctional Center	**MONTHLY SITE VISITS**	X
MCC - Moberly Correctional Center	**MONTHLY SITE VISITS**	
NECC - Northeast Correctional Center	**MONTHLY SITE VISITS**	X
OCC - Ozark Correctional Center	**MONTHLY SITE VISITS**	
Poplar Bluff Community Supervision Center	**MONTHLY SITE VISITS**	X
PCC - Potosi Correctional Center	**MONTHLY SITE VISITS**	
SCCC - South Central Correctional Center	**MONTHLY SITE VISITS**	
SECC - Southeast Correctional Center	**MONTHLY SITE VISITS**	
SLCRC - St. Louis Community Release Center	**MONTHLY SITE VISITS**	
St. Joseph Community Supervision Center	**MONTHLY SITE VISITS**	X
TCC - Tipton Correctional Center	**MONTHLY SITE VISITS**	
WMCC - Western Missouri Correctional Center	**MONTHLY SITE VISITS**	X
WRDCC - Western Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
WERDCC - Women's Eastern Reception, Diagnostic Correctional Center	**MONTHLY SITE VISITS**	
MVE - MO Vocational Enterprise Complex	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF ELEMENTARY & SECONDARY EDUCATION		
B.W. Robinson State School	**MONTHLY SITE VISITS**	X
Boonslick State School	**MONTHLY SITE VISITS**	X
Cedar Ridge State School	**MONTHLY SITE VISITS**	X
College View State School	**MONTHLY SITE VISITS**	X
Delmar Cobble State School	**MONTHLY SITE VISITS**	X
Gateway/Hubert Wheeler State School	**MONTHLY SITE VISITS**	X
Greene Valley State School	**MONTHLY SITE VISITS**	X
Lakeview Woods State School	**MONTHLY SITE VISITS**	X
Maple Valley State School	**MONTHLY SITE VISITS**	X
Missouri School For The Blind	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Kerr	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Resource Center	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Rice	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Stark	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Tate	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Vocational	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Wheeler	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Central Supply	**MONTHLY SITE VISITS**	X
Oakview State School	**MONTHLY SITE VISITS**	X
Prairie View State School	**MONTHLY SITE VISITS**	X
Rolling Meadows State School	**MONTHLY SITE VISITS**	
Shady Grove State School	**MONTHLY SITE VISITS**	
Trails West State School (Dale M. Thompson)	**MONTHLY SITE VISITS**	X
Vereile Peniston State School	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF MENTAL HEALTH		
Albany Regional Office	MONTHLY SITE VISITS	
Bellefontaine Hab Center	MONTHLY SITE VISITS	
Fulton State Hospital	MONTHLY SITE VISITS	X
Hawthorn Children Psychiatric Hospital	MONTHLY SITE VISITS	
Higginsville Hab Center	MONTHLY SITE VISITS	X
Joplin Regional Center	MONTHLY SITE VISITS	
Metropolitan St. Louis Psych Center	MONTHLY SITE VISITS	X
MO Sexual Offender Treatment Center	MONTHLY SITE VISITS	
Nevada Hab Center	MONTHLY SITE VISITS	X
Northwest Habilitation Center	MONTHLY SITE VISITS	
Northwestern MO Psych Rehab Center	MONTHLY SITE VISITS	X
Sikeston Regional Office	MONTHLY SITE VISITS	X
South County Habilitation Center	MONTHLY SITE VISITS	
Southeast MO Mental Health Center	MONTHLY SITE VISITS	X
Springfield Regional Office	MONTHLY SITE VISITS	X
St. Charles Habilitation Center	MONTHLY SITE VISITS	
St. Louis Psychiatric Rehab Center	MONTHLY SITE VISITS	
Western MO Mental Health Center	MONTHLY SITE VISITS	
FACILITIES OPERATIONS		
Fletcher Daniels State Office Building	MONTHLY SITE VISITS	
Kansas City DOLIR State Office Building	MONTHLY SITE VISITS	
Prince Hall State Office Building	MONTHLY SITE VISITS	X
St. Joseph Career Center	MONTHLY SITE VISITS	
St. Joseph State Office Building	MONTHLY SITE VISITS	
Wainwright State Office Building	MONTHLY SITE VISITS	
Landers State Office Building	MONTHLY SITE VISITS	x
Penney State Office Building	MONTHLY SITE VISITS	x
Springfield DOLIR Building	MONTHLY SITE VISITS	x
MISSOURI STATE HIGHWAY PATROL		
MSHP Crime Laboratory - Springfield	MONTHLY SITE VISITS	X
MSHP General Headquarters Academy-Jefferson City	MONTHLY SITE VISITS	
MSHP General Headquarters Annex-Jefferson City	MONTHLY SITE VISITS	X
MSHP General Headquarters-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop A-Lee's Summit	MONTHLY SITE VISITS	X
MSHP Troop B-Macon	MONTHLY SITE VISITS	X
MSHP Troop C Service Center-Park Hills	MONTHLY SITE VISITS	X
MSHP Troop F-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop I-Rolla	MONTHLY SITE VISITS	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DSS-YOUTH SERVICES		
Fulton Treatment Center	**MONTHLY SITE VISITS**	X
Hogan Street Youth Center	**MONTHLY SITE VISITS**	X
Montgomery City Youth Center	**MONTHLY SITE VISITS**	X
Mt. Vernon Treatment Center	**MONTHLY SITE VISITS**	X
Riverbend Treatment Center	**MONTHLY SITE VISITS**	X
W.E. Sears Youth Center	**MONTHLY SITE VISITS**	
Missouri Hills Youth Center	**MONTHLY SITE VISITS**	X
MISSOURI VETERANS HOMES		
MVH - Cameron	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Cape Girardeau	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mexico	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mt. Vernon	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. James	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. Louis	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Warrensburg	**Monthly Site Visits While Cooling Tower Is In Operation**	



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Purchasing
301 West High Street, Room 630
Post Office Box 809
Jefferson City, Missouri 65102-0809
(573) 751-2387 FAX: (573) 526-9815
TTD: 800-735-2966 Voice: 800-735-2466
http://oa.mo.gov/purchasing

Karen S. Boeger
Director

TO: File C314153001

FROM: Jason Kolks

DATE: April 17, 2017

RE: Contract Amendment to Delete Location

Contract C314153001 is for Water Treatment Services for the Office of Administration, Division of Facilities Management (OA/FMDC) and OA/FMDC is requesting the contract be amended to delete the Marshall Habilitation Center at 700 East Slater Street in Marshall, MO 65340 effective immediately. Paragraph 2.1.3 of the contract states, "*[d]ue to circumstances that may arise, the state agency may add or remove one or more facility(ies) at any time during the term of the contract.*" According to OA/FMDC, the Marshall Habilitation Center building is being sold and will no longer need the services required for the new boiler system that was never installed.

Additionally, 1 CSR 40-1.050 (8) states, "*Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract.*" Since the intent of the contract does not change with the amendment, I am proceeding with the amendment to the contract as requested by the state agency."

Since the intent of the contract does not change with the amendment, I am proceeding to amend contract C314153001 for OA/FMDC to delete the Marshall Habilitation Center.

Eric Greitens
Governor

Catherine F. Brown
Director

Sarah Steelman
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Facilities Management
Design and Construction
730 Truman Building, 301 West High Street
Post Office Box 809
Jefferson City, Missouri 65102
INTERNET: http://www.oa.mo.gov/fmdc
E-MAIL: FMDCMAIL@oa.mo.gov

(573) 751-3339
FAX (573) 751-7277

MEMORANDUM

TO: File, Contract C314153001

FROM: Rebecca Brinkley

DATE: April 10, 2017

RE: Marshall Habilitation Center- WLTF Contract C314153001

The Division of Facilities Management, Design and Construction desires to amend Contract C314153001 with Walter Louis Fluid Technologies to remove the Marshall Habilitation Center located at 700 East Slater Street in Marshall, Missouri due to the sale of the property. Pursuant to Paragraph 2.1.3 which states, "*Addition/Removal of Facilities – Due to circumstances that may arise, the state agency may add or remove one or more facility(ies) at any time during the term of the contract. Any added or removed facility shall be accomplished by an amendment to the contract issued by the Division of Purchasing and Materials Management*". Since the property is being sold, the services provided by contract C314153001 will no longer be needed effective May 1, 2017.

Further, 1 CSR 40-1.050 (8) states, "*Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract.*" Since the intent of the contract does not change with the amendment, I am requesting an amendment to the contract.

PURCHASING CONTRACT AMENDMENT ROUTING GUIDE C 31415 001 A# 009 5-1

NR300 22007000080 Revised 08/17/15 JK

1. Indicate Contract Amendment Type

RENEWAL: _____ PERIOD OF _____ TOTAL

- ____ Renewal - % Increase ____ Cost Savings
- ____ Renewal - $ Increase ____ Cost Savings
- ____ Renewal – W/O Increase
- ____ SFS Renewal – Prices In Original Contract
- ____ SFS Renewal – Prices Not in Original Contract

EXTENSION PERIOD: _____

- ____ Extension – 30-Day Termination
- ____ Extension - $ Increase ____ Cost Savings
- ____ Extension – W/O Increase
- ____ Assignment
- ____ Cancellation/Termination
- X Other Amendment

Performance Security Deposit: $_____

Surety Bond: $_____

Annual Wage Order Number: _____

Annual Wage Order Date: _____

County(ies): _____

Other Instructions: _____

	Tasks	Route	Initial	Date
2.	**Preliminary Tasks/Verifications**			
A.	Section 34.040.6, RSMo	Buyer/Section Support	JWK	4-17-17
B.	Purchasing Suspension List	Buyer/Section Support	JWK	4-17-17
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	JWK	4-17-17
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	JWK	4-17-17
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer	✓	✓
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	✓	✓
3.	**Prepare Contract Amendment**	Buyer/Section Support	JWK	4-17-17
4.	**Review/Approve Contract Amendment (If Signature Required)**	Buyer	JWK	4-17-17
	Initial / Date	Supervisor 4/18/17	Section Manager LO 4/18/17	Asst. Director	Director	
5.	**E-Mail/Fax Contract Amendment (If Signature Required)**	Buyer/Section Support	DT	4-19-17
	Contractor E-Mail Address/Fax Number	wlg@walterlowe.com/jwglesing@walterlowe.com		
	State Agency Contact E-Mail Address	Beaty Brinkley		
	Section 34.040.6, RSMo, Letter	Follow-Up Notes:		
6.	**Review Contract Amendment Response – Verifications**			
A.	Renewal/Extension Pricing	Buyer/Section Support	JWK	5-22-17
B.	Section 34.040.6, RSMo	Buyer/Section Support	JWK	5-22-17
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support	/	/
D.	Renewal/Extension with Cost Savings Language	Buyer	/	/
E.	Statewide Notice	Buyer	/	/
F.	SFS Authorized Limit $	Buyer	/	/
G.	**Contract Assignment Only Verifications – Complete unless completed in Step 2 above**			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support		
	2. Assignment and Consent Form	Buyer/Section Support		
	3. Purchasing Suspension List	Buyer/Section Support		
	4. Federal Suspension – SAM.GOV	Buyer/Section Support		
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
7.	**Prepare Contract Amendment Award Document/Statewide Notice**	Buyer/Section Support	JWK	5-22-17
8.	**Review/Approve Contract Amendment Award Document**	Buyer	JWK	5-22-17
	Initial / Date	Supervisor 5/22/17	Section Manager LO 5/22/17	Asst. Director	Director	
9.	**Process Contract Amendment**	Buyer/Section Support	DT	6-5-17
	AM 300 PMM 00076617 m10	Buyer/Section Support	DT	6-5-17
	Distribute E-Verify & SDV Documents	Buyer/Section Support		
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	DT	6-5-17
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support		
10.	**Log Participation Commitment Information**	Central Support-Participation		
11.	**Image Contract Amendment Packet**	Central Support-Imaging	CT	6-13

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

B32 14153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER Amendment #008	**CONTRACT PERIOD** January 1, 2017 through December 31, 2017
REQUISITION/REQUEST NUMBER NR 300 22007000029	**SAM II VENDOR NUMBER/MissouriBUYS SYSTEM ID** 3709087450 1/MB00093573
CONTRACTOR NAME AND ADDRESS WALTER LOUIS FLUID TECHNOLOGIES 530 S 5TH ST QUINCY IL 62301-4808	**STATE AGENCY'S NAME AND ADDRESS** Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO
ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS: Contract C314153001 is hereby amended pursuant to the attached amendment #008, dated 11/30/16.	
BUYER Jason Kolks	**BUYER CONTACT INFORMATION** Email: jason.kolks@oa.mo.gov Phone: (573) 522-1620 Fax: (573) 526-9816
SIGNATURE OF BUYER Jason Kolks	**DATE** 12-19-16
DIRECTOR OF PURCHASING Karen S. Boeger	Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING
CONTRACT RENEWAL

AMENDMENT NO.: 008
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 11/17/16

REQ NO.: NR 300 22007000031
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: WALTER LOUIS FLUID TECHNOLOGIES
530 S 5TH ST
QUINCY IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 12/01/16 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	**jason.kolks@oa.mo.gov**
FAX TO:	**(573) 526-9816**
MAIL TO:	**PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809**
COURIER/DELIVER TO:	**PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517**

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

VENDOR NAME	MissouriBUYS SYSTEM ID (SEE VENDOR PROFILE - MAIN INFORMATION SCREEN)
Walter Louis Fluid Technologies	MB00093573
MAILING ADDRESS: 530 South 5th Street	
CITY, STATE, ZIP CODE: Quincy, Illinois 62301	

CONTACT PERSON	EMAIL ADDRESS
Walter Louis Giesing	wlg@walterlouis.com
PHONE NUMBER: 217-223-2019	FAX NUMBER: 217-223-7734
VENDOR TAX FILING TYPE WITH IRS (CHECK ONE): _X_ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___IRS Tax-Exempt	
AUTHORIZED SIGNATURE	DATE: 11-30 f-2016
PRINTED NAME: Frank Murphy Giesing	TITLE: Director of Operations

AMENDMENT #008 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2017 through December 31, 2017

The State of Missouri hereby exercises its option to renew the above-referenced contract.

The contractor shall indicate on the attached pricing page(s) the firm fixed prices for the above contract period. Any price increases quoted must not exceed the maximum price stated in the contract.

The contractor shall understand and agree if the contractor responds with any renewal period pricing increase, such increase may result in a justification request or in the state conducting a new procurement process rather than accepting the contractor's proposed renewal option pricing.

All other terms, conditions and provisions of the contract shall remain and apply hereto.

The contractor shall sign and return this document, along with completed pricing, on or before the date indicated.

NOTE: The contractor's failure to complete and return this document shall not stop the action specified herein. If the contractor fails to complete and return this document prior to the return date specified or the effective date of the contract period stated above, whichever is later, the state may renew the contract at the same price(s) as the previous contract period or at the price(s) allowed by the contract, whichever is lower.

PRICING PAGE

Water Treatment Services

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Corrections Facilities		
001	Algoa Correctional Center	$ 2184.00
002	Boonville Correctional Center	$ 14,341.00
003	Central Missouri Correctional Center	$ 0
004	Chillicothe Correctional Center	$ 9,721.00
005	Crossroads Correctional Center	$ 9,672.00
006	Eastern Reception Diagnostic and Correctional Center	$ 26,728.00
007	Farmington Community Supervision Center	$ 0
008	Farmington Correctional Center	$ 62,192.00
009	Fulton Reception & Diagnostic Center	$ 3,432.00
010	Hannibal Community Supervision Center	$ 0
011	Jefferson City Correctional Center	$ 41,184.00
012	Kansas City Community Release Center	$ 0
013	Kennett Community Supervision Center	$ 0
014	Maryville Treatment Center	$ 2,704.00

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Corrections Facilities (Continued)		
015	Missouri Eastern Correctional Center	$ 0
016	Moberly Correctional Center	$ 14,113.00
017	Northeast Correctional Center	$ 0
018	Ozark Correctional Center	$ 18,408.00
019	Poplar Bluff Community Supervision Center	$ 0
020	Potosi Correctional Center	$ 13,156.00
021	South Central Correctional Center	$ 12,326.00
022	Southeast Correctional Center	$ 13,957.00
023	St. Louis Community Release Center	$ 0
024	St. Joseph Community Supervision Center	$ 0
025	Tipton Correctional Center	$ 11,128.00
026	Western Missouri Correctional Center	$ 1,768.00
027	Western Reception Diagnostic and Correctional Center	$ 34,840.00
028	Women's Eastern Reception Diagnostic and Correctional Center	$ 23,192.00
029	MVE Complex (Jefferson City)	$ 1,924.00

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Division of Facilities Management, Design and Construction Facilities		
030	Fletcher Daniels State Office Building	$ 9,568.00
031	Kansas City DOLIR State Office Building	$ 0
032	Prince Hall State Office Building	$ 4,992.00
033	St. Joseph Career Center	$ 0
034	St. Joseph State Office Building	$ 4,368.00
035	Wainwright State Office Building	$ 5,096.00
174	8800 E. 63rd. Street, Raytown, Missouri	$ 4,680.00
179	Landers State Office Building	$ 8,600
180	Penney State Office Building	$ 0
181	Springfield DOLIR Building	$ 0
Department of Elementary and Secondary Education Facilities		
036	B.W. Robinson State School	$ 0
037	Boonslick State School	$ 0
038	Cedar Ridge State School	$ 0
039	College View State School	$ 0
040	Delmar Cobble State School	$ 0

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Elementary and Secondary Education Facilities (Continued)		
041	Gateway/Hubert Wheeler State School	$ 0
042	Greene Valley State School	$ 0
043	Lakeview Woods State School	$ 0
044	Maple Valley State School	$ 0
045	Missouri School for the Blind	$ 8,112.00
046	Missouri School for the Deaf-Kerr	$ 0
047	Missouri School for the Deaf-Resource Center	$ 0
048	Missouri School for the Deaf-Rice	$ 0
049	Missouri School for the Deaf-Stark	$ 4,056.00
050	Missouri School for the Deaf-Tate	$ 1,456.00
051	Missouri School for the Deaf-Vocational	$ 0
052	Missouri School of the Deaf-Wheeler	$ 6,032.00
053	Oakview State School	$ 0
054	Prairie View State School	$ 0
055	Rolling Meadows State School	$ 0
056	Shady Grove State School	$ 2,496.00

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Elementary and Secondary Education Facilities (Continued)		
057	Trails West State School (Dale M. Thompson)	$ 1,872.00
058	Verelle Peniston State School	$ 0
175	Missouri School for the Deaf – Central Supply Building	$ 0
Department of Mental Health Facilities		
059	Albany Regional Center	$ 0
060	Bellefontaine Habilitation Center	$ 6,968.00
061	Fulton State Hospital	$ 40,612.00
062	Hawthorne Children's Psychiatric Hospital	$ 0
063	Higginsville Habilitation Center	$ 1,664.00
064	Joplin Regional Center	$ 0
065	Marshall Habilitation Center	$ 3,182.00
066	Metropolitan St. Louis Psychiatric Center	$ 6,682.00
067	Missouri Sex Offender Treatment Center	$ 0
068	Nevada Habilitation Center	$ 8,736.00
070	Northwestern Missouri Psychiatric Rehabilitation Center	$ 10,691.00
071	Sikeston Regional Office	$ 0

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Department of Mental Health Facilities (Continued)		
072	South County Habilitation Center	$ 0
073	Southeast Missouri Mental Health Center	$ 8,954.00
074	St. Charles Habilitation Center	$ 0
075	St. Louis Psychiatric Rehabilitation Center	$ 13,000.00
076	Western Missouri Mental Health Center	$ 7,862.00
173	Springfield Regional Center	$ 0
Missouri State Highway Patrol Facilities		
077	MSHP Crime Lab – Springfield	$ 0
078	MSHP General Headquarters Academy: Jefferson City	$ 0
079	MSHP General Headquarters Annex: Jefferson City	$ 0
080	MSHP General Headquarters – Jefferson City	$ 8,424.00
081	MSHP Troop A – Lee's Summit	$ 0
082	MSHP Troop B – Macon	$ 0
083	MSHP Troop C Service Center – Park Hills	$ 0
084	MSHP Troop F – N. Shamrock Rd, Jefferson City	$ 0
085	MSHP Troop I - Rolla	$ 0

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Missouri Veterans Commission Facilities		
086	Missouri Veterans Home-Cameron	$ 6,760.00
087	Missouri Veterans Home-Cape Girardeau	$ 6,864.00
088	Missouri Veterans Home-Mexico	$ 8,008.00
089	Missouri Veterans Home-Mt. Vernon	$ 8,528.00
090	Missouri Veterans Home-St. James	$ 6,968.00
091	Missouri Veterans Home-St. Louis	$ 5,158.00
092	Missouri Veterans Home-Warrensburg	$ 8,944.00
Division of Social Services, Youth Services Facilities		
093	Fulton Treatment Center	$ 0
094	Hogan Street Youth Center	$ 0
095	Montgomery City Youth Center	$ 0
096	Mt. Vernon Treatment Center	$ 0
097	Riverbed Treatment Center	$ 0
098	W.E. Sears Youth Center	$ 0
177	Missouri Hills Youth Center	$ 0

Additional Chemicals:

Line Item	Product Name	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
	BOILER SYSTEM CHEMICALS		
099	89-L Boiler Compound	5 gal, 15 gal, 55 gal	$ 83.03/gal
100	155-L Single Blend Boiler Compound	15 gal, 55 gal, bulk	$ 20.00/gal
101	157-L Single Blend Boiler Compound	15 gal, 55 gal, bulk	$ 20.00/gal
102	1435 Boiler Compound	15 gal, 55 gal, bulk	$ 49.38/gal
103	1450 Boiler Compound	15 gal, 55 gal, bulk	$ 37.63/gal
104	1460 Boiler Compound	15 gal, 55 gal, bulk	$ 44.68/gal
105	1495 Boiler Compound	15 gal, 55 gal, bulk	$ 37.63/gal
106	1655 Boiler Compound	15 gal, 55 gal, bulk	$ 25.88/gal
107	LC-25 Liquid Caustic Soda 25%	15 gal, 55 gal, bulk	$ 3.84/gal
108	LC-50 Liquid Caustic Soda 50%	15 gal, 55 gal, bulk	$ 6.56/gal
	Contingency Chemicals		
109	123 Acid Cleaner	15 gal, 55 gal	$ 17.95/gal
110	29-A Boiler Banking Lay Up	15 gal, 55 gal	$ 19.57/gal
111	1146 Liquid Alkaline Boil Out	15 gal, 55 gal	$ 21.36/gal
112	1147 Alkaline Boil Out (Dry)	50 lb	$ 2.60/lb

Line Item	Product Name	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
	DEAERATOR / FEEDWATER SYSTEM CHEMICALS		
113	592-L Oxygen Scavenger	15 gal, 55 gal, bulk	$ 12.36/gal
114	595 Oxygen Scavenger	15 gal, 55 gal, bulk	$ 17.65/gal

Line Item	Product Name	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
	STEAM SYSTEM CHEMICALS		
115	358 Steamline Treatment	15 gal, 55 gal	$ 12.64/gal
116	1535 Steamline Treatment	15 gal, 55 gal bulk	$ 47.02/gal
117	1565 Steamline Treatment	15 gal, 55 gal, bulk	$ 47.02/gal
118	1575 Steamline Treatment	15 gal, 55 gal, bulk	$ 47.02/gal
119	PAC-50 Flocculant	15 gal, 55 gal	$ 22.28/gal

Line Item	Product Name COOLING TOWER AND SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
120	206 Biodispersant`	15 gal	$ 96.40/gal
121	290 Dispersant (Oil Problems)	5 gal, 15 gal	$ 97.58/gal
122	1248 Cooling Tower Wet Lay Up	5 gal, 15 gal, 55 gal	$ 67.86/gal
123	4707 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 35.28/gal
124	4709 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 30.58/gal
125	4714 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 25.88/gal
126	7116 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 58.78/gal
127	7221 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 47.02/gal
128	7351 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 35.33/gal
129	AM-545 Microbiocide	5 gal	$ 94.06/gal
130	AM-66 Microboiocide Tablets	50 lb	$ 9.43/lb
131	AM-714 Microboicide	6 gal	$ 76.41/gal
132	CTT Tabs	43 lb	$ 14.13/lb
133	ISO-15 Microbiocide	5 gal	$ 84.65/gal
134	Verox-8 Microbiocide	5 gal, 15 gal, 55 gal	$ 74.40/gal
135	123 Passivating Tower Blend	5 gal, 15 gal, 55 gal	$ 19.62/gal
136	Sulfuric Acid 66 BE	55 gal	$ 7.54/gal
	Contingency Chemicals		
137	123 Acid Cleaner	15 gal, 55 gal	$ 17.95/gal

Line Item	Product Name DEALKALIZER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
138	LC-25 Liquid Caustic Soda 25%	15 gal, 55 gal, bulk	$ 3.84/gal
139	LC-50 Liquid Caustic Soda 50%	15 gal, 55 gal, bulk	$ 6.56/gal

FIRST RENEWAL PERIOD					
	Product Name	**Firm, Fixed Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP COOLING SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
140	839 Closed System Inhibitor	$ 43.52/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,740.80
	Contingency Chemicals				
141	0225 Closed System Treatment	$ 49.37/gal	15 gal, 55 gal, bulk		
142	96 System Precleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
143	996 Resin Cleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
144	AM-50 Microbiocide	$ 47.02/gal	15 gal		
145	Thermal-Guard HT-1	$ 17.95/gal	15 gal, 55 gal, bulk		
146	Thermal-Guard FG	$ 20.43/gal	15 gal, 55 gal, bulk		
147	ISA-10 Cleaner	$ 8.56/lb	50 lb		

FIRST RENEWAL PERIOD					
	Product Name	**Firm, Fixed Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP HEATING SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZEAND UNIT	Amount of Chemical Required	Total Price
148	839 Closed System Inhibitor	$ 43.52/gal	15 gal, 55 gal, bulk		$ 1,740.80
	Contingency Chemicals				
149	0225 Closed System Treatment	$ 49.37/gal	15 gal, 55 gal, bulk		
150	96 System Precleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
151	996 Resin Cleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
152	AM-50 Microbiocide	$ 47.02/gal	15 gal		
153	Thermal-Guard HT-1	$ 17.95/gal	15 gal, 55 gal, bulk		
154	Thermal-Guard FG	$ 20.43/gal	15 gal, 55 gal, bulk		
155	1193 Aluminum Corrosion Inhibitor	$ 43.52/gal	5 gal, 15 gal, 55 gal, bulk		
156	2193 High Temp Corrosion Inhibitor	$ 43.52/gal	5 gal, 15 gal, 55 gal, bulk		

FIRST RENEWAL PERIOD					
	Product Name	**Firm, Fixed Unit Price**		*****Treatment of 400,000 Gallons of Diesel Fuel**	
	FUEL OIL SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
157	Sludge-Free Dispersant	$ 35.58/gal	5 gal, 15 gal, 55 gal	13 gallon	$ 462.54
158	Fuel-Save Stabilizer (Anti-bacterial)	$ 81.06/gal	5 gal	1.8 gallon	$ 145.91

Resin Analysis and Elution Study and Cleaning Solution:

		FIRST RENEWAL PERIOD FIRM, FIXED PRICE
159	Resin Analysis and Elution Study	$ 309.34 (per study)
160	Resin Cleaning Solution	$ 24.69 (per gallon)

Domestic Water System:

		CONTAINER SIZE	FIRST RENEWAL PERIOD UNIT PRICE
161	Polymerized Sodium Polyphosphate	55 gal	$ 32.19/gal
162	Sodium Hypochlorite Bleach	55 gal or bulk	$ 2.83/gal
178	Chlorine Dioxide Solution	55 gal drum	$ 17.16

Waste Water System:

		CONTAINER SIZE	FIRST RENEWAL PERIOD FIRM, FIXED PRICE
163	Calcium Nitrate, or approved equal, for control of odor, and Hydrogen Sulfide	55 gal	$ 12.36/gal
164	Aqueous Organic Sulfides for control of Flocculent Precipitant	5 gal, 15 gal, 55 gal	$ 37.13/gal
165	Ferrous Sulfate for Sludge Conditioning	15 gal, 55 gal, bulk	$ 9.42/gal
166	Bio-L-220 Grease Digesting Bacteria, or approved equal	5 gal	$ 32.92/gal

Test Equipment and Refractometer:

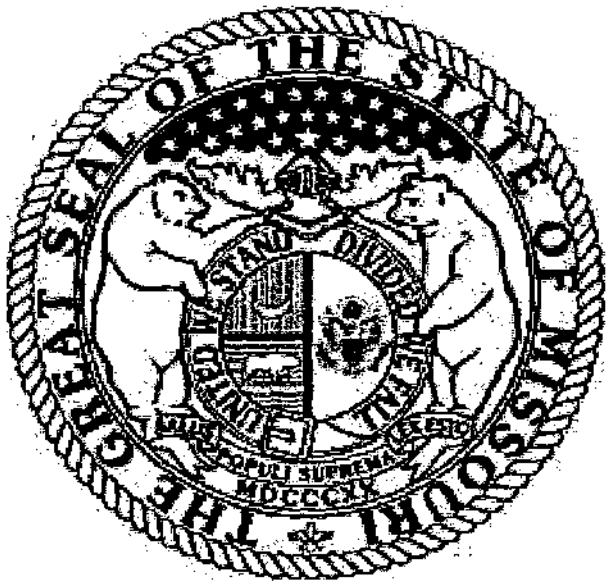
		FIRST RENEWAL PERIOD FIRM, FIXED PRICE
167	Bench top PH. Meter/Microcomputer	$ 525.88
168	Bench top T.D.S. Conductivity Meter	$ 525.88
169	Propylene Glycol & Ethylene Glycol Refractometer	$ 199.68
170	TPHl Combination pH/Conductivity	$ 1,003.60

Chemical Feed Equipment:

		FIRM, FIXED PERCENTAGE
171	Percentage Over Actual Net Cost	10%

Storage Tank:

		FIRM, FIXED PERCENTAGE
172	Percentage Over Actual Net Cost	10%



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Kolks, Jason

From: Brinkley, Rebecca
Sent: Friday, December 16, 2016 4:57 PM
To: Kolks, Jason
Subject: RE: Walter Louis Renewal

Jason,

If I haven't already responded, please proceed with the renewal.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

From: Kolks, Jason
Sent: Monday, December 12, 2016 2:00 PM
To: Brinkley, Rebecca
Subject: Walter Louis Renewal

Ms. Brinkley,

Please advise if the attached pricing is acceptable for the renewal of C314153001.

Thank you,

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

To: Jason Kolks
From: Frank Murphy Giesing
Re: 4% increase in contract renewal
Date: December 9, 2016

Jason,

Walt spoke with me about the concerns you had about the chemical increases for the contract renewal. I can tell you that we do not like raising prices at all. It doesn't make anyone feel good. The headwinds of increasing costs in our industry in the past few years have been more than we're used to. The only cost that has gone down in our business has been fuel cost. Everything else has gone up considerably. I won't necessarily bore you with all the individual costs of each chemical, but it's not just the chemicals. Our industry faces increased regulations and we've seen massive spikes in premiums resulting from the ACA (Affordable Care Act). Those are only two examples. Each year, the average cost increase in industrial water treatment can be anywhere between 5-17%. Luckily, the past few years, the increase has been closer to 4-5%, per year.

Since we've been in business since 1968, we've had the privilege of sourcing from the best suppliers in the country and in the world. We have incredible relationships. But even our approved suppliers have been reporting increases in their costs. We see the increased costs when we get quoted. And when they invoice the increased costs, we have to pay them. Even our competitors have reported massive increases. I can show you.

I'd like to submit to you some links to some news that we've reviewed in the past. We are always reviewing, researching, and following the national trends in both technology and cost. You can most certainly take my word for it but I might as well show you exactly where we're coming from.

530 South 5th St * Quincy IL 62301-4896 * Phone: (217)223-2017 * Fax: (217)223-7734 * Email: sales@walterlouis.com

Check out this link from businesswire.com. In the article, they report that one of the nation's largest water treatment companies, Nalco (Ecolab), in late 2013, sent out between 5 and 15 price increases across the board for their products and services. We heard from many of our friends in the industry that the increases were over 15% in many cases. This article is from 2013. We know that they also raised prices in 2014, 2015, and 2016.

http://www.businesswire.com/news/home/20131001005704/en/Nalco-Announces-Water-Process-Services-Price-Increase

Please let me show you some information regarding some of our suppliers. Generally speaking, we don't show our customers our raw material sources. However, due to our strict approved supplier lists that have been born from our maintained ISO 9001 standards, I have no problem showing you a couple of our suppliers. We have access to the very best and these two suppliers are indeed some of the best. Incidentally, some of our overall raw material costs have risen between 5-6% (each year). The next few articles show very recent information regarding increases in cost in some of our supplier's raw materials. The suppliers shown are reporting between 2 and 4% increases. This happens every single year without fail:

http://www.paperage.com/2016news/10_24_2016buckman_price_increase.html

http://solenis.com/en/news-events/news/solenis-announces-global-price-increase-process-and-water-products/

I want to reiterate that Walter Louis does not want to raise prices. When making the decision to raise the renewal price to 4%, we did so after calculating a 9.7% raw material cost increase since the contract was originally signed. There was not a single instance in

which one of our raw materials did not go up in cost by at least 4% over the course of EACH of the past couple years.

I have corrected my typos that you correctly asserted that were over the acceptable limit of price increases. Line items 109, 110, 111, and 112 were most definitely over the maximum allowable pricing for the renewal period. I'm sorry for the typos. They have been fixed.

Sincerely,

Frank Murphy Giesing
Director of Operations
Walter Louis Fluid Technologies
Office: 217-223-2019

Kolks, Jason

From: Kolks, Jason
Sent: Tuesday, December 06, 2016 7:59 AM
To: 'wlg@walterlouis.com'
Subject: C314153001 Water Treatment Services
Attachments: C314153001-008 Renewal.docx

Mr. Giesing,

The Division of Purchasing is in receipt of your signed Amendment #008 for the renewal of Contract C314153001 for the Water Treatment Services.

However, the pricing that you requested **exceeds the maximum allowable pricing for the renewal period for line items 109, 110, 111, and 112 and is not acceptable**. Furthermore, it was noticed that you proposed the full increase amount for the remaining line items for the renewal period. In addition, we are asking contractors to renew contracts with no increase, even if the contract allows an increase for the renewal period. Therefore, I'm attaching another copy of the renewal amendment for you to complete and return with acceptable pricing. Although the pricing you submit must be within the maximum allowable pricing for the renewal period, we are requesting that you review your prices and give consideration to a reduction from the maximum allowable price.

As you review your pricing, be advised that any renewal period pricing increase over the previous contract pricing may result in the state conducting a new procurement for the services. Therefore, if any increase in pricing is requested over the previous contract period price, be sure to submit documentation supporting the increase requested.

Please respond to this email by no later than Wednesday, December 14, 2016.

Thank you for your consideration and feel free to contact me with any questions.

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING
CONTRACT RENEWAL

AMENDMENT NO.: 008
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 11/17/16

REQ NO.: NR 300 22007000031
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: WALTER LOUIS FLUID TECHNOLOGIES
530 S 5TH ST
QUINCY IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 12/01/16 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	jason.kolks@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

VENDOR NAME	MissouriBUYS SYSTEM ID (SEE VENDOR PROFILE - MAIN INFORMATION SCREEN)
Walter Louis Fluid Technologies	MB00093573
MAILING ADDRESS: 530 South 5th Street	
CITY, STATE, ZIP CODE: Quincy, Illinois 62301	

CONTACT PERSON	EMAIL ADDRESS
Walter Louis Giesing	wlg@walterlouis.com
PHONE NUMBER: 217-223-2019	FAX NUMBER: 217-223-7734
VENDOR TAX FILING TYPE WITH IRS (CHECK ONE): _X_ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___ IRS Tax-Exempt	
AUTHORIZED SIGNATURE	DATE: 11-30-2016
PRINTED NAME: Frank Murphy Giesing	TITLE: Director of Operations

AMENDMENT #008 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2017 through December 31, 2017

The State of Missouri hereby exercises its option to renew the above-referenced contract.

The contractor shall indicate on the attached pricing page(s) the firm fixed prices for the above contract period. Any price increases quoted must not exceed the maximum price stated in the contract.

The contractor shall understand and agree if the contractor responds with any renewal period pricing increase, such increase may result in a justification request or in the state conducting a new procurement process rather than accepting the contractor's proposed renewal option pricing.

All other terms, conditions and provisions of the contract shall remain and apply hereto.

The contractor shall sign and return this document, along with completed pricing, on or before the date indicated.

NOTE: The contractor's failure to complete and return this document shall not stop the action specified herein. If the contractor fails to complete and return this document prior to the return date specified or the effective date of the contract period stated above, whichever is later, the state may renew the contract at the same price(s) as the previous contract period or at the price(s) allowed by the contract, whichever is lower.

PRICING PAGE

Water Treatment Services

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
	Department of Corrections Facilities	
001	Algoa Correctional Center	$ 2184.00
002	Boonville Correctional Center	$ 14,341.00
003	Central Missouri Correctional Center	$ 0
004	Chillicothe Correctional Center	$ 9,721.00
005	Crossroads Correctional Center	$ 9,672.00
006	Eastern Reception Diagnostic and Correctional Center	$ 26,728.00
007	Farmington Community Supervision Center	$ 0
008	Farmington Correctional Center	$ 62,192.00
009	Fulton Reception & Diagnostic Center	$ 3,432.00
010	Hannibal Community Supervision Center	$ 0
011	Jefferson City Correctional Center	$ 41,184.00
012	Kansas City Community Release Center	$ 0
013	Kennett Community Supervision Center	$ 0
014	Maryville Treatment Center	$ 2,704.00

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
	Department of Corrections Facilities (Continued)	
015	Missouri Eastern Correctional Center	$ 0
016	Moberly Correctional Center	$ 14,113.00
017	Northeast Correctional Center	$ 0
018	Ozark Correctional Center	$ 18,408.00
019	Poplar Bluff Community Supervision Center	$ 0
020	Potosi Correctional Center	$ 13,156.00
021	South Central Correctional Center	$ 12,326.00
022	Southeast Correctional Center	$ 13,957.00
023	St. Louis Community Release Center	$ 0
024	St. Joseph Community Supervision Center	$ 0
025	Tipton Correctional Center	$ 11,128.00
026	Western Missouri Correctional Center	$ 1,768.00
027	Western Reception Diagnostic and Correctional Center	$ 34,840.00
028	Women's Eastern Reception Diagnostic and Correctional Center	$ 23,192.00
029	MVE Complex (Jefferson City)	$ 1,924.00

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Division of Facilities Management, Design and Construction Facilities		
030	Fletcher Daniels State Office Building	$ 9,668.00
031	Kansas City DOLIR State Office Building	$ 0
032	Prince Hall State Office Building	$ 4,992.00
033	St. Joseph Career Center	$ 0
034	St. Joseph State Office Building	$ 4,368.00
035	Wainwright State Office Building	$ 5,096.00
174	8800 E. 63rd. Street, Raytown, Missouri	$ 4,680.00
179	Landers State Office Building	$ 8,600
180	Penney State Office Building	$ 0
181	Springfield DOLIR Building	$ 0
Department of Elementary and Secondary Education Facilities		
036	B.W. Robinson State School	$ 0
037	Boonslick State School	$ 0
038	Cedar Ridge State School	$ 0
039	College View State School	$ 0
040	Delmar Cobble State School	$ 0

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
	Department of Elementary and Secondary Education Facilities (Continued)	
041	Gateway/Hubert Wheeler State School	$ 0
042	Greene Valley State School	$ 0
043	Lakeview Woods State School	$ 0
044	Maple Valley State School	$ 0
045	Missouri School for the Blind	$ 8,112.00
046	Missouri School for the Deaf-Kerr	$ 0
047	Missouri School for the Deaf-Resource Center	$ 0
048	Missouri School for the Deaf-Rice	$ 0
049	Missouri School for the Deaf-Stark	$ 4,056.00
050	Missouri School for the Deaf-Tate	$ 1,456.00
051	Missouri School for the Deaf-Vocational	$ 0
052	Missouri School of the Deaf-Wheeler	$ 6,032.00
053	Oakview State School	$ 0
054	Prairie View State School	$ 0
055	Rolling Meadows State School	$ 0
056	Shady Grove State School	$ 2,496.00

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
	Department of Elementary and Secondary Education Facilities (Continued)	
057	Trails West State School (Dale M. Thompson)	$ 1,872.00
058	Verelle Peniston State School	$ 0
175	Missouri School for the Deaf – Central Supply Building	$ 0
	Department of Mental Health Facilities	
059	Albany Regional Center	$ 0
060	Bellefontaine Habilitation Center	$ 6,968.00
061	Fulton State Hospital	$ 40,612.00
062	Hawthorne Children's Psychiatric Hospital	$ 0
063	Higginsville Habilitation Center	$ 1,664.00
064	Joplin Regional Center	$ 0
065	Marshall Habilitation Center	$ 3,182.00
066	Metropolitan St. Louis Psychiatric Center	$ 6,682.00
067	Missouri Sex Offender Treatment Center	$ 0
068	Nevada Habilitation Center	$ 8,736.00
070	Northwestern Missouri Psychiatric Rehabilitation Center	$ 10,691.00
071	Sikeston Regional Office	$ 0

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
	Department of Mental Health Facilities (Continued)	
072	South County Habilitation Center	$ 0
073	Southeast Missouri Mental Health Center	$ 8,954.00
074	St. Charles Habilitation Center	$ 0
075	St. Louis Psychiatric Rehabilitation Center	$ 13,000.00
076	Western Missouri Mental Health Center	$ 7,862.00
173	Springfield Regional Center	$ 0
	Missouri State Highway Patrol Facilities	
077	MSHP Crime Lab – Springfield	$ 0
078	MSHP General Headquarters Academy: Jefferson City	$ 0
079	MSHP General Headquarters Annex: Jefferson City	$ 0
080	MSHP General Headquarters – Jefferson City	$ 8,424.00
081	MSHP Troop A – Lee's Summit	$ 0
082	MSHP Troop B – Macon	$ 0
083	MSHP Troop C Service Center – Park Hills	$ 0
084	MSHP Troop F – N. Shamrock Rd, Jefferson City	$ 0
085	MSHP Troop I - Rolla	$ 0

Line Item	FACILITY	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED PRICE (1 YEAR)
Missouri Veterans Commission Facilities		
086	Missouri Veterans Home-Cameron	$ 6,760.00
087	Missouri Veterans Home-Cape Girardeau	$ 6,864.00
088	Missouri Veterans Home-Mexico	$ 8,008.00
089	Missouri Veterans Home-Mt. Vernon	$ 8,528.00
090	Missouri Veterans Home-St. James	$ 6,968.00
091	Missouri Veterans Home-St. Louis	$ 5,158.00
092	Missouri Veterans Home-Warrensburg	$ 8,944.00
Division of Social Services, Youth Services Facilities		
093	Fulton Treatment Center	$ 0
094	Hogan Street Youth Center	$ 0
095	Montgomery City Youth Center	$ 0
096	Mt. Vernon Treatment Center	$ 0
097	Riverbed Treatment Center	$ 0
098	W.E. Sears Youth Center	$ 0
177	Missouri Hills Youth Center	$ 0

Additional Chemicals:

Line Item	Product Name BOILER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
099	89-L Boiler Compound	5 gal, 15 gal, 55 gal	$ 83.03/gal
100	155-L Single Blend Boiler Compound	15 gal, 55 gal, bulk	$ 20.00/gal
101	157-L Single Blend Boiler Compound	15 gal, 55 gal, bulk	$ 20.00/gal
102	1435 Boiler Compound	15 gal, 55 gal, bulk	$ 49.38/gal
103	1450 Boiler Compound	15 gal, 55 gal, bulk	$ 37.63/gal
104	1460 Boiler Compound	15 gal, 55 gal, bulk	$ 44.68/gal
105	1495 Boiler Compound	15 gal, 55 gal, bulk	$ 37.63/gal
106	1655 Boiler Compound	15 gal, 55 gal, bulk	$ 25.88/gal
107	LC-25 Liquid Caustic Soda 25%	15 gal, 55 gal, bulk	$ 3.84/gal
108	LC-50 Liquid Caustic Soda 50%	15 gal, 55 gal, bulk	$ 6.56/gal
	Contingency Chemicals		
109	123 Acid Cleaner	15 gal, 55 gal	$ 18.67/gal
110	29-A Boiler Banking Lay Up	15 gal, 55 gal	$ 20.36/gal
111	1146 Liquid Alkaline Boil Out	15 gal, 55 gal	$ 22.22/gal
112	1147 Alkaline Boil Out (Dry)	50 lb	$ 2.71/lb

Line Item	Product Name DEAERATOR / FEEDWATER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
113	592-L Oxygen Scavenger	15 gal, 55 gal, bulk	$ 12.36/gal
114	595 Oxygen Scavenger	15 gal, 55 gal, bulk	$ 17.65/gal

Line Item	Product Name STEAM SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
115	358 Steamline Treatment	15 gal, 55 gal	$ 12.64/gal
116	1535 Steamline Treatment	15 gal, 55 gal bulk	$ 47.02/gal
117	1565 Steamline Treatment	15 gal, 55 gal, bulk	$ 47.02/gal
118	1575 Steamline Treatment	15 gal, 55 gal, bulk	$ 47.02/gal
119	PAC-50 Flocculant	15 gal, 55 gal	$ 22.28/gal

Line Item	Product Name COOLING TOWER AND SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
120	206 Biodispersant	15 gal	$ 96.40/gal
121	290 Dispersant (Oil Problems)	5 gal, 15 gal	$ 97.58/gal
122	1248 Cooling Tower Wet Lay Up	5 gal, 15 gal, 55 gal	$ 67.86/gal
123	4707 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 35.28/gal
124	4709 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 30.58/gal
125	4714 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 26.88/gal
126	7116 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 58.78/gal
127	7221 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 47.02/gal
128	7351 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 35.33/gal
129	AM-545 Microbiocide	5 gal	$ 94.06/gal
130	AM-66 Microbiocide Tablets	50 lb	$ 9.43/lb
131	AM-714 Microbiocide	6 gal	$ 76.41/gal
132	CTT Tabs	43 lb	$ 14.13/lb
133	ISO-15 Microbiocide	5 gal	$ 84.65/gal
134	Verox-8 Microbiocide	5 gal, 15 gal, 55 gal	$ 74.40/gal
135	123 Passivating Tower Blend	5 gal, 15 gal, 55 gal	$ 19.62/gal
136	Sulfuric Acid 66 BE	55 gal	$ 7.54/gal
	Contingency Chemicals		
137	123 Acid Cleaner	15 gal, 55 gal	$ 17.95/gal

Line Item	Product Name DEALKALIZER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	First Renewal Period (Firm, Fixed Price)
138	LC-25 Liquid Caustic Soda 25%	15 gal, 55 gal, bulk	$ 3.84/gal
139	LC-50 Liquid Caustic Soda 50%	15 gal, 55 gal, bulk	$ 6.56/gal

FIRST RENEWAL PERIOD					
	Product Name	**Firm, Fixed Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP COOLING SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
140	839 Closed System Inhibitor	$ 43.52/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,740.80
	Contingency Chemicals				
141	0225 Closed System Treatment	$ 49.37/gal	15 gal, 55 gal, bulk		
142	96 System Precleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
143	996 Resin Cleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
144	AM-50 Microbiocide	$ 47.02/gal	15 gal		
145	Thermal-Guard HT-1	$ 17.95/gal	15 gal, 55 gal, bulk		
146	Thermal-Guard FG	$ 20.43/gal	15 gal, 55 gal, bulk		
147	ISA-10 Cleaner	$ 8.56/lb	50 lb		

FIRST RENEWAL PERIOD					
	Product Name	Firm, Fixed Unit Price		**Treatment of 10,000 Gallons of Makeup Water	
	CLOSED LOOP HEATING SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZEAND UNIT	Amount of Chemical Required	Total Price
148	839 Closed System Inhibitor	$ 43.52/gal	15 gal, 55 gal, bulk		$ 1,740.80
	Contingency Chemicals				
149	0225 Closed System Treatment	$ 49.37/gal	15 gal, 55 gal, bulk		
150	96 System Precleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
151	996 Resin Cleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
152	AM-50 Microbiocide	$ 47.02/gal	15 gal		
153	Thermal-Guard HT-I	$ 17.95/gal	15 gal, 55 gal, bulk		
154	Thermal-Guard FG	$ 20.43/gal	15 gal, 55 gal, bulk		
155	1193 Aluminum Corrosion Inhibitor	$ 43.52/gal	5 gal, 15 gal, 55 gal, bulk		
156	2193 High Temp Corrosion Inhibitor	$ 43.52/gal	5 gal, 15 gal, 55 gal, bulk		

FIRST RENEWAL PERIOD					
	Product Name	Firm, Fixed Unit Price		***Treatment of 400,000 Gallons of Diesel Fuel	
	FUEL OIL SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
157	Sludge-Free Dispersant	$ 35.58/gal	5 gal, 15 gal, 55 gal	13 gallon	$ 462.54
158	Fuel-Save Stabilizer (Anti-bacterial)	$ 81.06/gal	5 gal	1.8 gallon	$ 145.91

Resin Analysis and Elution Study and Cleaning Solution:

		FIRST RENEWAL PERIOD FIRM, FIXED PRICE
159	Resin Analysis and Elution Study	$ 309.34 (per study)
160	Resin Cleaning Solution	$ 24.69 (per gallon)

Domestic Water System:

		CONTAINER SIZE	FIRST RENEWAL PERIOD UNIT PRICE
161	Polymerized Sodium Polyphosphate	55 gal	$ 32.19/gal
162	Sodium Hypochlorite Bleach	55 gal or bulk	$ 2.83/gal
178	Chlorine Dioxide Solution	55 gal drum	$ 17.16

Waste Water System:

		CONTAINER SIZE	FIRST RENEWAL PERIOD FIRM, FIXED PRICE
163	Calcium Nitrate, or approved equal, for control of odor, and Hydrogen Sulfide	55 gal	$ 12.36/gal
164	Aqueous Organic Sulfides for control of Flocculent Precipitant	5 gal, 15 gal, 55 gal	$ 37.13/gal
165	Ferrous Sulfate for Sludge Conditioning	15 gal, 55 gal, bulk	$ 9.42/gal
166	Bio-L-220 Grease Digesting Bacteria, or approved equal	5 gal	$ 32.92/gal

Test Equipment and Refractometer:

		FIRST RENEWAL PERIOD FIRM, FIXED PRICE
167	Bench top PH. Meter/Microcomputer	$ 525.88
168	Bench top T.D.S. Conductivity Meter	$ 525.88
169	Propylene Glycol & Ethylene Glycol Refractometer	$ 199.68
170	TPHI Combination pH/Conductivity	$ 1,003.60

Chemical Feed Equipment:

		FIRM, FIXED PERCENTAGE
171	Percentage Over Actual Net Cost	10%

Storage Tank:

		FIRM, FIXED PERCENTAGE
172	Percentage Over Actual Net Cost	10%

PURCHASING **CONTRACT AMENDMENT ROUTING GUIDE** C 314153001 A# 008

NE300 220070000031 Revised 08/17/15

RENEWAL: 1 PERIOD OF 3 TOTAL

- ___ Renewal - % Increase ___ Cost Savings
- ✓ Renewal - $ Increase ✓ Cost Savings
- ___ Renewal – W/O Increase
- ___ SFS Renewal – Prices In Original Contract
- ___ SFS Renewal – Prices Not in Original Contract

EXTENSION PERIOD: ___

- ___ Extension – 30-Day
- ___ Termination
- ___ Extension - $ Increase ___ Cost Savings
- ___ Extension – W/O Increase
- ___ Assignment
- ___ Cancellation/Termination
- ___ Other Amendment

Performance Security Deposit: $___

Surety Bond: $___

Annual Wage Order Number: ___

Annual Wage Order Date: ___

County(ies): ___

Other Instructions: ___

A.	Section 34.040.6, RSMo	Buyer/Section Support	DT	11-17-16
B.	Purchasing Suspension List	Buyer/Section Support	DT	11-17-16
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	DT	11-17-16
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer		
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer		
		Buyer/Section Support	DT	11-17-16
		Buyer	JWK	11-17-16
		Buyer/Section Support	DT	11-16-16

Contractor E-Mail Address/Fax Number	wgiesing@walterlouis.com
State Agency Contact E-Mail Address	Becky Brinkley
Section 34.040.6, RSMo, Letter	Follow-Up Notes:

A.	Renewal/Extension Pricing	Buyer/Section Support	JWK	12-19-16
B.	Section 34.040.6, RSMo	Buyer/Section Support	JWK	12-19-16
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support		
D.	Renewal/Extension with Cost Savings Language	Buyer	JWK	12-19-16
E.	Statewide Notice	Buyer		
F.	SFS Authorized Limit $	Buyer		
G.				
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support		
	2. Assignment and Consent Form	Buyer/Section Support		
	3. Purchasing Suspension List	Buyer/Section Support		
	4. Federal Suspension – SAM.GOV	Buyer/Section Support		
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
		Buyer/Section Support	JWK	12-19-16
		Buyer	JWK	12-19-16

	Buyer/Section Support	DT	12-22-16
AM 300 PMM 00074045 M9	Buyer/Section Support	DT	12-22-16
Distribute E-Verify & SDV Documents	Buyer/Section Support		
E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	DT	12-22-16
Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support		
	Central Support-Participation	KW	2-27-16
	Central Support-Imaging		1-5

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

BSE 11153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER	**CONTRACT PERIOD**
Amendment #007	January 1, 2015 through December 31, 2016
REQUISITION/REQUEST NUMBER	**SAM II VENDOR NUMBER/MissouriBUYS SYSTEM ID**
NR 300 22007000029	3709087450 1/MB00093573
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
WALTER LOUIS FLUID TECHNOLOGIES 530 S 5TH ST QUINCY IL 62301-4808	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #007, dated 11/30/16.

BUYER	BUYER CONTACT INFORMATION
Jason Kolks	Email: jason.kolks@oa.mo.gov Phone: (573) 522-1620 Fax: (573) 526-9816
SIGNATURE OF BUYER	**DATE**
Jason Kolks	12-6-16

DIRECTOR OF PURCHASING

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING (PURCHASING)
CONTRACT AMENDMENT

AMENDMENT NO.: 007
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 011/10/16

REQ NO.: NR 300 22007000029
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 11/23/16 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	**jason.kolks@oa.mo.gov**
FAX TO:	**(573) 526-9816**
MAIL TO:	**PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809**
COURIER/DELIVER TO:	**PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517**

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technologies	Walter Louis Chemicals and Associates Inc.
MAILING ADDRESS: 530 South 5th Street	IRS FORM 1099 MAILING ADDRESS: 530 South 5th Street
CITY, STATE, ZIP CODE: Quincy, Illinois 62301	CITY, STATE, ZIP CODE: Quincy, Illinois 62301

CONTACT PERSON	EMAIL ADDRESS
Walter Louis Giesing	wlg@walterlouis.com
PHONE NUMBER: 217-223-2017	FAX NUMBER: 217-223-7734

TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
37-0908745	X FEIN ___SSN	3709087450 1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)

___ X Corporation ___ Individual ___ State/Legal Government ___ Partnership ___ Sole Proprietor ___IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
Walter F Giesing	11/30/2016

Contract C314153001 Page #

PRINTED NAME	TITLE
Walter Louis giesing	President

AMENDMENT #007 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2015 through December 31, 2016

The State of Missouri desires to amend Contract C314153001 for Water Treatment Services to add the following buildings located in Springfield, Missouri: Landers State Office Building at 149 Park Central Square, Penney State Office Building at 101 Park Central Square, and Springfield DOLIR Building at 505 East Walnut Street to the provisions and requirements of the contract, effective December 1, 2016. As a result, Revised Attachment #1 is deleted and replaced with the Attached Revised Attachment #1 dated 11/7/16 and Attachment #2 is deleted and replaced with the attached Revised Attachment #2 dated 11/7/16.

All references to Attachment #1 shall be hereby deemed to mean Revised Attachment #1 dated 11/7/16 and all references to Attachment #2 shall be hereby deemed to mean Revised Attachment #2 dated 11/7/16.

Furthermore, the contractor shall develop and submit a proposed water treatment program for the newly added facility in accordance with the attached Exhibit E.

The contractor shall indicate on the pricing table below, the guaranteed not-to-exceed price for the original contract period and the guaranteed not-to-exceed maximum prices for each potential renewal period for performing services in accordance with the terms, conditions, and provisions of the contract.

Water Treatment Services – Landers State Office Building				
Line Item	Original Contract Period Guaranteed Not-to-Exceed Price	First Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)
179	$ 8600	$ 8600	$ 8944	$ 9301
Water Treatment Services – Penney State Office Building				
Line Item	Original Contract Period Guaranteed Not-to-Exceed Price	First Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)
180	$ 0	$ 0	$ 0	$ 0
Water Treatment Services – Springfield DOLIR Building				
Line Item	Original Contract Period Guaranteed Not-to-Exceed Price	First Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)
181	$ 0	$ 0	$ 0	$ 0

All other requirements and provisions of the contract, including all other prices, shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it on or before the date indicated on the cover page of this document.

EXHIBIT E

WATER TREATMENT PROGRAM

Based on the contractor's inspections of the steam and hydronic systems, the contractor's results of the chemistry analysis of the water sample, and the provisions and requirements specified in the RFP portion of the contract, the contractor shall develop and submit a proposed water treatment program for any new facilities added to the contract. The contractor must provide the following information and must submit supporting documentation to fully describe and explain the proposed water treatment program. The contractor should copy and complete the following pages for each facility.

The contractor must identify the existing water treatment equipment for each facility. In addition, the contractor must identify the test equipment and supplies that will be provided by the contractor in order to implement the water treatment program, including specific details.

The contractor must identify the chemicals proposed for each water treatment program, as applicable, for each facility. In addition, the contractor must indicate the proposed dosage, in either pounds or gallons, of each chemical within the defined parameters.

1) When used in conjunction with the guaranteed not-to-exceed prices indicated on the pricing table for each facility, the dosages should validate the guaranteed not-to-exceed annual price proposed for each facility.

2) Based on the results of the chemistry analysis of the water samples, the contractor should provide recommendations for corrective action and/or changes to the current operating procedures in order to obtain optimum chemical protection and heat transfer efficiency.

3) The contractor should develop the water treatment program to: (1) prevent corrosion, scale, and microbiological activity in equipment and systems, (2) protect the existing equipment, (3) ensure optimum heat transfer and equipment operating efficiency, and (4) maintain the highest cycle of concentration possible in boiler and cooling tower systems without boiler water carryover, forming scale, or corrosion of the systems.

4) The contractor should submit materials safety data sheets on each chemical proposed. The contractor should use OSHA's current form; however, any other manner or form used for presenting information equivalent to OSHA's current form is acceptable. A product bulletin that does not contain detailed information on hazards, handling instructions, and emergency and emission procedures will be considered inadequate and insufficient if submitted in lieu of a material safety data sheet.

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Landers State Office Building		
FUEL OIL SYSTEM TREATMENT		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Landers State Office Building		
BOILER		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N?A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Landers State Office Building		
DEAERATOR/FEEDWATER SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Landers State Office Building		
STEAM SYSTEMS		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Landers State Office Building		
COOLING TOWER SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
WLFT 4707	2 gallons	150 gallons
Verox 8	0.5 gallons	75 gallons
WLFT 206	0.5	50 gallons
Existing Equipment (include make, model, and quantity)		
LMI Cooling tower Controller		
2 LMI Chemical Pumps		
_____ Drumless, Bulk Storage	_____X__ Conventional Drum	

Facility: Landers State Office Building		
CLOSED LOOP HEATING SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
WLFT 839	40 gallons	
Existing Equipment (include make, model, and quantity)		
Bypass feeder		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Landers State Office Building

CLOSED LOOP COOLING SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
WLFT 839	40 Gallons	

Existing Equipment (include make, model, and quantity)

Bypass Feeder

_____ Drumless, Bulk Storage _____ Conventional Drum

Facility: Landers State Office Building

DEALKALIZER SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
N/A		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage _____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Landers State Office Building

WASTE WATER SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
N/A		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

Facility: Landers State Office Building

CONDENSATE SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
N/A		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Landers State Office Building		
DOMESTIC WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Springfield Dolir Building		
FUEL OIL SYSTEM TREATMENT		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Springfield Dolir Building		
BOILER		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Springfield Dolir Building		
DEAERATOR/FEEDWATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Springfield Dolir Building		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Springfield Dolir Building		
COOLING TOWER SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Springfield Dolir Building		
CLOSED LOOP HEATING SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
WLFT 839	40 gallons	

Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Springfield Dolir Building		
CLOSED LOOP COOLING SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Existing Equipment (include make, model, and quantity)		
By Pace Feeder		
_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Springfield Dolir Building		
DEALKALIZER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		

Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Springfield Dolir Building		
WASTE WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Springfield Dolir Building		
CONDENSATE SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Springfield Dolir Building		
DOMESTIC WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Penney State Office Building		
FUEL OIL SYSTEM TREATMENT		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Penney State Office Building		
BOILER		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Penney State Office Building		
DEAERATOR/FEEDWATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Penney State Office Building		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Penney State Office Building		
COOLING TOWER SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Penney State Office Building		
CLOSED LOOP HEATING SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
WLFT 839	40 Gallons	

Existing Equipment (include make, model, and quantity)		
By Pass Feeder		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Penney State Office Building		
CLOSED LOOP COOLING SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Existing Equipment (include make, model, and quantity)		
By Pass Feeder		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Penney State Office Building		
DEALKALIZER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		

Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Penney State Office Building		
WASTE WATER SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Penney State Office Building		
CONDENSATE SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Penney State Office Building		
DOMESTIC WATER SYSTEM		
Chemical	**Dosage (lbs. or gals.) per 10,000 Gallons Treated**	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

REVISED ATTACHMENT #1, 11/7/16

DEPARTMENT OF CORRECTIONS FACILITIES

	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Kansas City Community Release Center	Eastern Reception Diagnostic and Correctional Center	Northeast Correctional Center	Boonville Correctional Center	Algoa Correctional Center	Hannibal Community Supervision Center
	Address	651 Mulberry Street Kansas City, MO 64101	2727 Highway K Bonne Terre, MO 63628	13698 Airport Road Bowling Green, MO 63334	1216 East Morgan, Boonville, MO 65233	8501 No More Victims Rd. Jefferson City, MO 656101	2002 Warren Barrett Dr. Hannibal, MO 63401
	Telephone No.:	816-842-7467	573-358-5038	573-324-9975	660-882-6521	573-751-3911	573-248-2450
Primary Boiler System	**Annual Steam Production (lbs)**	I do not believe this concerns KCCRC. KCCRC only has a water softener for domestic hot water. Water tube hot water Heater. Cooling by 24 A/C units.	56,245,000 LBS.	573,763 GAL.	48,876,693.59 lbs of steam	22909594	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	729,500 GAL.	Unknown	485176 gallons of Make- Make	448000	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	3,660 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	No way of gauging
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	604,700 GAL.	Unknown	No Meter to measure gals of Make-Up	10,000 gal and 450000	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	1,900 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	Unknown

REVISED ATTACHMENT #1, 11/7/16

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Maryville Treatment Center	South Central Correctional Center	Southeast Correctional Center	Farmington Correctional Center	Tipton Correctional Center	Western Missouri Corrections Center
	Address	30227 Hwy 136 Maryville, MO 64468	255 West Hwy 32 Licking, MO 65542	300 E. Pedro Simmons Dr. Charleston, MO 63834	1012 W.Columbia Farmington Mo. 63640	619 N. Osage Avenue Tipton, MO 65081	609 East Pence Road Cameron, MO 64429
	Telephone No.:	660-582-6542	573-674-4470	573-683-4409	573-218-7100	660-433-2031	816-632-1390
Primary Boiler System	Annual Steam Production (lbs)	No Steam meter onsite	N/A	N/A	4937630	35mbl	NONE
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	7 Year average 7,715	N/A	N/A	131908	412,570 gal	NONE
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Est 1000 to 1500 Gallons No water meter	623 Gals.	14784	35,510 Sept thru June	25	Major heating leaks= 17,000 gal Boiler Prevent. Maint.=8,000gal (Refill) Total= 25,000 gal
Laundry Boiler System	Annual Steam Production (lbs)	N/A	10,608,000 lbs.	N/A	N/A	N/A	Unknown
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	N/A	N/A	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	2,729,538 gals.	3980533.3	UNKNOWN AT THIS TIME	Unknown	NONE
	Cooling Closed Loop Annual Makeup (gals)	N/A	93 gals.	571.44	UNKNOWN AT THIS TIME	25	NONE

REVISED ATTACHMENT #1, 11/7/16

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Women's Eastern Reception Diagnostic and Correctional Center	Western Reception Diagnostic and Correctional Center	Ozark Correctional Center	Central Missouri Correctional Center	Jefferson City Correctional Center	Fulton Reception & Diagnostic Center
	Address	1101 East Highway 54 Vandalia, MO 63382	3401 Faraon Street St. Joseph, Mo. 64506	929 Honor Camp Lane Fordland, MO 65652	2600 Highway 179 Jefferson City, MO 65102	8200 No More Victums Road Jefferson City, MO 65101	1393 Route O Fulton, MO 65251
	Telephone No.:	573-594-6686	816-387-2158	417-767-4491	573-751-2053	573-751-3224	573-592-4040
Primary Boiler System	**Annual Steam Production (lbs)**	Two Boilers - Provide steam to laundry and kitchen	Not metered	Unknown	8,585,192 lbs	53,120,714	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	2,000 Gal.	1,421,098 Gallon for boiler feed water	1,389,920	124,857 gals	643,987	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	54,000 Gal (Leaks Underground) Repaired	Not metered		15,000 gals	500	10000
Laundry Boiler System	**Annual Steam Production (lbs)**	Minimal Usage	Same boilers above supply this steam.	N/A	Zero (Facility Closed)	337973 lbs./yr. Based on gas usage	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**		Same boilers above supply this steam.	N/A	Zero (Facility Closed)	5000 gals for MVE boiler	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	Yes	Yes	No	No
	Total Cooling Tower Annual Makeup (gals)	Not Metered-Need Meter Installed	Not metered	N/A	N/A	5,005,000	700000
	Cooling Closed Loop Annual Makeup (gals)	51,000 Gal (Leaks Underground) Repaired	Not metered	N/A	N/A	1,200	100

REVISED ATTACHMENT #1, 11/7/16

DEPARTMENT OF CORRECTIONS FACILITIES								
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	DOC-MVE	
	Facility	St. Louis Community Release Center	Kennett Community Supervision Center	Poplar Bluff Community Supervision Center	Chillicothe Correctional Center-New	Moberly Correctional Center	MVE Complex	
	Address	1621 North 1st Street Saint Louis, MO 63102	875 County Highway V V Kennett 63857	1441 Black River Industrial Park Road Poplar Bluff, MO 63901	3151 Litton Road Chillicothe, MO 64601	5201 South Morley Street Moberly, MO 65270	1717 Industrial Drive Jeffferson City, MO 65109	
	Telephone No.:	314-877-0300	573-888-4900	576-840-9555	660-646-4032	660-263-3778 Ext. 1205	573-526-2893	
Primary Boiler System	Annual Steam Production (lbs)	N/A	New Facility - No Past Data	New Facility - No Past Data	N/A	N/A	N/A	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	NA	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	182,500	We have No meter on system but we do use about 30 gallons of 839 closed loop system treatment	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	12,420,000	N/A	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	900,000	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	Yes	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	Unknown	65,500	We have No meter on the system but we do use about 10 to 15 gallongs 4707 cooling tower treatment system	
	Cooling Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	8,000	We have No meter on the system but we do use about 5 to 10 gallongs 839 closed loop system treatment	

REVISED ATTACHMENT #1, 11/7/16

DEPARTMENT OF CORRECTIONS FACILITIES								
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)		
	Facility	Farmington Community Supervision Center	Crossroads Correctional Center	Missouri Eastern Correctional Center	Potosi Correctional Center	St. Joseph Community Supervision Center		
	Address	1430 Doubet Road Farmington, MO 63640	1115 E Pence Rd. Cameron, MO 64429	18701 Old Hwy 66 Pacific, MO 63069	11593 State Highway D Mineral Point, MO 63660	3305 Faraon St. St. Joseph, Mo 64506		
	Telephone No.:	573-218-7100, ext 428 (Rick Alvers at Farmington Correctional Center)	816-632-2727 ext1370 (Brett Adkinson at Crossroads Correctional Center)	636-257-3322 ext 1205 (Ed Moody at Potosi Correctional Center	573-438-6000, ext 1308 (Steve Helms at Potosi Correctional Center)	816-271-3131 ext 257		
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	N/A		
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A		
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A		
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	N/A	N/A		
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	N/A	N/A		
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	Yes	No	No	No		
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	2,250,000 gallons	N/A		
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A		

REVISED ATTACHMENT #1, 11/7/16

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Blind	Missouri School for the Deaf-Wheeler	Missouri School for the Deaf-Tate	Missouri School for the Deaf-Kerr	Missouri School for the Deaf-Stark	Missouri School for the Deaf-Vocational
	Address	3815 Magnolia St.Louis, MO	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251
	Telephone No.:	314-776-4320, x125	573-592-2520	573-592-2520	573-592-2520	573-592-2520	573-592-2520
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Chilled water closed loop	Chilled water closed loop	chilled water closed loop	2 Steam to water heat closed loops.
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	650 Gals.	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	813, 937 and 800 gal est reported	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

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DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES								
	Department	DESE	DESE	DESE	DESE	DESE	DESE	
	Facility	Missouri School for the Deaf-Rice	B.W. Robinson State School	Boonslick State School	Gateway/Hubert Wheeler State School	Delmar Cobble State School	Lakeview Woods State School	
	Address	505 E. 5th Street Fulton, Mo 65251	300 Lanning Lane Rolla, MO	321 Knaust Road St. Peters, MO	100 South Garrison St. Louis, MO	108 West Craig St. Columbia, MO	351 NE Gregory Lee's Summit, MO	
	Telephone No.:	573-592-2520	636-931-0080 (KH's)	636-931-0080 (KH's)	636-931-0080 (KH's)	660-530-5575 (NK's)	660-530-5575 (NK's)	
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown	
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown ,No meter	Unknown, No meter	Unknown ,No meter	Unknown, No meter	Unknown, No meter	

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DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Maple Valley State School	Vereile Peniston State School	Rolling Meadows State School	Prairie View State School	Greene Valley State School	Cedar Ridge State School
	Address	2575 NE Barry Rd Kansas City, MO	1530 Clay Street Chillicothe, MO	1101 West 29th St. Higginsville, MO	945 North Miami Marshall, MO	1601 East Pythian Springfield, MO	901 North Olive St. Nevada, MO
	Telephone No.:	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	417-895-6848 (FC's)	417-895-6848 (FC's)
Primary Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown	No meter
Laundry Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown, No meter	No meter	No meter

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DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES								
	Department	DESE	DESE	DESE	DESE			
	Facility	Oakview State School	Shady Grove State School	Trails West State School (Dale M. Thompson)	Missouri School for the Deaf-Central Supply Building			
	Address	200 Linden St. Monett, MO	2400 High Street Poplar Bluff, MO	4800 Grandview Road Kansas City, MO	505 E. 5th Street Fulton, Mo 65251			
	Telephone No.:	417-895-6848 (FC's)	417-895-6848 (FC's)	660-287-0099 (NK's)	573-592-2520			
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	No meter	No meter	No meter	Unknown			
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	N/A	Unknown			
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	No meter	Unknown			
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
	Cooling Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			

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DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	MO Sexual Ofender Treatment Center	Metropolitan St. Louis Psych Center	Albany Regional Center	Sikeston Regional Office	Fulton State Hospital	Marshall Hab Center
	Address	1016 West Columbia Farmington, MO 63640	5351 Delmar St. Louis, MO 63112	609 North 13th Street Albany, MO 64402	112 Plaza Drive, Box 968 Sikeston, MO 63801	600 East 5th Street Fulton, MO 65251	700 East Slater Marshall, MO 65340
	Telephone No.:	573 218-6016	314 877-0707	660 726-1531	573 472-6538	573-592-3482	660 831-3029
Primary Boiler System	Annual Steam Production (lbs)	Recieve steam from FCC		N/A	Unknown	140,204,000	Unknown
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	Unknown	4,229,000	131,000 gal.
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	5 gallons annual Blair 5 gallons Hoctor	500 GALLONS	10 gallon	New system	N/A	Not metered
Laundry Boiler System	Annual Steam Production (lbs)	N/A	Unknown	N/A	Unknown	NA	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/a	Unknown	N/A	Unknown	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	921,500 GALLONS	N/A	Unknown	unable to estimate No gauges avail.	No cooling towers
	Cooling Closed Loop Annual Makeup (gals)	3 gallons Blair 5 gallons Hoctor	500 GALLONS	10Gallons	New System	unable to estimate No gauges avail.	Not metered

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DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Nevada Habilitation Center	Bellefontaine Habilitation Center	Higginsville Habilitation Center	Northwestern Missouri Psych Rehab Center	St. Louis Psych Rehab Center	Southeast MO Mental Health Center
	Address	2323 North Ash Nevada, MO 64772	10695 Bellefontaine Road St. Louis, MO 63137	West 1st Street Higginsville, MO 64037	3505 Frederick Avenue St. Joseph, MO 64506	5300 Arsenal St. Louis, MO 63139	1010 West Columbia St. Farmington, MO
	Telephone No.:	417 448-1145	314 340-6235	660 584-4834	816 512-7111	314-877-5880	573 218-6854
Primary Boiler System	**Annual Steam Production (lbs)**	15,330,000 lbs/year	71,700,000 lbs/year	22,995,000 lbs/year, assuming 50% load and 6 months of operation	N/A	14,000,000 lbs/year	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	1,460,000 gal.	15% or 10,755,000 lbs/year	15% = 3,500,000 lbs/year	N/A	2,100,000 gal/year	N/A
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Not metered	Did not meter (420 hp of water boilers)	Did not meter (300hp of water boilers)	1,500 gal/year	Staples Bldg. 4800 gal per year
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	6,132,000 lbs/year	N/A	Unknown	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	15% = 919,800 lbs/year	N/A	Unknown	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	60,000 gal	5,000 gpd or 1,825,000 gal/year	N/A	292,000 gal/year	2000000 gal/year	Staples Bldg. 85,000 gal/Forensics 28,000 gal.
	Cooling Closed Loop Annual Makeup (gals)	none if No leaks	N/A	Did not meter (630 tons)	N/A	Unknown	Staples Bldg. 2,400 gal

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DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Northwest Habilitation Center	South County Habilitation Center	St. Charles Habilitation Center	Joplin Regional Center	Hawthorn Children Psychiatric Hospital	Center for Behavioral Medicine
	Address	#11 Brady Circle Overland, MO 63114	2312 Lemay Ferry Road St. Louis, MO 63125	22 Marr Lane St. Charles, MO 63303	3600 E Newman Rd Joplin, MO 64802	1901 Pennsylvania Ave St. Louis, MO	1000 East 24th Street Kansas City, MO 64108
	Telephone No.:	314-541-9110	314-541-9110	314-541-9110	660 831-3029	314-512-7564	(816) 512-7109
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unkknown	Unknown/Automatic	Approx. 1,000 gal.
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	NA	NA	NA	N/A	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	NO	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	125,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	Approx. 1,000 gal.

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DEPARTMENT OF MENTAL HEALTH FACILITIES								
	Department	Mental Health	Mental Health	Mental Health	Mental Health			
	Facility	Peery Apartments	New Prospects	Kansas City Regional Office	Springfield Regional Office			
	Address	2659 Peery Avenue Kansas City, MO 64127	2600 East 12th Street Kansas City, MO 64127	821 East Admiral Blvd. Kansas City, MO	1515 E. Pythian Springfield, MO			
	Telephone No.:	(816) 512-7109	(816) 512-7109	(816) 512-7109	(417) 895-7400			
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A			
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A			
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Estimated 500 gal.	Estimated 500 Gallons.	Estimated 500 gal.	Estimated 500 gal.			
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A			
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A			
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A			
	Cooling Closed Loop Annual Makeup (gals)	2 pipe syst. Shared w/ heating syst.	N/A	N/A	2 pipe syst. Shared w/ heating syst.			

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FACILITIES OPERATIONS FACILITIES								
	Department	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilities Operations State Owned Buildings	
	Facility	Fletcher Daniels State Office Building	St. Joseph State Office Building	Kansas City DOLIR State Office Building	St. Joseph Career Center	Wainwright State Office Bldg.	Prince Hall State Office Building	
	Address	615 E. 13th Street Kansas City, MO	525 Jules Kansas City, MO	1410 Gnesee Kansas City, MO	301 South 7th Street St. Joseph, MO	111 N. Seventh St. Louis, MO	4411 N. Newstead St. Louis, MO	
	Telephone No.:	816-889-2076	816-889-2076	816-387-2270	816-387-2270	314-340-6801	314-877-2007	
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	29,000	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	1,046,000	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	Unknown	Unknown	4,600	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	no	no	no	no	No	NO	
	Total Cooling Tower Annual Makeup (gals)	2463	Unknown	N/A	N/A	Unknown	40,000	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	N/A	N/A	Unknown	8,000	

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FACILITIES OPERATIONS FACILITIES								
	Department	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings				
	Facility	[redacted]	[redacted]	[redacted]				
	Address	[redacted]	[redacted]	[redacted]				
	Telephone No.:	[redacted]	[redacted]	[redacted]				
Primary Boiler System	Annual Steam Production (lbs)	NA	NA	NA				
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	NA	NA	NA				
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown				
Laundry Boiler System	Annual Steam Production (lbs)	NA	NA	NA				
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	NA	NA	NA				
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	NO	NO	NO				
	Total Cooling Loop Annual Makeup (gals)	Unknown	Unknown	Unknown				
		Unknown	Unknown	Unknown				

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MISSOURI STATE HIGHWAY PATROL							
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol
	Facility	General Headquarters - Jefferson City	General Headquarters - ANNEX	General Headquarters - ACADEMY	TROOP A - Lee's Summit	TROOP B - Macon	MO. STATE HIGHWAY PATROL SPRINGFIELD CRIME LABORATORY
	Address	1510 EAST ELM ST	1510 EAST ELM ST	1510 EAST ELM ST	504 S.E.BLUE PARKWAY LEE'S SUMMIT MO. 64063	308 PINE CREST DRIVE MACON MO 63552	425 EAST PHELPS ST. SPRINGFIELD MO. 65806
	Telephone No.:	526-6285	526-6285	526-6286	816-622-0800	660-385-2132	417-868-9400
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	N/A
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Water Water Treatment Chemical s	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	Unknown	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

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MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol				
	Facility	TROOP F - Jefferson City	TROOP I - Rolla	TROOP C Service Center - Park Hills				
	Address	P.O. BOX 568 2920 NORTH SHAMROCK RD, JEFFERSON CITY, MO. 65102	P.O. BOX 128 NAGOGAMI RD WEST, ROLLA MO. 65402	P.O. Box 612 5268 Flat River R.D. Park Hills Mo. 63601				
	Telephone No.:	573-751-1000	573-368-2345	573-431-0176				
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	Unknown	Unknown				
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No				
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A				
	Cooling Closed Loop Annual Makeup (gals)	Unknown	N/A	Unknown				

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DSS-YOUTH SERVICES							
	Department	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services
	Facility	Fulton Treatment Center	Montgomery City Youth Center	W.E. Sears Youth Center	Hogan Street Youth Center	Riverbed Treatment Center	Mt. Vernon Treatment Center
	Address	1650 Highway O P.O. box 847 Fulton, MO 63251-0847	300 Niedergerke Drive Montgomergy City, MO 63361-2616	9400 Sears Lane Poplar Bluff, MO 63901-9716	1839 Hogan Street St. Louis, MO 63106-3098	5910 Mitchell Avenue St. Joseph, MO 64507-7762	500 State Drive Mt. Vernon, MO 65712
	Telephone No.:						417-466-0292
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	Unknown
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemical s	Yes/No	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A

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DSS-YOUTH SERVICES								
	Department	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS		
	Facility	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center		
	Address	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine		
	Telephone No.:	663-209-7153	663-209-7153	663-209-7153	663-209-7153	663-209-7153		
Primary Boiler System	Annual Steam Production (lbs)	None	None	None	None	None		
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	None	None	None	None	None		
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None		
Laundry Boiler System	Annual Steam Production (lbs)	None	None	None	None	None		
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	None	None	None	None	None		
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No							
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A		
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A		
		Burnham	Burnham	Burnham	Peerless	Burnham		
		M# 4FW 78 45 LB	M# V905A	M# 4FW-78-45-LB	M# G-1561	M#P-208-WNI		
		S# 17301	S#6439-7703	S# 17501	S# 41751007	S#1719430		
		- Hot water Boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop		
		Location – Fort Bellefontaine	Location – Discovery	Location- Lewis and Clark	Location- Spanish Lake	Location- Old Admin 5707-60197		

REVISED ATTACHMENT #1, 11/7/16

MISSOURI VETERANS HOMES								
	Department	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS
	Facility	MVH - Cameron	MVH - Cape Girardeau	MVH - Mexico	MVH - Mt. Vernon	MVH - St. James	MVH - Warrensburg	MVH - St. Louis
	Address	1111 Euclid Cameron, MO 64429	2400 Veterans Memorial Dr. Cape Girardeau, MO 63701	# 1 Veterans Drive Mexico, MO 65265	1800 S. Hickory Mt. Vernon, MO 65712	620 N. Jefferson St. James, MO 65559	1300 Veterans Road Warrensburg, MO 64093	4411 N. Newstead St. Louis, MO
	Telephone No.:	816-632-6010	573-290-5870	573-581-1088	417-466-7103	573-265-3271	660-543-5075	314-877-2007
Primary Boiler System	**Annual Steam Production (lbs)**	n / a	n / a	n / a	n / a	n / a	n / a	29,000
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	n / a	n / a	n / a	n / a	n / a	n / a	1,046,000
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	4,800
Laundry Boiler System	**Annual Steam Production (lbs)**	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Lagoon Requiring Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	unknown	approx.993,000 gals make-up annually	16000	unknown	unknown	unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	6,000

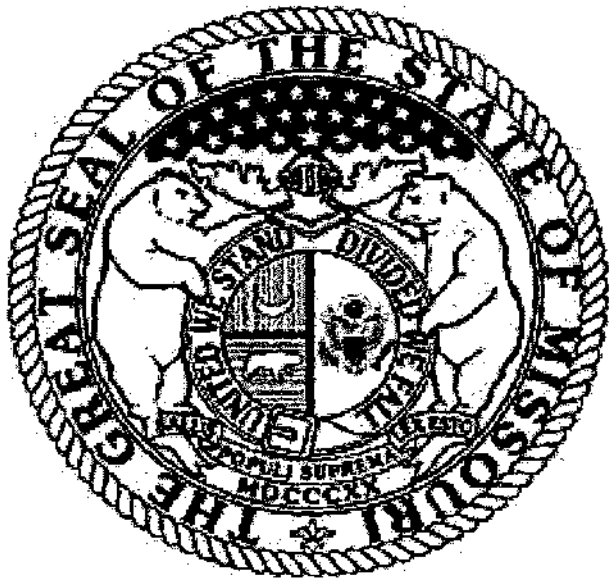
FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF CORRECTIONS		
ACC - Algoa Correctional Center	**MONTHLY SITE VISITS**	
BCC - Boonville Correctional Center	**MONTHLY SITE VISITS**	
CMCC - Central Missouri Correctional Center	**MONTHLY SITE VISITS**	
CCC - Chillicothe Correctional Center	**MONTHLY SITE VISITS**	
CRCC - Crossroads Correctional Center	**MONTHLY SITE VISITS**	
ERDCC - Eastern Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
Farmington Community Supervision Center	**MONTHLY SITE VISITS**	X
FCC - Farmington Correctional Center	**MONTHLY SITE VISITS**	
FRDC - Fulton Reception and Diagnostic Center	**MONTHLY SITE VISITS**	
Hannibal Community Supervision Center	**MONTHLY SITE VISITS**	X
JCCC - Jefferson City Correctional Center	**MONTHLY SITE VISITS**	
KCCRC - Kansas City Community Release Center	**MONTHLY SITE VISITS**	X
Kennett Community Supervision Center	**MONTHLY SITE VISITS**	X
MTC - Maryville Treatment Center	**MONTHLY SITE VISITS**	
MECC - Missouri Eastern Correctional Center	**MONTHLY SITE VISITS**	X
MCC - Moberly Correctional Center	**MONTHLY SITE VISITS**	
NECC - Northeast Correctional Center	**MONTHLY SITE VISITS**	X
OCC - Ozark Correctional Center	**MONTHLY SITE VISITS**	
Poplar Bluff Community Supervision Center	**MONTHLY SITE VISITS**	X
PCC - Potosi Correctional Center	**MONTHLY SITE VISITS**	
SCCC - South Central Correctional Center	**MONTHLY SITE VISITS**	
SECC - Southeast Correctional Center	**MONTHLY SITE VISITS**	
SLCRC - St. Louis Community Release Center	**MONTHLY SITE VISITS**	
St. Joseph Community Supervision Center	**MONTHLY SITE VISITS**	X
TCC - Tipton Correctional Center	**MONTHLY SITE VISITS**	
WMCC - Western Missouri Correctional Center	**MONTHLY SITE VISITS**	X
WRDCC - Western Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
WERDCC - Women's Eastern Reception, Diagnostic Correctional Center	**MONTHLY SITE VISITS**	
MVE - MO Vocational Enterprise Complex	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF ELEMENTARY & SECONDARY EDUCATION		
B.W. Robinson State School	**MONTHLY SITE VISITS**	X
Boonslick State School	**MONTHLY SITE VISITS**	X
Cedar Ridge State School	**MONTHLY SITE VISITS**	X
College View State School	**MONTHLY SITE VISITS**	X
Delmar Cobble State School	**MONTHLY SITE VISITS**	X
Gateway/Hubert Wheeler State School	**MONTHLY SITE VISITS**	X
Greene Valley State School	**MONTHLY SITE VISITS**	X
Lakeview Woods State School	**MONTHLY SITE VISITS**	X
Maple Valley State School	**MONTHLY SITE VISITS**	X
Missouri School For The Blind	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Kerr	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Resource Center	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Rice	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Stark	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Tate	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Vocational	**MONTHLY SITE VISITS**	X
Missouri School For The Deaf-Wheeler	**MONTHLY SITE VISITS**	
Missouri School For The Deaf-Central Supply	**MONTHLY SITE VISITS**	X
Oakview State School	**MONTHLY SITE VISITS**	X
Prairie View State School	**MONTHLY SITE VISITS**	X
Rolling Meadows State School	**MONTHLY SITE VISITS**	
Shady Grove State School	**MONTHLY SITE VISITS**	
Trails West State School (Dale M. Thompson)	**MONTHLY SITE VISITS**	X
Verelle Peniston State School	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF MENTAL HEALTH		
Albany Regional Office	MONTHLY SITE VISITS	
Bellefontaine Hab Center	MONTHLY SITE VISITS	
Fulton State Hospital	MONTHLY SITE VISITS	X
Hawthorn Children Psychiatric Hospital	MONTHLY SITE VISITS	
Higginsville Hab Center	MONTHLY SITE VISITS	X
Joplin Regional Center	MONTHLY SITE VISITS	
Marshall Hab Center	MONTHLY SITE VISITS	
Metropolitan St. Louis Psych Center	MONTHLY SITE VISITS	X
MO Sexual Offender Treatment Center	MONTHLY SITE VISITS	
Nevada Hab Center	MONTHLY SITE VISITS	X
Northwest Habilitation Center	MONTHLY SITE VISITS	
Northwestern MO Psych Rehab Center	MONTHLY SITE VISITS	X
Sikeston Regional Office	MONTHLY SITE VISITS	X
South County Habilitation Center	MONTHLY SITE VISITS	
Southeast MO Mental Health Center	MONTHLY SITE VISITS	X
Springfield Regional Office	MONTHLY SITE VISITS	X
St. Charles Habilitation Center	MONTHLY SITE VISITS	
St. Louis Psychiatric Rehab Center	MONTHLY SITE VISITS	
Western MO Mental Health Center	MONTHLY SITE VISITS	
FACILITIES OPERATIONS		
Fletcher Daniels State Office Building	MONTHLY SITE VISITS	
Kansas City DOLIR State Office Building	MONTHLY SITE VISITS	
Prince Hall State Office Building	MONTHLY SITE VISITS	X
St. Joseph Career Center	MONTHLY SITE VISITS	
St. Joseph State Office Building	MONTHLY SITE VISITS	
Wainwright State Office Building	MONTHLY SITE VISITS	
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
MISSOURI STATE HIGHWAY PATROL		
MSHP Crime Laboratory - Springfield	MONTHLY SITE VISITS	X
MSHP General Headquarters Academy-Jefferson City	MONTHLY SITE VISITS	
MSHP General Headquarters Annex-Jefferson City	MONTHLY SITE VISITS	X
MSHP General Headquarters-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop A-Lee's Summit	MONTHLY SITE VISITS	X
MSHP Troop B-Macon	MONTHLY SITE VISITS	X
MSHP Troop C Service Center-Park Hills	MONTHLY SITE VISITS	X
MSHP Troop F-Jefferson City	MONTHLY SITE VISITS	X

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
MSHP Troop I-Rolla	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DSS-YOUTH SERVICES		
Fulton Treatment Center	**MONTHLY SITE VISITS**	X
Hogan Street Youth Center	**MONTHLY SITE VISITS**	X
Montgomery City Youth Center	**MONTHLY SITE VISITS**	X
Mt. Vernon Treatment Center	**MONTHLY SITE VISITS**	X
Riverbend Treatment Center	**MONTHLY SITE VISITS**	X
W.E. Sears Youth Center	**MONTHLY SITE VISITS**	
Missouri Hills Youth Center	**MONTHLY SITE VISITS**	X
MISSOURI VETERANS HOMES		
MVH - Cameron	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Cape Girardeau	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mexico	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mt. Vernon	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. James	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. Louis	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Warrensburg	**Monthly Site Visits While Cooling Tower Is In Operation**	



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Kolks, Jason

From: Brinkley, Rebecca
Sent: Monday, December 05, 2016 2:52 PM
To: Kolks, Jason
Subject: RE: C314153001 Water Treatment Add Springfield

Please proceed.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

From: Kolks, Jason
Sent: Monday, December 05, 2016 9:31 AM
To: Brinkley, Rebecca
Subject: RE: C314153001 Water Treatment Add Springfield

Thanks Ms. Brinkley!

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

From: Brinkley, Rebecca
Sent: Monday, December 05, 2016 9:17 AM
To: Kolks, Jason
Subject: RE: C314153001 Water Treatment Add Springfield

No attachment, Mr. Kolks.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730

Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

From: Kolks, Jason
Sent: Monday, December 05, 2016 8:27 AM
To: Brinkley, Rebecca
Subject: C314153001 Water Treatment Add Springfield

Ms. Brinkley,

Please review the attached amendment #007 for C314153001 to add Springfield to Walter Louis Fluid Technologies. Let me know if it is acceptable.

Thank you,

Jason Kolks

Buyer
Division of Purchasing
Phone #: 573-522-1620

Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Purchasing
301 West High Street, Room 630
Post Office Box 809
Jefferson City, Missouri 65102-0809
(573) 751-2387 FAX: (573) 526-9815
TTD: 800-735-2966 Voice: 800-735-2466
http://oa.mo.gov/purchasing

Karen S. Boeger
Director

TO: File C314153001

FROM: Jason Kolks JWK

DATE: November 7, 2016

RE: Contract Amendment to Add Locations

Contract C314153001 is for Water Treatment Services for the Office of Administration, Division of Facilities Management (OA/FMDC) contract be amended to add the following Springfield facilities: Landers State Office Building at 149 Park Central Square, Penney State Office Building at 101 Park Central Square, and Springfield DOLIR Building at 505 East Walnut Street and will be effective December 1, 2016. Paragraph 2.1.3 of the contract states, "*[d]ue to circumstances that may arise, the state agency may add or remove one or more facility(ies) at any time during the term of the contract.*"

Additionally, 1 CSR 40-1.050 (8) states, "*Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract.*" Since the intent of the contract does not change with the amendment, I am proceeding with the amendment to the contract as requested by the state agency."

Since the intent of the contract does not change with the amendment, I am proceeding to amend contract C314153001 for OA/FMDC to add the Springfield facilities.

Jeremiah W. (Jay) Nixon
Governor

Catherine F. Brown
Director

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Facilities Management
Design and Construction
730 Truman Building, 301 West High Street
Post Office Box 809
Jefferson City, Missouri 65102
INTERNET: http://www.oa.mo.gov/fmdc
E-MAIL: FMDCMAIL@oa.mo.gov

(573) 751-3339
FAX (573) 751-7277

MEMORANDUM
October 28, 2016

Water Treatment Services for Springfield State Office Buildings

Contract Amendment – C315079001 - Johnson Controls, Inc.
Mechanical Equipment Inspection, Preventative Maintenance and Repair

Contract Amendment – C314153001 – Walter Louis Fluid Technologies, Inc.
Water Treatment Services

The Office of Administration, Division of Facilities Management, Design and Construction request an amendment to contract C315079001 with Johnson Controls, Inc for Mechanical Equipment Inspection, Preventative Maintenance and Repair to remove the Landers State Office Building, the Penney State Office Building and the Springfield DOLIR Building from receiving water treatment services as indicated on line items 013, 014 and 015, and add them to contract C314153001 with Walter Louis Fluid Technologies.

Pursuant to Paragraph 2.1.2 of contract C315079001 which states, "*Due to renovation and other circumstances as may arise, the state agency reserves the right to remove one or more of the covered units listed on Attachment #1 from service.*" The water treatment services specified in contract C315079001 provides general, minimal treatment and oversight of the effected equipment at these state owned facilities (chillers, boilers, water towers, pumps, and associated equipment) as stated in section 2.3 of contract C315079001. The OA/FMDC recognizes the shortfall of these services and the associated risks to the equipment by not having a comprehensive water treatment program specifically tailored to each facility as provided in contract C314153001.

The water treatment requirements on contract C315079001 consists of providing chemicals in accordance with manufacturer's recommendation; maintaining chemical levels within the range established by the equipment manufacturer, testing the water weekly, and submitting a report on the results of the weekly tests to the state agency on a monthly basis.

The water treatment requirements on contract C314153001 consists of water treatment programs specific to each facility based on water analysis, types of equipment and operating parameters. The contractor is to provide a test procedure manual, water treatment program manual, on-line water treatment data, an annual waterside inspection of all systems and equipment, including piping, a semi-annual analysis of the fuel oil, water softener resin test, a comprehensive site visit, several types of inspection reports, delivery and supply of water treatment chemicals, test equipment and test kits, chemical feed equipment and storage tanks. In addition, the contractor provides an in-person quarterly review of the water treatment programs with the state agency facility management team.

Since the water treatment services currently provided by contract C315079001 is not adequate to provide water treatment specific to the conditions and equipment at each facility, the effected equipment is not being satisfactorily protected and maintained. Therefore, the OA/FMDC would like to remove the Landers State Office Building, the Penney State Office Building and the Springfield DOLIR Building from contract C315079001 and add them to contract C314153001 with Walter Fluid Technologies.

Respectfully Submitted,

Rebecca Brinkley
Contracts Unit Section Manager
OA/FMDC

PURCHASING

CONTRACT AMENDMENT ROUTING GUIDE
Revised 08/17/15

C314153001 A# 007
11-23

RENEWAL: _____ PERIOD OF _____ TOTAL

____ Renewal - % Increase ____ Cost Savings
____ Renewal - $ Increase ____ Cost Savings
____ Renewal – W/O Increase
____ SFS Renewal – Prices In Original Contract
____ SFS Renewal – Prices Not in Original Contract

EXTENSION PERIOD: _____

____ Extension – 30-Day
____ Termination
____ Extension - $ Increase ____ Cost Savings
____ Extension – W/O Increase

____ Assignment
____ Cancellation/Termination
X Other Amendment

Performance Security Deposit: $_____

Surety Bond: $_____

Annual Wage Order Number: _____
Annual Wage Order Date: _____
County(ies): _____

Other Instructions: _____

A.	Section 34.040.6, RSMo	Buyer/Section Support	JLM 11-14-16
B.	Purchasing Suspension List	Buyer/Section Support	JLM 11-14-16
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	JLM 11-14-16
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	JLM 11-14-16
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer	JLM 11-14-16
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	— —
		Buyer/Section Support	— —
		Buyer	

11/15/16 11/15/16

		Buyer/Section Support	DT 11-16-16
	Contractor E-Mail Address/Fax Number	wgiesinge@walterlaw.com	
	State Agency Contact E-Mail Address	Becky Bonkley	
	Section 34.040.6, RSMo, Letter	Follow-Up Notes: emailed 2nd notice 12-1-16	

A.	Renewal/Extension Pricing	Buyer/Section Support	JLM 12-6-16
B.	Section 34.040.6, RSMo	Buyer/Section Support	JLM 12-6-16
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support	— —
D.	Renewal/Extension with Cost Savings Language	Buyer	— —
E.	Statewide Notice	Buyer	— —
F.	SFS Authorized Limit $	Buyer	— —
G.			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support	— —
	2. Assignment and Consent Form	Buyer/Section Support	— —
	3. Purchasing Suspension List	Buyer/Section Support	— —
	4. Federal Suspension – SAM.GOV	Buyer/Section Support	— —
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	— —
		Buyer/Section Support	JLM 12-6-16
		Buyer	JLM 12-6-16

12/6/16 12/6/16

		Buyer/Section Support	DT 12-8-16
	AM 300 PMM 00073881 M8	Buyer/Section Support	DT 12-8-16
	Distribute E-Verify & SDV Documents	Buyer/Section Support	— —
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	DT 12-8-16
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support	— —
		Central Support-Participation	— —
		Central Support-Imaging	TJ 12-13

001

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

B32 14153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER	**CONTRACT PERIOD**
Amendment #006	January 1, 2015 through December 31, 2016
REQUISITION NUMBER	**VENDOR NUMBER**
NR 300 22006000079	3709087450 1
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
Walter Louis Fluid Technologies 530 South 5th Street Quincy, IL 62301	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #006, dated 05/27/16.

BUYER	BUYER CONTACT INFORMATION
Jason Kolks	Email: jason.kolks@oa.mo.gov Phone: (573) 522-1620 Fax: (573) 526-9816
SIGNATURE OF BUYER	**DATE**
Jason Kolks	4-29-16

DIRECTOR OF PURCHASING

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING (PURCHASING)
CONTRACT AMENDMENT

AMENDMENT NO.: 006
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 04/13/16

REQ NO.: NR 300 22006000079
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 04/27/16 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	jason.kolks@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technology	Walter Louis Chemicals and Associates Inc.
MAILING ADDRESS: 530 S. 5th St.	IRS FORM 1099 MAILING ADDRESS: 530 S. 5th St.
CITY, STATE, ZIP CODE: Quincy Il. 62301	CITY, STATE, ZIP CODE: Quincy Il. 62301

CONTACT PERSON	EMAIL ADDRESS
Walter L. Giesing	wgiesing@walterlouis.com
PHONE NUMBER: 217-223-2017	FAX NUMBER: 217-223-7734

TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
37-0908745	_X_ FEIN ___ SSN	3709087450 1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)

_X_ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___ IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
Walter L Giesing	May 27..2016
PRINTED NAME: Walter L. Giesing	TITLE: President

AMENDMENT #006 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2015 through December 31, 2016

The State of Missouri desires to amend Contract C31415300l for Water Treatment Services to remove Joplin Career Center at 730 South Wall Ave. in Joplin, MO 64801 (Line Item 176) to the provisions and requirements of the contract. As a result, Revised Attachment #1 is deleted and replaced with the Attached Revised Attachment #1 dated 4/8/16 and Attachment #2 is deleted and replaced with the attached Revised Attachment #2 dated 4/8/16.

All references to Attachment #1 shall be hereby deemed to mean Revised Attachment #1 dated 4/8/16 and all references to Attachment #2 shall be hereby deemed to mean Revised Attachment #2 dated 4/8/16.

All other requirements and provisions of the contract, including all other prices, shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it on or before the date indicated on the cover page of this document.

REVISED ATTACHMENT #1, 4/8/16

DEPARTMENT OF CORRECTIONS FACILITIES

	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Kansas City Community Release Center	Eastern Reception Diagnostic and Correctional Center	Northeast Correctional Center	Boonville Correctional Center	Algoa Correctional Center	Hannibal Community Supervision Center
	Address	651 Mulberry Street Kansas City, MO 64101	2727 Highway K Bonne Terre, MO 63628	13698 Airport Road Bowling Green, MO 63334	1216 East Morgan, Boonville, MO 65233	8501 No More Victims Rd. Jefferson City, MO 656101	2002 Warren Barrett Dr. Hannibal, MO 63401
	Telephone No.:	816-842-7487	573-358-5038	573-324-9975	660-882-6521	573-751-3911	573-248-2450
Primary Boiler System	Annual Steam Production (lbs)	I do not believe this concerns KCCRC. KCCRC only has a water softener for domestic hot water. Water tube hot water Heater. Cooling by 24 A/C units.	56,245,000 LBS.	573,763 GAL.	48,676,693.59 lbs of steam	22909594	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	729,500 GAL.	Unknown	485176 gallons of Make- Make	448000	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	3,660 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	No way of gauging
Laundry Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	604,700 GAL.	Unknown	No Meter to measure gals of Make-Up	10,000 gal and 450000	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	1,900 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	Unknown

REVISED ATTACHMENT #1, 4/8/16

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	*Corrections (DOC)*	*Corrections (DOC)*	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Maryville Treatment Center	South Central Correctional Center	Southeast Correctional Center	Farmington Correctional Center	Tipton Correctional Center	Western Missouri Corrections Center
	Address	30227 Hwy 136 Maryville, MO 64468	255 West Hwy 32 Licking, MO 65542	300 E. Pedro Simmons Dr. Charleston, MO 63834	1012 W.Columbia Farmington Mo. 63640	619 N. Osage Avenue Tipton, MO 65081	609 East Pence Road Cameron, MO 64429
	Telephone No.:	660-582-6542	573 674-4470	573-683-4409	573-218-7100	660-433-2031	816-632-1390
Primary Boiler System	**Annual Steam Production (lbs)**	No Steam meter onsite	N/A	N/A	4937630	35mbl	NONE
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	7 Year average 7,715	N/A	N/A	131908	412,570 gal	NONE
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Est 1000 to 1500 Gallons No water meter	623 Gals.	14764	35,510 Sept thru June	25	Major heating leaks= 17,000 gal Boiler Prevent. Maint.=8,000gal (Refill) Total= 25,000 gal
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	10,608,000 lbs.	N/A	N/A	N/A	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	Unknown	N/A	N/A	N/A	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	2,729,538 gals.	3980533.3	UNKNOWN AT THIS TIME	Unknown	NONE
	Cooling Closed Loop Annual Makeup (gals)	N/A	93 gals.	571.44	UNKNOWN AT THIS TIME	25	NONE

REVISED ATTACHMENT #1, 4/8/16

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Women's Eastern Reception Diagnostic and Correctional Center	Western Reception Diagnostic and Correctional Center	Ozark Correctional Center	Central Missouri Correctional Center	Jefferson City Correctional Center	Fulton Reception & Diagnostic Center
	Address	1101 East Highway 54 Vandalia, MO 63382	3401 Faraon Street St. Joseph, Mo. 64506	929 Honor Camp Lane Fordland, MO 65652	2600 Highway 179 Jefferson City, MO 65102	8200 No More Victums Road Jefferson City, MO 65101	1393 Route O Fulton, MO 65251
	Telephone No.:	573-594-6686	816-387-2158	417-767-4491	573-751-2053	573-751-3224	573-592-4040
Primary Boiler System	**Annual Steam Production (lbs)**	Two Boilers - Provide steam to laundry and kitchen	Not metered	Unknown	8,585,192 lbs	53,120,714	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	2,000 Gal.	1,421,098 Gallon for boiler feed water	1,389,920	124,857 gals	643,987	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	54,000 Gal (Leaks Underground) Repaired	Not metered		15,000 gals	500	10000
Laundry Boiler System	**Annual Steam Production (lbs)**	Minimal Usage	Same boilers above supply this steam.	N/A	Zero (Facility Closed)	337973 lbs./yr. Based on gas usage	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**		Same boilers above supply this steam.	N/A	Zero (Facility Closed)	5000 gals for MVE boiler	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	Yes	Yes	No	No
	Total Cooling Tower Annual Makeup (gals)	Not Metered-Need Meter Installed	Not metered	N/A	N/A	5,005,000	700000
	Cooling Closed Loop Annual Makeup (gals)	51,000 Gal (Leaks Underground) Repaired	Not metered	N/A	N/A	1,200	100

REVISED ATTACHMENT #1, 4/8/16

DEPARTMENT OF CORRECTIONS FACILITIES								
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	DOC-MVE	
	Facility	St. Louis Community Release Center	Kennett Community Supervision Center	Poplar Bluff Community Supervision Center	Chillicothe Correctional Center-New	Moberly Correctional Center	MVE Complex	
	Address	1621 North 1st Street Saint Louis, MO 63102	875 County Highway V V Kennett 63857	1441 Black River Industrial Park Road Poplar Bluff, MO 63901	3151 Litton Road Chillicothe, MO 64601	5201 South Morley Street Moberly, MO 65270	1717 Industrial Drive Jeffferson City, MO 65109	
	Telephone No.:	314-877-0300	573-888-4900	576-840-9555	660-646-4032	660-263-3778 Ext. 1205	573-526-2893	
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	New Facility - No Past Data	New Facility - No Past Data	N/A	N/A	N/A	
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	NA	
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	15 gals	N/A	N/A	Unknown	182,500	We have No meter on system but we do use about 30 gallons of 839 closed loop system treatment	
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	12,420,000	N/A	
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	900,000	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	Yes	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	Unknown	65,500	We have No meter on the system but we do use about 10 to 15 gallongs 4707 cooling tower treatment system	
	Cooling Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	8,000	We have No meter on the system but we do use about 5 to 10 gallongs 839 closed loop system treatment	

REVISED ATTACHMENT #1, 4/8/16

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	
	Facility	Farmington Community Supervision Center	Crossroads Correctional Center	Missouri Eastern Correctional Center	Potosi Correctional Center	St. Joseph Community Supervision Center	
	Address	1430 Doubet Road Farmington, MO 63640	1115 E Pence Rd. Cameron, MO 64429	-- 18701 Old Hwy 66 Pacific, MO 63069	11593 State Highway O Mineral Point, MO 63660	3305 Faraon St. St. Joseph, Mo 64506	
	Telephone No.:	573-218-7100, ext 428 (Rick Alvers at Farmington Correctional Center)	816-632-2727 ext1370 (Brett Adkinson at Crossroads Correctional Center)	636-257-3322 ext 1205 (Ed Moody at Potosi Correctional Center	573-438-6000, ext 1308 (Steve Helms at Potosi Correctional Center)	816-271-3131 ext 257	
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	N/A	
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	N/A	N/A	
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	Yes	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	2,250,000 gallons	N/A	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	

REVISED ATTACHMENT #1, 4/8/16

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Blind	Missouri School for the Deaf-Wheeler	Missouri School for the Deaf-Tate	Missouri School for the Deaf-Kerr	Missouri School for the Deaf-Stark	Missouri School for the Deaf-Vocational
	Address	3815 Magnolia St.Louis, MO	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251
	Telephone No.:	314-776-4320, x125	573-592-2520	573-592-2520	573-592-2520	573-592-2520	573-592-2520
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Chilled water closed loop	Chilled water closed loop	chilled water closed loop	2 Steam to water heat closed loops.
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	650 Gals.	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	813, 937 and 800 gal est reported	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1, 4/8/16

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Deaf-Rice	B.W. Robinson State School	Boonslick State School	Gateway/Hubert Wheeler State School	Delmar Cobble State School	Lakeview Woods State School
	Address	505 E. 5th Street Fulton, Mo 65251	300 Lanning Lane Rolla, MO	321 Knaust Road St. Peters, MO	100 South Garrison St. Louis, MO	108 West Craig St. Columbia, MO	351 NE Gregory Lee's Summit, MO
	Telephone No.:	573-592-2520	636-931-0080 (KH's)	636-931-0080 (KH's)	636-931-0080 (KH's)	660-530-5575 (NK's)	660-530-5575 (NK's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown ,No meter	Unknown, No meter	Unknown ,No meter	Unknown, No meter	Unknown, No meter

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DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Maple Valley State School	Verelle Peniston State School	Rolling Meadows State School	Prairie View State School	Greene Valley State School	Cedar Ridge State School
	Address	2575 NE Barry Rd Kansas City, MO	1530 Clay Street Chillicothe, MO	1101 West 29th St. Higginsville, MO	945 North Miami Marshall, MO	1601 East Pythian Springfield, MO	901 North Olive St. Nevada, MO
	Telephone No.:	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	417-895-6848 (FC's)	417-895-6848 (FC's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown	No meter
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown, No meter	No meter	No meter

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DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES								
	Department	DESE	DESE	DESE	DESE			
	Facility	Oakview State School	Shady Grove State School	Trails West State School (Dale M. Thompson)	Missouri School for the Deaf-Central Supply Building			
	Address	200 Linden St. Monett, MO	2400 High Street Poplar Bluff, MO	4800 Grandview Road Kansas City, MO	505 E. 5th Street Fulton, Mo 65251			
	Telephone No.:	417-895-6848 (FC's)	417-895-6848 (FC's)	660-287-0099 (NK's)	573-592-2520			
Primary Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			
Laundry Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	N/A	Unknown			
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
	Cooling Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			

REVISED ATTACHMENT #1, 4/8/16

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	MO Sexual Ofender Treatment Center	Metropolitan St. Louis Psych Center	Albany Regional Center	Sikeston Regional Office	Fulton State Hospital	Marshall Hab Center
	Address	1016 West Columbia Farmington, MO 63640	5351 Delmar St. Louis, MO 63112	809 North 13th Street Albany, MO 64402	112 Plaza Drive, Box 966 Sikeston, MO 63801	1 800 East 5th Street Fulton, MO 65251	700 East Slater Marshall, MO 65340
	Telephone No.:	573 218-6016	314 877-0707	660 726-1531	573 472-6538	573-592-3482	660 831-3029
Primary Boiler System	Annual Steam Production (lbs)	Recieve steam from FCC		N/A	Unknown	140,204,000	Unknown
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	Unknown	4,229,000	131,000 gal.
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	5 gallons annual Blair 5 gallons Hoctor	500 GALLONS	10 gallon	New system	N/A	Not metered
Laundry Boiler System	Annual Steam Production (lbs)	N/A	Unknown	N/A	Unknown	NA	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/a	Unknown	N/A	Unknown	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	921,500 GALLONS	N/A	Unknown	unable to estimate No gauges avail.	No cooling towers
	Cooling Closed Loop Annual Makeup (gals)	3 gallons Blair 5 gallons Hoctor	500 GALLONS	10Gallons	New System	unable to estimate No gauges avail.	Not metered

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DEPARTMENT OF MENTAL HEALTH FACILITIES								
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	
	Facility	Nevada Habilitation Center	Bellefontaine Habilitation Center	Higginsville Habilitation Center	Northwestern Missouri Psych Rehab Center	St. Louis Psych Rehab Center	Southeast MO Mental Health Center	
	Address	2323 North Ash Nevada, MO 64772	10695 Bellefontaine Road St. Louis, MO 63137	West 1st Street Higginsville, MO 64037	3505 Frederick Avenue St. Joseph, MO 64506	5300 Arsenal St. Louis, MO 63139	1010 West Columbia St. Farmington, MO	
	Telephone No.:	417 448-1145	314 340-6235	660 584-4834	816 512-7111	314-877-5880	573 218-6854	
Primary Boiler System	**Annual Steam Production (lbs)**	15,330,000 lbs/year	71,700,000 lbs/year	22,995,000 lbs/year, assuming 50% load and 6 months of operation	N/A	14,000,000 lbs/year	N/A	
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	1,460,000 gal.	15% or 10,755,000 lbs/year	15% = 3,500,000 lbs/year	N/A	2,100,000 gal/year	N/A	
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Not metered	Did not meter (420 hp of water boilers)	Did not meter (300hp of water boilers)	1,500 gal/year	Staples Bldg. 4800 gal per year	
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	6,132,000 lbs/year	N/A	Unknown	N/A	
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	15% = 919,800 lbs/year	N/A	Unknown	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	60,000 gal	5,000 gpd or 1,825,000 gal/year	N/A	292,000 gal/year	2000000 gal/year	Staples Bldg. 85,000 gal/Forensics 28,000 gal.	
	Cooling Closed Loop Annual Makeup (gals)	none if No leaks	N/A	Did not meter (630 tons)	N/A	Unknown	Staples Bldg. 2,400 gal	

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DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Northwest Habilitation Center	South County Habilitation Center	St. Charles Habilitation Center	Joplin Regional Center	Hawthorn Children Psychiatric Hospital	Center for Behavioral Medicine
	Address	#11 Brady Circle Overland, MO 63114	2312 Lemay Ferry Road St. Louis, MO 63125	22 Marr Lane St. Charles, MO 63303	3600 E Newman Rd Joplin, MO 64802	1901 Pennsylvania Ave St. Louis, MO	1000 East 24th Street Kansas City, MO 64108
	Telephone No.:	314-541-9110	314-541-9110	314-541-9110	660 831-3029	314-512-7564	(816) 512-7109
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unkknown	Unknown/Automatic	Approx. 1,000 gal.
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	NA	NA	NA	N/A	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	NO	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	125,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	Approx. 1,000 gal.

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DEPARTMENT OF MENTAL HEALTH FACILITIES								
	Department	Mental Health	Mental Health	Mental Health	Mental Health			
	Facility	Peery Apartments	New Prospects	Kansas City Regional Office	Springfield Regional Office			
	Address	2659 Peery Avenue Kansas City, MO 64127	2600 East 12th Street Kansas City, MO 64127	821 East Admiral Blvd. Kansas City, MO	1515 E. Pythian Springfield, MO			
	Telephone No.:	(816) 512-7109	(816) 512-7109	(816) 512-7109	(417) 895-7400			
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A			
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A			
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Estimated 500 gal.	Estimated 500 Gallons.	Estimated 500 gal.	Estimated 500 gal.			
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A			
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A			
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A			
	Cooling Closed Loop Annual Makeup (gals)	2 pipe syst. Shared w/ heating syst.	N/A	N/A	2 pipe syst. Shared w/ heating syst.			

REVISED ATTACHMENT #1, 4/8/16

FACILITIES OPERATIONS FACILITIES

	Department	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilities Operations State Owned Buildings
	Facility	Fletcher Daniels State Office Building	St. Joseph State Office Building	Kansas City DOLIR State Office Building	St. Joseph Career Center	Wainwright State Office Bldg.	Prince Hall State Office Building
	Address	615 E. 13th Street Kansas City, MO	525 Jules Kansas City, MO	1410 Gnesee Kansas City, MO	301 South 7th Street St. Joseph, MO	111 N. Seventh St. Louis, MO	4411 N. Newstead St. Louis, MO
	Telephone No.:	816-889-2076	816-889-2076	816-387-2270	816-387-2270	314-340-6801	314-877-2007
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	29,000
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	1,046,000
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	N/A	N/A	Unknown	Unknown	4,800
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	no	no	no	no	No	NO
	Total Cooling Tower Annual Makeup (gals)	2463	Unknown	N/A	N/A	Unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	N/A	N/A	Unknown	6,000

REVISED ATTACHMENT #1, 4/8/16

MISSOURI STATE HIGHWAY PATROL							
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol
	Facility	General Headquarters - Jefferson City	General Headquarters - ANNEX	General Headquarters - ACADEMY	TROOP A - Lee's Summit	TROOP B - Macon	MO. STATE HIGHWAY PATROL SPRINGFIELD CRIME LABORATORY
	Address	1510 EAST ELM ST	1510 EAST ELM ST	1510 EAST ELM ST	504 S.E.BLUE PARKWAY LEE'S SUMMIT MO. 64063	308 PINE CREST DRIVE MACON MO 63552	425 EAST PHELPS ST. SPRINGFIELD MO. 65806
	Telephone No.:	526-6286	526-6286	526-6286	816-622-0800	660-385-2132	417-868-9400
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	N/A
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	Unknown	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1, 4/8/16

MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol				
	Facility	TROOP F - Jefferson City	TROOP I - Rolla	TROOP C Service Center - Park Hills				
	Address	P.O. BOX 568 2920 NORTH SHAMROCK RD, JEFFERSON CITY, MO. 65102	P.O. BOX 128 NAGOGAMI RD WEST, ROLLA MO. 65402	P.O. Box 612 5268 Flat River R.D. Park Hills Mo. 63601				
	Telephone No.:	573-751-1000	573-368-2345	573-431-0176				
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	Unknown	Unknown				
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Lagoon Requiring Wastar Water Treatment Chemicals	Yes/No	No	No	No				
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A				
	Cooling Closed Loop Annual Makeup (gals)	Unknown	N/A	Unknown				

REVISED ATTACHMENT #1, 4/8/16

DSS-YOUTH SERVICES							
	Department	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services
	Facility	Fulton Treatment Center	Montgomery City Youth Center	W.E. Sears Youth Center	Hogan Street Youth Center	Riverbend Treatment Center	Mt. Vernon Treatment Center
	Address	1650 Highway O P.O. box 847 Fulton, MO 63251-0847	300 Niedergerke Drive Montgomergy City, MO 63361-2616	9400 Sears Lane Poplar Bluff, MO 63901-9716	1839 Hogan Street St. Louis, MO 63106-3098	5910 Mitchell Avenue St. Joseph, MO 64507-7762	500 State Drive Mt. Vernon, MO 65712
	Telephone No.:						417-466-0292
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	Unknown
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A

REVISED ATTACHMENT #1, 4/8/16

DSS-YOUTH SERVICES								
	Department	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS		
	Facility	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center		
	Address	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine		
	Telephone No.:	663-209-7153	663-209-7153	663-209-7153	663-209-7153	663-209-7153		
Primary Boiler System	Annual Steam Production (lbs)	None	None	None	None	None		Missouri Veterens Commission - DPS
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	None	None	None	None	None		MVH - St. Louis
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None		4411 N. Newstead St. Louis, MO
Laundry Boiler System	Annual Steam Production (lbs)	None	None	None	None	None		314-877-2007
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	None	None	None	None	None		29,000
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No							1,046,000
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A		4,800
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A		N/A
		Burnham	Burnham	Burnham	Peerless	Burnham		N/A
		M# 4FW 78 45 LB	M# V905A	M# 4FW-78-45-LB	M# G-1561	M#P-208-WNI		NO
		S# 17301	S#6439-7703	S# 17501	S# 41751007	S#1719430		40,000
		- Hot water Boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop		6,000
		Location – Fort Bellefontaine	Location – Discovery	Location- Lewis and Clark	Location- Spanish Lake	Location- Old Admin 5707-60197		

REVISED ATTACHMENT #1, 4/8/16

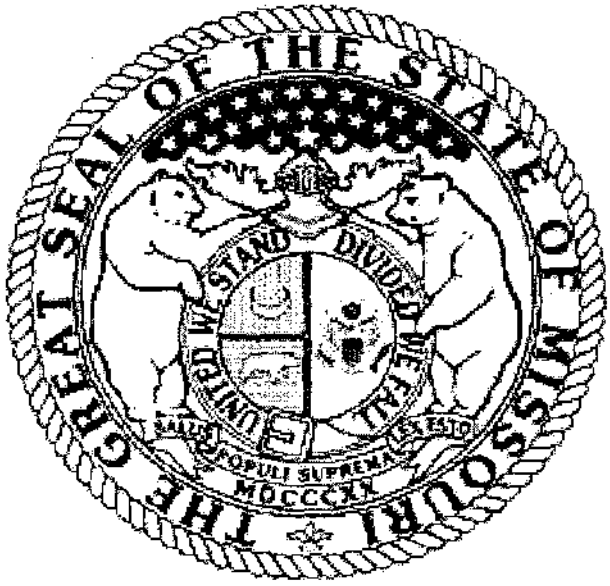
MISSOURI VETERANS HOMES							
	Department	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS
	Facility	MVH - Cameron	MVH - Cape Girardeau	MVH - Mexico	MVH - Mt. Vernon	MVH - St. James	MVH - Warrensburg
	Address	1111 Euclid Cameron, MO 64429	2400 Veterans Memorial Dr. Cape Girardeau, MO 63701	# 1 Veterans Drive Mexico, MO 65265	1600 S. Hickory Mt. Vernon, MO 65712	620 N. Jefferson St. James, MO 65559	1300 Veterans Road Warrensburg, MO 64093
	Telephone No.:	816-632-6010	573-290-5870	573-581-1088	417-466-7103	573-265-3271	660-543-5075
Primary Boiler System	Annual Steam Production (lbs)	n / a	n / a	n / a	n / a	n / a	n / a
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	n / a	n / a	n / a	n / a	n / a	n / a
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown
Laundry Boiler System	Annual Steam Production (lbs)	n / a	n / a	n / a	n / a	n / a	n / a
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	n / a	n / a	n / a	n / a	n / a	n / a
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	unknown	approx.993,000 gals make-up annually	16000	unknown	unknown	unknown
	Cooling Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF CORRECTIONS		
ACC - Algoa Correctional Center	**MONTHLY SITE VISITS**	
BCC - Boonville Correctional Center	**MONTHLY SITE VISITS**	
CMCC - Central Missouri Correctional Center	**MONTHLY SITE VISITS**	
CCC - Chillicothe Correctional Center	**MONTHLY SITE VISITS**	
CRCC - Crossroads Correctional Center	**MONTHLY SITE VISITS**	
ERDCC - Eastern Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
Farmington Community Supervision Center	**MONTHLY SITE VISITS**	X
FCC - Farmington Correctional Center	**MONTHLY SITE VISITS**	
FRDC - Fulton Reception and Diagnostic Center	**MONTHLY SITE VISITS**	
Hannibal Community Supervision Center	**MONTHLY SITE VISITS**	X
JCCC - Jefferson City Correctional Center	**MONTHLY SITE VISITS**	
KCCRC - Kansas City Community Release Center	**MONTHLY SITE VISITS**	X
Kennett Community Supervision Center	**MONTHLY SITE VISITS**	X
MTC - Maryville Treatment Center	**MONTHLY SITE VISITS**	
MECC - Missouri Eastern Correctional Center	**MONTHLY SITE VISITS**	X
MCC - Moberly Correctional Center	**MONTHLY SITE VISITS**	
NECC - Northeast Correctional Center	**MONTHLY SITE VISITS**	X
OCC - Ozark Correctional Center	**MONTHLY SITE VISITS**	
Poplar Bluff Community Supervision Center	**MONTHLY SITE VISITS**	X
PCC - Potosi Correctional Center	**MONTHLY SITE VISITS**	
SCCC - South Central Correctional Center	**MONTHLY SITE VISITS**	
SECC - Southeast Correctional Center	**MONTHLY SITE VISITS**	
SLCRC - St. Louis Community Release Center	**MONTHLY SITE VISITS**	
St. Joseph Community Supervision Center	**MONTHLY SITE VISITS**	X
TCC - Tipton Correctional Center	**MONTHLY SITE VISITS**	
WMCC - Western Missouri Correctional Center	**MONTHLY SITE VISITS**	X
WRDCC - Western Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
WERDCC - Women's Eastern Reception, Diagnostic Correctional Center	**MONTHLY SITE VISITS**	
MVE - MO Vocational Enterprise Complex	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF ELEMENTARY & SECONDARY EDUCATION		
B.W. Robinson State School	MONTHLY SITE VISITS	X
Boonslick State School	MONTHLY SITE VISITS	X
Cedar Ridge State School	MONTHLY SITE VISITS	X
College View State School	MONTHLY SITE VISITS	X
Delmar Cobble State School	MONTHLY SITE VISITS	X
Gateway/Hubert Wheeler State School	MONTHLY SITE VISITS	X
Greene Valley State School	MONTHLY SITE VISITS	X
Lakeview Woods State School	MONTHLY SITE VISITS	X
Maple Valley State School	MONTHLY SITE VISITS	X
Missouri School For The Blind	MONTHLY SITE VISITS	
Missouri School For The Deaf-Kerr	MONTHLY SITE VISITS	
Missouri School For The Deaf-Resource Center	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Rice	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Stark	MONTHLY SITE VISITS	
Missouri School For The Deaf-Tate	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Vocational	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Wheeler	MONTHLY SITE VISITS	
Missouri School For The Deaf-Central Supply	MONTHLY SITE VISITS	X
Oakview State School	MONTHLY SITE VISITS	X
Prairie View State School	MONTHLY SITE VISITS	X
Rolling Meadows State School	MONTHLY SITE VISITS	
Shady Grove State School	MONTHLY SITE VISITS	
Trails West State School (Dale M. Thompson)	MONTHLY SITE VISITS	X
Verelle Peniston State School	MONTHLY SITE VISITS	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF MENTAL HEALTH		
Albany Regional Office	MONTHLY SITE VISITS	
Bellefontaine Hab Center	MONTHLY SITE VISITS	
Fulton State Hospital	MONTHLY SITE VISITS	X
Hawthorn Children Psychiatric Hospital	MONTHLY SITE VISITS	
Higginsville Hab Center	MONTHLY SITE VISITS	X
Joplin Regional Center	MONTHLY SITE VISITS	
Marshall Hab Center	MONTHLY SITE VISITS	
Metropolitan St. Louis Psych Center	MONTHLY SITE VISITS	X
MO Sexual Offender Treatment Center	MONTHLY SITE VISITS	
Nevada Hab Center	MONTHLY SITE VISITS	X
Northwest Habilitation Center	MONTHLY SITE VISITS	
Northwestern MO Psych Rehab Center	MONTHLY SITE VISITS	X
Sikeston Regional Office	MONTHLY SITE VISITS	X
South County Habilitation Center	MONTHLY SITE VISITS	
Southeast MO Mental Health Center	MONTHLY SITE VISITS	X
Springfield Regional Office	MONTHLY SITE VISITS	X
St. Charles Habilitation Center	MONTHLY SITE VISITS	
St. Louis Psychiatric Rehab Center	MONTHLY SITE VISITS	
Western MO Mental Health Center	MONTHLY SITE VISITS	
FACILITIES OPERATIONS		
Fletcher Daniels State Office Building	MONTHLY SITE VISITS	
Kansas City DOLIR State Office Building	MONTHLY SITE VISITS	
Prince Hall State Office Building	MONTHLY SITE VISITS	X
St. Joseph Career Center	MONTHLY SITE VISITS	
St. Joseph State Office Building	MONTHLY SITE VISITS	
Wainwright State Office Building	MONTHLY SITE VISITS	
MISSOURI STATE HIGHWAY PATROL		
MSHP Crime Laboratory - Springfield	MONTHLY SITE VISITS	X
MSHP General Headquarters Academy-Jefferson City	MONTHLY SITE VISITS	
MSHP General Headquarters Annex-Jefferson City	MONTHLY SITE VISITS	X
MSHP General Headquarters-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop A-Lee's Summit	MONTHLY SITE VISITS	X
MSHP Troop B-Macon	MONTHLY SITE VISITS	X
MSHP Troop C Service Center-Park Hills	MONTHLY SITE VISITS	X
MSHP Troop F-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop I-Rolla	MONTHLY SITE VISITS	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates *Exclusively* Closed Loop Heating/Cooling System
DSS-YOUTH SERVICES		
Fulton Treatment Center	MONTHLY SITE VISITS	X
Hogan Street Youth Center	MONTHLY SITE VISITS	X
Montgomery City Youth Center	MONTHLY SITE VISITS	X
Mt. Vernon Treatment Center	MONTHLY SITE VISITS	X
Riverbend Treatment Center	MONTHLY SITE VISITS	X
W.E. Sears Youth Center	MONTHLY SITE VISITS	
Missouri Hills Youth Center	MONTHLY SITE VISITS	X
MISSOURI VETERANS HOMES		
MVH - Cameron	Monthly Site Visits While Cooling Tower Is In Operation	X
MVH - Cape Girardeau	Monthly Site Visits While Cooling Tower Is In Operation	X
MVH - Mexico	Monthly Site Visits While Cooling Tower Is In Operation	X
MVH - Mt. Vernon	Monthly Site Visits While Cooling Tower Is In Operation	X
MVH - St. James	Monthly Site Visits While Cooling Tower Is In Operation	X
MVH - St. Louis	Monthly Site Visits While Cooling Tower Is In Operation	X
MVH - Warrensburg	Monthly Site Visits While Cooling Tower Is In Operation	



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Purchasing
301 West High Street, Room 630
Post Office Box 809
Jefferson City, Missouri 65102-0809
(573) 751-2387 FAX: (573) 526-9815
TTD: 800-735-2966 Voice: 800-735-2466
http://oa.mo.gov/purchasing

Karen S. Boeger
Director

TO: File C314153001

FROM: Jason Kolks

DATE: April 8, 2016

RE: Contract Amendment to Delete Location

Contract C314153001 is for Water Treatment Services for the Office of Administration, Division of Facilities Management (OA/FMDC) contract be amended to delete the Joplin Career Center at 730 South Wall Ave. in Joplin, MO 64801 and will be effective immediately. Paragraph 2.1.3 of the contract states, "*[d]ue to circumstances that may arise, the state agency may add or remove one or more facility(ies) at any time during the term of the contract.*" According to OA/FMDC, the Joplin Career Center building is being sold and will no longer need the services required for the new boiler system that was never installed.

Additionally, 1 CSR 40-1.050 (8) states, "*Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract.*" Since the intent of the contract does not change with the amendment, I am proceeding with the amendment to the contract as requested by the state agency."

Since the intent of the contract does not change with the amendment, I am proceeding to amend contract C314153001 for OA/FMDC to delete the Joplin Career Center.

Kolks, Jason

From: Brinkley, Rebecca
Sent: Wednesday, March 16, 2016 10:34 AM
To: Kolks, Jason
Subject: Joplin Career Center - Walter Louis

Jason,

Following up on this amendment to remove the Joplin Career Center from the Walter Louis Contract; two things were happening at once with this location.

One – There was a capital improvement project to add a new boiler system. This is the reason we added the location to the contract because there would be a system later with the CI project.

Two – Legislation came up to sell the property. It was decided to move forward with the CI project because the decision to sell was still pending. Now they have decided to sell the property and NOT move forward with the CI project, so we don't need service at the Joplin Career Center since there is nothing there to service.

Walter Louis did not, and could not provide a cost or a water treatment program for the Joplin Career Center until after the new boiler system was installed; therefore, there is no cost. We can either leave the contract like it is and cancel the NR, or we can move forward with the amendment to remove to keep the contract true to actual occurrences. I would prefer to move forward with the amendment to remove to keep the contract true, so there is a record of the activity surrounding this location and everything is correct when it comes time to rebid.

Let me know.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

PURCHASING **CONTRACT AMENDMENT ROUTING GUIDE** C 314153001 A# 006 4-27

Revised 08/17/15

1. Indicate Contract Amendment Type

RENEWAL: _____ PERIOD OF _____ TOTAL

____ Renewal - % Increase ____ Cost Savings
____ Renewal - $ Increase ____ Cost Savings
____ Renewal – W/O Increase
____ SFS Renewal – Prices In Original Contract
____ SFS Renewal – Prices Not in Original Contract

EXTENSION PERIOD: _____

____ Extension – 30-Day Termination
____ Extension - $ Increase ____ Cost Savings
____ Extension – W/O Increase

____ Assignment
____ Cancellation/Termination
X Other Amendment

Performance Security Deposit: $_____

Surety Bond: $_____

Annual Wage Order Number: _____
Annual Wage Order Date: _____
County(ies): _____

Other Instructions: _____

	Tasks	Route	Initial	Date
2.	**Preliminary Tasks/Verifications**			
A.	Section 34.040.6, RSMo	Buyer/Section Support	JWK	4-8-16
B.	Purchasing Suspension List	Buyer/Section Support	JWK	4-8-16
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	JWK	4-8-16
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	JWK	4-8-16
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal - Blind/Shel Wkshp Affdvt	Buyer	✓	✓
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	✓	✓
3.	**Prepare Contract Amendment**	Buyer/Section Support	JWK	4-8-16
4.	**Review/Approve Contract Amendment (If Signature Required)**	Buyer	JWK	4-8-16
	Initials / Date: Supervisor 4-8-16	Section Manager LO 4/11/16	Asst. Director	Director 4-11-16
5.	**E-Mail/Fax Contract Amendment (If Signature Required)**	Buyer/Section Support	✓	
	Contractor E-Mail Address/Fax Number	wgresing@walterlavis.com		
	State Agency Contact E-Mail Address	Beth Rinkley		
	Section 34.040.6, RSMo, Letter	Follow-Up Notes:		
6.	**Review Contract Amendment Response – Verifications**			
A.	Renewal/Extension Pricing	Buyer/Section Support	✓	✓
B.	Section 34.040.6, RSMo	Buyer/Section Support	JWK	4-29-16
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support	✓	✓
D.	Renewal/Extension with Cost Savings Language	Buyer	✓	✓
E.	Statewide Notice	Buyer	✓	✓
F.	SFS Authorized Limit $	Buyer	✓	✓
G.	**Contract Assignment Only Verifications – Complete unless completed in Step 2 above**			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support		
	2. Assignment and Consent Form	Buyer/Section Support		
	3. Purchasing Suspension List	Buyer/Section Support		
	4. Federal Suspension – SAM.GOV	Buyer/Section Support		
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
7.	**Prepare Contract Amendment Award Document/Statewide Notice**	Buyer/Section Support	JWK	4-29-16
8.	**Review/Approve Contract Amendment Award Document**	Buyer	JWK	4-29-16
	Initials / Date: Supervisor 5/2/16	Section Manager LO 5/2/16	Asst. Director	Director 5/5/16
9.	**Process Contract Amendment**	Buyer/Section Support	DT	5/5/16
	AM 300 PMM 0000071677 AM7	Buyer/Section Support	DT	5/5/16
	Distribute E-Verify & SDV Documents	Buyer/Section Support		
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	DT	5/5/16
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support		
10.	**Log Participation Commitment Information**	Central Support-Participation		
11.	**Image Contract Amendment Packet**	Central Support-Imaging		

001

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

B32 14153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER	**CONTRACT PERIOD**
Amendment #005	January 1, 2015 through December 31, 2016
REQUISITION NUMBER	**VENDOR NUMBER**
NR 300 22006000044	3709087450 1
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
Walter Louis Fluid Technologies 530 South 5th Street Quincy, IL 62301	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #005, dated 03/17/16.

BUYER	BUYER CONTACT INFORMATION
Jason Kolks	Email: jason.kolks@oa.mo.gov Phone: (573) 522-4579 Fax: (573) 526-9816
SIGNATURE OF BUYER	**DATE**
Jason Kolks	3-25-16

DIRECTOR OF PURCHASING

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING (PURCHASING)
CONTRACT AMENDMENT

AMENDMENT NO.: 005
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 02/26/16

REQ NO.: NR 300 22006000067
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 03/10/16 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	jason.kolks@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technologies	Walter Louis Chemicals and Associates Inc.
MAILING ADDRESS	IRS FORM 1099 MAILING ADDRESS
530 S. 5th St.	530 S. 5th St.
CITY, STATE, ZIP CODE	CITY, STATE, ZIP CODE
Quincy IL 62301-4896	Quincy IL 62301

CONTACT PERSON	EMAIL ADDRESS
Walter L. Giesing	wgiesing@walterlouis.com
PHONE NUMBER	FAX NUMBER
217-223-2017	217-223-2017

TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
37-0908745	_X_ FEIN ___ SSN	3709087450 1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)
X___ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
Walter L Giesing	3/17/2016
PRINTED NAME	TITLE
Walter L. Giesing	President

AMENDMENT #005 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2015 through December 31, 2016

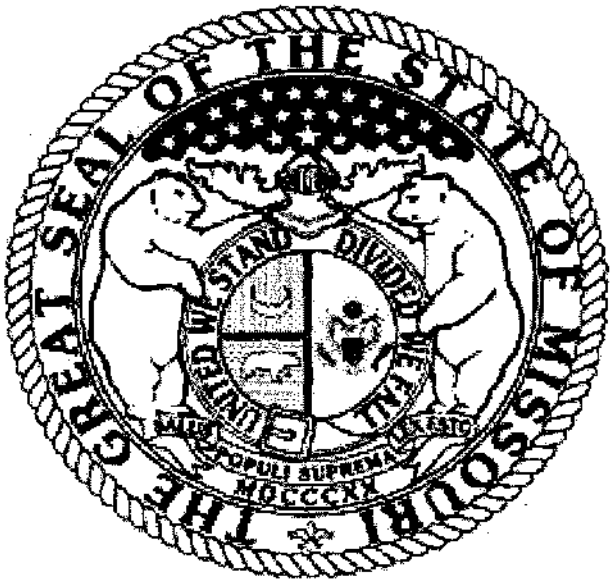
The State of Missouri desires to amend Contract C314153001 for Water Treatment Services to add a .3% chlorine dioxide solution for Domestic Water Systems to the provisions and requirements of the contract.

The contractor shall indicate on the pricing table below, the firm, fixed price for the original contract period and the guaranteed not-to-exceed maximum prices for each potential renewal period for performing services in accordance with the terms, conditions, and provisions of the contract.

Domestic Water System – Chlorine Dioxide Solution					
Line Item	Container Size	Original Contract Period Unit Price Firm, Fixed Price	First Renewal Period Unit Price Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Unit Price Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Unit Price Guaranteed Not-to-Exceed Maximum Price (1 Year)
178	55gallon Drum	$16.50/gallon	$17.16/gallon	$17.84/gallon	$18.56/gallon

All other requirements and provisions of the contract, including all other prices, shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it on or before the date indicated on the cover page of this document.



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Kolks, Jason

From: Brinkley, Rebecca
Sent: Friday, March 25, 2016 9:03 AM
To: Kolks, Jason
Subject: RE: NR 300 22006000067 Water Treatment Services

Please proceed.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

From: Kolks, Jason
Sent: Wednesday, March 23, 2016 3:14 PM
To: Brinkley, Rebecca
Subject: FW: NR 300 22006000067 Water Treatment Services

Ms. Brinkley,

Has there been any progress with this?

Thanks,

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

From: Kolks, Jason
Sent: Friday, March 18, 2016 7:21 AM
To: Brinkley, Rebecca
Subject: RE: NR 300 22006000067 Water Treatment Services

Ms. Brinkley,

Please advise if the attached prices are acceptable to FMDC.

Thank you,

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

From: Brinkley, Rebecca
Sent: Thursday, February 25, 2016 10:00 AM
To: Kolks, Jason
Subject: RE: NR 300 22006000067 Water Treatment Services

As stated on the NR NOTE screen:

REQUEST TO AMEND CONTRACT C314153001 WITH WALTER LOUIS FLUID TECHNOLOGIES TO ADD .3% CHLORINE DIOXIDE SOLUTION (PRODUCT CDG 3000) TO THE DOMESTIC WATER SYSTEM AT THE ST. JAMES VETERAN'S HOME. THE CITY OF ST. JAMES DOES NOT CHLORINATE THE DOMESTIC WATER SUPPLY; THEREFORE, THE VETERAN'S HOME NEEDS TO CHLORINATE THE FACILITY'S WATER SUPPLY IN ORDER TO PROVIDE SAFE DOMESTIC WATER. THE .3% CHLORINE DIOXIDE SOLUTION WILL BE AN "ADDITIONAL CHEMICAL" AS PROVIDED IN SECTION 4.2 OF THE CONTRACT. PRICING WILL BE PROVIDED FOR A 55 GALLON DRUM. IF ANY FURTHER INFORMATION IS NEEDED, CONTACT REBECCA BRINKLEY 526-4135.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

From: Kolks, Jason
Sent: Wednesday, February 24, 2016 12:38 PM
To: Brinkley, Rebecca
Subject: NR 300 22006000067 Water Treatment Services

Ms. Brinkley,

Please provide justification for adding a .3% chlorine dioxide solution for the domestic water system to the Water Treatment Services contract.

Thank you,

Jason Kolks
Buyer

Division of Purchasing
Phone #: 573-522-1620

Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Purchasing
301 West High Street, Room 630
Post Office Box 809
Jefferson City, Missouri 65102-0809
(573) 751-2387 FAX: (573) 526-9815
TTD: 800-735-2966 Voice: 800-735-2466
http://oa.mo.gov/purchasing

Karen S. Boeger
Director

TO: File C314153001

FROM: Jason Kolks

DATE: February 26, 2016

RE: Contract Amendment to Add Chemical

Contract C314153001 is for Water Treatment Services for the Office of Administration, Division of Facilities Management (OA/FMDC). OA/FMDC has requested the contract be amended to add a .3% chlorine dioxide solution for the domestic water system requirements to the above referenced contract. According to OA/FMDC, the additional chemical may be required at some facilities for Water Treatment Services.

Adding a .3% chlorine dioxide solution to the domestic water system requirements is consistent with the contracts scope of work for water treatment services.

Additionally, 1 CSR 40-1.050 (8) states, "*Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract.*" Since the intent of the contract does not change with the amendment, I am proceeding with the amendment to the contract as requested by the state agency."

Since the intent of the contract does not change with the amendment, I am proceeding to amend contract C314153001 for OA/FMDC to add .3% chlorine dioxide solution for the domestic water system.

Kolks, Jason

From: Brinkley, Rebecca
Sent: Thursday, February 25, 2016 10:00 AM
To: Kolks, Jason
Subject: RE: NR 300 22006000067 Water Treatment Services

As stated on the NR NOTE screen:

REQUEST TO AMEND CONTRACT C314153001 WITH WALTER LOUIS FLUID TECHNOLOGIES TO ADD .3% CHLORINE DIOXIDE SOLUTION (PRODUCT CDG 3000) TO THE DOMESTIC WATER SYSTEM AT THE ST. JAMES VETERAN'S HOME. THE CITY OF ST. JAMES DOES NOT CHLORINATE THE DOMESTIC WATER SUPPLY; THEREFORE, THE VETERAN'S HOME NEEDS TO CHLORINATE THE FACILITY'S WATER SUPPLY IN ORDER TO PROVIDE SAFE DOMESTIC WATER. THE .3% CHLORINE DIOXIDE SOLUTION WILL BE AN "ADDITIONAL CHEMICAL" AS PROVIDED IN SECTION 4.2 OF THE CONTRACT. PRICING WILL BE PROVIDED FOR A 55 GALLON DRUM. IF ANY FURTHER INFORMATION IS NEEDED, CONTACT REBECCA BRINKLEY 526-4135.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

From: Kolks, Jason
Sent: Wednesday, February 24, 2016 12:38 PM
To: Brinkley, Rebecca
Subject: NR 300 22006000067 Water Treatment Services

Ms. Brinkley,

Please provide justification for adding a .3% chlorine dioxide solution for the domestic water system to the Water Treatment Services contract.

Thank you,

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

PURCHASING   CONTRACT AMENDMENT ROUTING GUIDE JLK C 3141530U1 A# 005 310

NR300220060000067

Revised 08/17/15

1. Indicate Contract Amendment Type

RENEWAL: ____ PERIOD OF ____ TOTAL

____	Renewal - % Increase	____	Cost Savings	Performance Security Deposit: $____
____	Renewal - $ Increase	____	Cost Savings	Surety Bond: $____
____	Renewal – W/O Increase			
____	SFS Renewal – Prices In Original Contract			Annual Wage Order Number: ____
____	SFS Renewal – Prices Not in Original Contract			Annual Wage Order Date: ____

EXTENSION PERIOD: ____ County(ies): ____

	Extension – 30-Day Termination			
____	Extension - $ Increase	____	Cost Savings	Other Instructions: ____
____	Extension – W/O Increase			
____	Assignment			
____	Cancellation/Termination			
X	Other Amendment			

2.	Tasks	Role	Initial	Date
2.	**Preliminary Tasks/Verifications**			
A.	Section 34.040.6, RSMo	Buyer/Section Support	JLK	2-23-16
B.	Purchasing Suspension List	Buyer/Section Support	JLK	2-23-16
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	JLK	2-23-16
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	JLK	2-23-16
E.	Review of Participation Commitment Attainment – If app. Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer	/	/
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	/	/
3.	**Prepare Contract Amendment**	Buyer/Section Support	JLK	2-23-16
4.	**Review/Approve Contract Amendment (If Signature Required)**	Buyer	JLK	2-23-16

Initial	Supervisor	JC	Section Manager	LO	Asst. Director		Director
Date		2/26/15		03/1/16			

5.	**E-Mail/Fax Contract Amendment (If Signature Required)**	Buyer/Section Support	CT	3-2-16
	Contractor E-Mail Address/Fax Number	wgiesing@walterlouis.com		
	State Agency Contact E-Mail Address	Becky Brinkley		
	Section 34.040.6, RSMo, Letter	Follow-Up Notes: emailed 2nd notice 3-15-16		

6.	Review Contract Amendment Response – Verifications	Role	Initial	Date
A.	Renewal/Extension Pricing	Buyer/Section Support	/	/
B.	Section 34.040.6, RSMo	Buyer/Section Support	JLK	3-26-16
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support	/	/
D.	Renewal/Extension with Cost Savings Language	Buyer	/	/
E.	Statewide Notice	Buyer	/	/
F.	SFS Authorized Limit $	Buyer	/	/
G.	**Contract Assignment Only Verifications – Complete unless completed in Step 2 above**			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support	X	X
	2. Assignment and Consent Form	Buyer/Section Support	X	X
	3. Purchasing Suspension List	Buyer/Section Support	X	X
	4. Federal Suspension – SAM.GOV	Buyer/Section Support	X	X
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	X	X
7.	**Prepare Contract Amendment Award Document/Statewide Notice**	Buyer/Section Support	JLK	3-26-16
8.	**Review/Approve Contract Amendment Award Document**	Buyer	JLK	3-26-16

Initial	Supervisor	JC	Section Manager	LO	Asst. Director		Director
Date		3/28/16		3/28/16			

9.	**Process Contract Amendment**	Buyer/Section Support	CT	3/30/16
	AM 300 PMM 0007307 MLE	Buyer/Section Support	CT	3/30/16
	Distribute E-Verify & SDV Documents	Buyer/Section Support	—	—
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	CT	3/30/16
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support	—	—
10.	**Log Participation Commitment Information**	Central Support-Participation		
11.	**Image Contract Amendment Packet**	Central Support-Imaging	[illegible]	4-15

001

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

B32 14153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER	**CONTRACT PERIOD**
Amendment #004	January 1, 2015 through December 31, 2016
REQUISITION NUMBER	**VENDOR NUMBER**
NR 300 22006000044	3709087450 1
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
Walter Louis Fluid Technologies 530 South 5th Street Quincy, IL 62301	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #004, dated 02/15/16.

BUYER	BUYER CONTACT INFORMATION
Laura Ortmeyer	Email: laura.ortmeyer@oa.mo.gov Phone: (573) 522-4579 Fax: (573) 526-9816
SIGNATURE OF BUYER	**DATE**
Laura Ortmeyer	3/8/16

DIRECTOR OF PURCHASING

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING (PURCHASING)
CONTRACT AMENDMENT

AMENDMENT NO.: 004
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 01/28/16

REQ NO.: NR 300 22006000044
BUYER: Laura Ortmeyer
PHONE NO.: (573) 751-4579
E-MAIL: laura.ortmeyer@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 62301-4808

RETURN AMENDMENT BY NO LATER THAN: 02/04/16 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	laura.ortmeyer@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technologies	Walter Louis Chemicals & Associates Inc.
MAILING ADDRESS	IRS FORM 1099 MAILING ADDRESS
530 S. 5th St.	530 S. 5th St.
CITY, STATE, ZIP CODE	CITY, STATE, ZIP CODE
Quincy Il. 62301-4896	Quincy Il. 62301-4896

CONTACT PERSON	EMAIL ADDRESS
Walter L. Giesing	wgiesing@walterlouis.com
PHONE NUMBER	FAX NUMBER
217-223-2017	217-223-7734

TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
37-0908745	_X_ FEIN ___ SSN	3709087450 1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)

___X Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
Walter L Giesing	2/15/2016
PRINTED NAME	TITLE
Walter L. Giesing	President

AMENDMENT #004 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2015 through December 31, 2016

The State of Missouri desires to add the Missouri Hills Youth Center located at 13300 Bellefontaine Road, St. Louis, MO to the provisions and requirements of the contract, effective immediately. As a result, Revised Attachment #1 is deleted and replaced with the attached Revised Attachment #1 dated 1/21/16 and Attachment #2 is deleted and replaced with the attached Revised Attachment #2 dated 1/21/16.

All references to Attachment #1 shall be hereby deemed to mean Revised Attachment #1 dated 1/21/16 and all references to Attachment #2 shall be herby deemed to mean Revised Attachment #2 dated 1/21/16.

Furthermore, the contractor shall develop and submit a proposed water treatment program for the newly added facility in accordance with the attached Exhibit E.

The contractor shall indicate on the pricing table below, the guaranteed not-to-exceed price for the original contract period and the guaranteed not-to-exceed maximum prices for each potential renewal period for performing services in accordance with the terms, conditions, and provisions of the contract.

Water Treatment Services – Missouri Hills Youth Center				
Line Item	Original Contract Period Guaranteed Not-to-Exceed Price	First Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)
177	$0	$0	$0	$0

All other requirements and provisions of the contract, including all other prices, shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it, along with the completed Exhibit E, on or before the date indicated on the cover page of this document.

EXHIBIT E

WATER TREATMENT PROGRAM

Based on the contractor's inspections of the steam and hydronic systems, the contractor's results of the chemistry analysis of the water sample, and the provisions and requirements specified in the RFP portion of the contract, the contractor shall develop and submit a proposed water treatment program for any new facilities added to the contract. The contractor must provide the following information and must submit supporting documentation to fully describe and explain the proposed water treatment program. The contractor should copy and complete the following pages for each facility.

The contractor must identify the existing water treatment equipment for each facility. In addition, the contractor must identify the test equipment and supplies that will be provided by the contractor in order to implement the water treatment program, including specific details.

The contractor must identify the chemicals proposed for each water treatment program, as applicable, for each facility. In addition, the contractor must indicate the proposed dosage, in either pounds or gallons, of each chemical within the defined parameters.

1) When used in conjunction with the guaranteed not-to-exceed prices indicated on the pricing table for each facility, the dosages should validate the guaranteed not-to-exceed annual price proposed for each facility.

2) Based on the results of the chemistry analysis of the water samples, the contractor should provide recommendations for corrective action and/or changes to the current operating procedures in order to obtain optimum chemical protection and heat transfer efficiency.

3) The contractor should develop the water treatment program to: (1) prevent corrosion, scale, and microbiological activity in equipment and systems, (2) protect the existing equipment, (3) ensure optimum heat transfer and equipment operating efficiency, and (4) maintain the highest cycle of concentration possible in boiler and cooling tower systems without boiler water carryover, forming scale, or corrosion of the systems.

4) The contractor should submit materials safety data sheets on each chemical proposed. The contractor should use OSHA's current form; however, any other manner or form used for presenting information equivalent to OSHA's current form is acceptable. A product bulletin that does not contain detailed information on hazards, handling instructions, and emergency and emission procedures will be considered inadequate and insufficient if submitted in lieu of a material safety data sheet.

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Missouri Hills Youth Center

FUEL OIL SYSTEM TREATMENT

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
NA		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

Facility: Missouri Hills Youth Center

BOILER

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
NA		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Missouri Hills Youth Center

DEAERATOR/FEEDWATER SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
NA		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

Facility: Missouri Hills Youth Center

STEAM SYSTEMS

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
NA		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Missouri Hills Youth Center

COOLING TOWER SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
NA		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

Facility: Missouri Hills Youth Center

CLOSED LOOP HEATING SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
839 Closed System Inhibitor	40 gallons	

Existing Equipment (include make, model, and quantity)

Five – 5 gallon Bypass feeders

_____ Drumless, Bulk Storage	____X___ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Missouri Hills Youth Center

CLOSED LOOP COOLING SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
NA		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

Facility: Missouri Hills Youth Center

DEALKALIZER SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
NA		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Missouri Hills Youth Center		
WASTE WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
NA		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Missouri Hills Youth Center		
CONDENSATE SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
NA		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

EXHIBIT E

WATER TREATMENT PROGRAM

Facility: Missouri Hills Youth Center		
DOMESTIC WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
NA		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

C314153001 - #004
Section 3.7.2 Water Analysis, Systems & Make-up(raw water)
Missouri Hills Youth Center
13300 Bellefontaine Road, St. Louis, MO

SystemName: Building #1

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1400	uS	500	6000
NITRITE	800	ppm	800	1200
pH	9.8	unit	6.5	8.5

SystemName: Building #5

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1550	uS	500	6000
NITRITE	850	ppm	800	1200
pH	10.0unit	6.5	8.5	

SystemName: Building #6

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1400	uS	500	6000
NITRITE	810	ppm	800	1200
pH	9.8	unit	6.5	8.5

SystemName: Building #7

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1600uS	500	6000	
NITRITE	870	ppm	800	1200
pH	10.unit	6.5	8.5	

SystemName: Building #9

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1550	uS	500	6000
NITRITE	870	ppm	800	1200
pH	10	unit	6.5	8.5

530 South 5th St * Quincy IL 62301-4896 * Phone: (217)223-2017 * Fax: (217)223-7734 * Email: sales@walterlouis.com

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	58	ppm/CaCO3	N/A	N/A
CHLORIDES	28	ppm	N/A	N/A
CONDUCTIVITY	530	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	72	ppm/CaCO3	N/A	N/A
M-ALK	70	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	17.5	ppm	N/A	N/A
P-ALK	20	ppm\CaCO3	N/A	N/A
pH	8.6	unit	N/A	N/A
PHOSPHATE	0.225	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	150	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Missouri Hills Youth Center
St. Louis Missouri

Each Building has in individual closed loop Hot water boilers system. None of the buildings originally had any chemical treatment, or, way to add treatment. We recommended that individual bypass feeders be added. The feeders have been installed and proper dosages of 839 Corrosion Inhibitor have been added

C314153001

REVISED ATTACHMENT #1, 1/21/16

				DEPARTMENT OF CORRECTIONS FACILITIES			
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Kansas City Community Release Center	Eastern Reception Diagnostic and Correctional Center	Northeast Correctional Center	Boonville Correctional Center	Algoa Correctional Center	Hannibal Community Supervision Center
	Address	651 Mulberry Street Kansas City, MO 64101	2727 Highway K Bonne Terre, MO 63628	13698 Airport Road Bowling Green, MO 63334	1216 East Morgan, Boonville, MO 65233	6501 No More Victims Rd. Jefferson City, MO 656101	2002 Warren Barrett Dr. Hannibal, MO 63401
	Telephone No.:	816-842-7467	573-358-5038	573-324-9975	660-882-6521	573-751-3911	573-248-2450
Primary Boiler System	**Annual Steam Production (lbs)**	I do not believe this concerns KCCRC. KCCRC only has a water softener for domestic hot water. Water tube hot water Heater. Cooling by 24 A/C units.	56,245,000 LBS.	573,763 GAL.	48,676,693.59 lbs of steam	22909594	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	729,500 GAL.	Unknown	485176 gallons of Make- Make	448000	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	3,660 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	No way of gauging
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	604,700 GAL.	Unknown	No Meter to measure gals of Make-Up	10,000 gal and 450000	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	1,900 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	Unknown

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Maryville Treatment Center	South Central Correctional Center	Southeast Correctional Center	Farmington Correctional Center	Tipton Correctional Center	Western Missouri Corrections Center
	Address	30227 Hwy 136 Maryville, MO 64468	255 West Hwy 32 Licking, MO 65542	300 E. Pedro Simmons Dr. Charleston, MO 63834	1012 W.Columbia Farmington Mo. 63640	619 N. Osage Avenue Tipton, MO 65081	609 East Pence Road Cameron, MO 64429
	Telephone No.:	660-582-6542	573-674-4470	573-683-4409	573-218-7100	660-433-2031	816-632-1390
Primary Boiler System	**Annual Steam Production (lbs)**	No Steam meter onsite	N/A	N/A	4937630	35mbl	NONE
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	7 Year average 7,715	N/A	N/A	131908	412,570 gal	NONE
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Est 1000 to 1500 Gallons No water meter	623 Gals.	14764	35,510 Sept thru June	25	Major heating leaks= 17,000 gal Boiler Prevent. Maint.=8,000gal (Refill) Total= 25,000 gal
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	10,608,000 lbs.	N/A	N/A	N/A	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	Unknown	N/A	N/A	N/A	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	2,729,538 gals.	3980533.3	UNKNOWN AT THIS TIME	Unknown	NONE
	Cooling Closed Loop Annual Makeup (gals)	N/A	93 gals.	571.44	UNKNOWN AT THIS TIME	25	NONE

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Women's Eastern Reception Diagnostic and Correctional Center	Western Reception Diagnostic and Correctional Center	Ozark Correctional Center	Central Missouri Correctional Center	Jefferson City Correctional Center	Fulton Reception & Diagnostic Center
	Address	1101 East Highway 54 Vandalia, MO 63382	3401 Faraon Street St. Joseph, Mo. 64506	929 Honor Camp Lane Fordland, MO 65652	2600 Highway 179 Jefferson City, MO 65102	8200 No More Victums Road Jefferson City, MO 65101	1393 Route O Fulton, MO 65251
	Telephone No.:	573-594-6686	816-387-2158	417-767-4491	573-751-2053	573-751-3224	573-592-4040
Primary Boiler System	**Annual Steam Production (lbs)**	Two Boilers - Provide steam to laundry and kitchen	Not metered	Unknown	8,585,192 lbs	53,120,714	Unknown
	Steam Boiler System Annual Makeup (gals)	2,000 Gal.	1,421,098 Gallon for boiler feed water	1,389,920	124,857 gals	643,987	Unknown
	Heating Closed Loop Annual Makeup (gals)	54,000 Gal (Leaks Underground) Repaired	Not metered		15,000 gals	500	10000
Laundry Boiler System	**Annual Steam Production (lbs)**	Minimal Usage	Same boilers above supply this steam.	N/A	Zero (Facility Closed)	337973 lbs./yr. Based on gas usage	Unknown
	Steam Boiler System Annual Makeup (gals)		Same boilers above supply this steam.	N/A	Zero (Facility Closed)	5000 gals for MVE boiler	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	Yes	Yes	No	No
	Total Cooling Tower Annual Makeup (gals)	Not Metered-Need Meter Installed	Not metered	N/A	N/A	5,005,000	700000
	Cooling Closed Loop Annual Makeup (gals)	51,000 Gal (Leaks Underground) Repaired	Not metered	N/A	N/A	1,200	100

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF CORRECTIONS FACILITIES								
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	DOC-MVE	
	Facility	St. Louis Community Release Center	Kennett Community Supervision Center	Poplar Bluff Community Supervision Center	Chillicothe Correctional Center-New	Moberly Correctional Center	MVE Complex	
	Address	1621 North 1st Street Saint Louis, MO 63102	875 County Highway V V Kennett 63857	1441 Black River Industrial Park Road Poplar Bluff, MO 63901	3151 Litton Road Chillicothe, MO 64601	5201 South Morley Street Moberly, MO 65270	1717 Industrial Drive Jeffferson City, MO 65109	
	Telephone No.:	314-877-0300	573-888-4900	576-840-9555	660-646-4032	660-263-3778 Ext. 1205	573-526-2893	
Primary Boiler System	Annual Steam Production (lbs)	N/A	New Facility - No Past Data	New Facility - No Past Data	N/A	N/A	N/A	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	NA	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	182,500	We have No meter on system but we do use about 30 gallons of 839 closed loop system treatment	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	12,420,000	N/A	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	900,000	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	Yes	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	Unknown	65,500	We have No meter on the system but we do use about 10 to 15 gallongs 4707 cooling tower treatment system	
	Cooling Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	8,000	We have No meter on the system but we do use about 5 to 10 gallongs 839 closed loop system treatment	

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	
	Facility	Farmington Community Supervision Center	Crossroads Correctional Center	Missouri Eastern Correctional Center	Potosi Correctional Center	St. Joseph Community Supervision Center	
	Address	1430 Doubet Road Farmington, MO 63640	1115 E Pence Rd. Cameron, MO 64429	18701 Old Hwy 66 Pacific, MO 63069	11593 State Highway O Mineral Point, MO 63660	3305 Faraon St. St. Joseph, Mo 64506	
	Telephone No.:	573-218-7100, ext 428 (Rick Alvers at Farmington Correctional Center)	816-632-2727 ext1370 (Brett Adkinson at Crossroads Correctional Center)	636-257-3322 ext 1205 (Ed Moody at Potosi Correctional Center	573-438-6000, ext 1308 (Steve Helms at Potosi Correctional Center)	816-271-3131 ext 257	
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	N/A	
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	N/A	
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	N/A	
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	N/A	N/A	
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	Yes	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	2,250,000 gallons	N/A	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Blind	Missouri School for the Deaf-Wheeler	Missouri School for the Deaf-Tate	Missouri School for the Deaf-Kerr	Missouri School for the Deaf-Stark	Missouri School for the Deaf-Vocational
	Address	3815 Magnolia St Louis, MO	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251
	Telephone No.:	314-776-4320, x125	573-592-2520	573-592-2520	573-592-2520	573-592-2520	573-592-2520
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Chilled water closed loop	Chilled water closed loop	chilled water closed loop	2 Steam to water heat closed loops.
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	650 Gals.	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	813, 937 and 800 gal est reported	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Deaf-Rice	B.W. Robinson State School	Boonslick State School	Gateway/Hubert Wheeler State School	Delmar Cobble State School	Lakeview Woods State School
	Address	505 E. 5th Street Fulton, Mo 65251	300 Lanning Lane Rolla, MO	321 Knaust Road St. Peters, MO	100 South Garrison St. Louis, MO	108 West Craig St. Columbia, MO	351 NE Gregory Lee's Summit, MO
	Telephone No.:	573-592-2520	636-931-0080 (KH's)	636-931-0080 (KH's)	636-931-0080 (KH's)	660-530-5575 (NK's)	660-530-5575 (NK's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown ,No meter	Unknown, No meter	Unknown ,No meter	Unknown, No meter	Unknown, No meter

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Maple Valley State School	Verelle Peniston State School	Rolling Meadows State School	Prairie View State School	Greene Valley State School	Cedar Ridge State School
	Address	2575 NE Barry Rd Kansas City, MO	1530 Clay Street Chillicothe, MO	1101 West 29th St. Higginsville, MO	945 North Miami Marshall, MO	1601 East Pythian Springfield, MO	901 North Olive St. Nevada, MO
	Telephone No.:	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	417-895-6848 (FC's)	417-895-6848 (FC's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown	No meter
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Wastar Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown, No meter	No meter	No meter

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES								
	Department	DESE	DESE	DESE	DESE			
	Facility	Oakview State School	Shady Grove State School	Trails West State School (Dale M. Thompson)	Missouri School for the Deaf-Central Supply Building			
	Address	200 Linden St. Monett, MO	2400 High Street Poplar Bluff, MO	4800 Grandview Road Kansas City, MO	505 E. 5th Street Fulton, Mo 65251			
	Telephone No.:	417-895-6848 (FC's)	417-895-6848 (FC's)	660-287-0099 (NK's)	573-592-2520			
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	No meter	No meter	No meter	Unknown			
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	N/A	Unknown			
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	No meter	Unknown			
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
	Cooling Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	MO Sexual Ofender Treatment Center	Metropolitan St. Louis Psych Center	Albany Regional Center	Sikeston Regional Office	Fulton State Hospital	Marshall Hab Center
	Address	1016 West Columbia Farmington, MO 63640	5351 Delmar St. Louis, MO 63112	809 North 13th Street Albany, MO 64402	112 Plaza Drive, Box 966 Sikeston, MO 63801	600 East 5th Street Fulton, MO 65251	700 East Slater Marshall, MO 65340
	Telephone No.:	573 218-6010	314 877-0707	660 726-1531	573 472-6536	573-592-3482	660 831-3029
Primary Boiler System	**Annual Steam Production (lbs)**	Recieve steam from FCC		N/A	Unknown	140,204,000	Unknown
	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	Unknown	4,229,000	131,000 gal.
	Heating Closed Loop Annual Makeup (gals)	5 gallons annual Blair 5 gallons Hoctor	500 GALLONS	10 gallon	New system	N/A	Not metered
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	Unknown	N/A	Unknown	NA	N/A
	Steam Boiler System Annual Makeup (gals)	N/a	Unknown	N/A	Unknown	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	921,500 GALLONS	N/A	Unknown	unable to estimate No gauges avail.	No cooling towers
	Cooling Closed Loop Annual Makeup (gals)	3 gallons Blair 5 gallons Hoctor	500 GALLONS	10Gallons	New System	unable to estimate No gauges avail.	Not metered

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Nevada Habilitation Center	Bellefontaine Habilitation Center	Higginsville Habilitation Center	Northwestern Missouri Psych Rehab Center	St. Louis Psych Rehab Center	Southeast MO Mental Health Center
	Address	2323 North Ash Nevada, MO 64772	10695 Bellefontaine Road St. Louis, MO 63137	West 1st Street Higginsville, MO 64037	3505 Frederick Avenue St. Joseph, MO 64506	5300 Arsenal St. Louis, MO 63139	1010 West Columbia St. Farmington, MO
	Telephone No.:	417 448-1145	314 340-6235	660 584-4834	816 512-7111	314-877-5880	573 218-6854
Primary Boiler System	**Annual Steam Production (lbs)**	15,330,000 lbs/year	71,700,000 lbs/year	22,995,000 lbs/year, assuming 50% load and 6 months of operation	N/A	14,000,000 lbs/year	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	1,460,000 gal.	15% or 10,755,000 lbs/year	15% = 3,500,000 lbs/year	N/A	2,100,000 gal/year	N/A
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Not metered	Did not meter (420 hp of water boilers)	Did not meter (300hp of water boilers)	1,500 gal/year	Staples Bldg. 4800 gal per year
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	6,132,000 lbs/year	N/A	Unknown	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	15% = 919,800 lbs/year	N/A	Unknown	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	60,000 gal	5,000 gpd or 1,825,000 gal/year	N/A	292,000 gal/year	2000000 gal/year	Staples Bldg. 85,000 gal/Forensics 28,000 gal.
	Cooling Closed Loop Annual Makeup (gals)	none if No leaks	N/A	Did not meter (630 tons)	N/A	Unknown	Staples Bldg. 2,400 gal

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	*Mental Health*	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Northwest Habilitation Center	South County Habilitation Center	St. Charles Habilitation Center	Joplin Regional Center	Hawthorn Children Psychiatric Hospital	*Center for Behavioral Medicine*
	Address	#11 Brady Circle Overland, MO 63114	2312 Lemay Ferry Road St. Louis, MO 63125	22 Marr Lane St. Charles, MO 63303	3600 E Newman Rd Joplin, MO 64802	1901 Pennsylvania Ave St. Louis, MO	1000 East 24th Street Kansas City, MO 64108
	Telephone No.:	314-541-9110	314-541-9110	314-541-9110	660 831-3029	314-512-7564	(816) 512-7109
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unkknown	Unknown/Automatic	Approx. 1,000 gal.
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	NA	NA	NA	N/A	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	NO	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	125,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	Approx. 1,000 gal.

REVISED ATTACHMENT #1, 1/21/16

DEPARTMENT OF MENTAL HEALTH FACILITIES								
	Department	Mental Health	Mental Health	Mental Health	Mental Health			
	Facility	Peery Apartments	New Prospects	Kansas City Regional Office	Springfield Regional Office			
	Address	2659 Peery Avenue Kansas City, MO 64127	2600 East 12th Street Kansas City, MO 64127	821 East Admiral Blvd. Kansas City, MO	1515 E. Pythian Springfield, MO			
	Telephone No.:	(816) 512-7109	(816) 512-7109	(816) 512-7109	(417) 895-7400			
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A			
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A			
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Estimated 500 gal.	Estimated 500 Gallons.	Estimated 500 gal.	Estimated 500 gal.			
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A			
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A			
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A			
	Cooling Closed Loop Annual Makeup (gals)	2 pipe syst. Shared w/ heating syst.	N/A	N/A	2 pipe syst. Shared w/ heating syst.			

REVISED ATTACHMENT #1, 1/21/16

FACILITIES OPERATIONS FACILITIES								
	Department	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilties Operations State Owned Buildings	Facilitites Operations State Owned Buildings
	Facility	Fletcher Daniels State Office Building	St. Joseph State Office Building	Kansas City DOLIR State Office Building	St. Joseph Career Center	Wainwright State Office Bldg	Prince Hall State Office Building	Joplin Career Center
	Address	615 E. 13th Street Kansas City, MO	525 Jules Kansas City, MO	1410 Gnesee Kansas City, MO	301 South 7th Street St. Joseph, MO	111 N. Seventh St. Louis, MO	4411 N. Newstead St. Louis, MO	730 South Wall Ave. Joplin, MO
	Telephone No.:	816-889-2076	816-889-2076	816-387-2270	816-387-2270	314-340-6801	314-877-2007	573-751-4709
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	29,000	unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	1,046,000	unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	N/A	N/A	Unknown	Unknown	4,800	unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	N/A	unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	N/A	unknown
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	no	no	no	no	No	NO	unknown
	Total Cooling Tower Annual Makeup (gals)	2463	Unknown	N/A	N/A	Unknown	40,000	unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	N/A	N/A	Unknown	6,000	unknown

REVISED ATTACHMENT #1, 1/21/16

MISSOURI STATE HIGHWAY PATROL							
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol
	Facility	General Headquarters - Jefferson City	General Headquarters - ANNEX	General Headquarters - ACADEMY	TROOP A - Lee's Summit	TROOP B - Macon	MO. STATE HIGHWAY PATROL SPRINGFIELD CRIME LABORATORY
	Address	1510 EAST ELM ST	1510 EAST ELM ST	1510 EAST ELM ST	504 S.E.BLUE PARKWAY LEE'S SUMMIT MO. 64063	308 PINE CREST DRIVE MACON MO 63552	425 EAST PHELPS ST. SPRINGFIELD MO. 65806
	Telephone No.:	526-6286	526-6286	526-6286	816-622-0800	660-385-2132	417-868-9400
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	N/A
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	Unknown	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1, 1/21/16

MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol				
	Facility	TROOP F - Jefferson City	TROOP I - Rolla	TROOP C Service Center - Park Hills				
	Address	P.O. BOX 568 2920 NORTH SHAMROCK RD, JEFFERSON CITY, MO. 65102	P.O. BOX 128 NAGOGAMI RD WEST, ROLLA MO. 65402	P.O. Box 612 5268 Flat River R.D. Park Hills Mo. 63601				
	Telephone No.:	573-751-1000	573-368-2345	573-431-0176				
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A				
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
	***Heating Closed* Loop Annual Makeup (gals)**	N/A	Unknown	Unknown				
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A				
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Lagoon Requiring Waster Water Treatment Chemicals	***Yes/No***	*No*	*No*	No				
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A				
	Cooling Closed Loop Annual Makeup (gals)	Unknown	N/A	Unknown				

REVISED ATTACHMENT #1, 1/21/16

DSS-YOUTH SERVICES								
	Department	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	
	Facility	Fulton Treatment Center	Montgomery City Youth Center	W.E. Sears Youth Center	Hogan Street Youth Center	Riverbed Treatment Center	Mt. Vernon Treatment Center	
	Address	1650 Highway O P.O. box 847 Fulton, MO 63251-0847	300 Niedergerke Drive Montgomergy City, MO 63361-2616	9400 Sears Lane Poplar Bluff, MO 63901-9716	1839 Hogan Street St. Louis, MO 63106-3098	5910 Mitchell Avenue St. Joseph, MO 64507-7762	500 State Drive Mt. Vernon, MO 65712	
	Telephone No.:						417-466-0292	
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	Unknown	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	NO	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	

REVISED ATTACHMENT #1, 1/21/16

DSS-YOUTH SERVICES							
	Department	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	OA/FMDC - DYS	
	Facility	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	Missouri Hills Youth Center	
	Address	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	13300 Bellefontaine	
	Telephone No.:	663-209-7153	663-209-7153	663-209-7153	663-209-7153	663-209-7153	
Primary Boiler System	**Annual Steam Production (lbs)**	None	None	None	None	None	
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	None	None	None	None	None	
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None	No Meter/ None	
Laundry Boiler System	**Annual Steam Production (lbs)**	None	None	None	None	None	
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	None	None	None	None	None	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**						
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	
		Burnham	**Burnham**	**Burnham**	**Peerless**	**Burnham**	
		M# 4FW 78 45 LB	M# V905A	M# 4FW-78-45-LB	M# G-1561	M#P-208-WNI	
		S# 17301	S#6439-7703	S# 17501	S# 41751007	S#1719430	
		- Hot water Boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	Hot water boiler closed loop	
		Location – Fort Bellefontaine	Location – Discovery	Location- Lewis and Clark	Location- Spanish Lake	Location- Old Admin 5707-60197	

REVISED ATTACHMENT #1, 1/21/16

MISSOURI VETERANS HOMES								
	Department	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS
	Facility	MVH - Cameron	MVH - Cape Girardeau	MVH - Mexico	MVH - Mt. Vernon	MVH - St. James	MVH - Warrensburg	MVH - St. Louis
	Address	1111 Euclid Cameron, MO 64429	2400 Veterans Memorial Dr. Cape Girardeau, MO 63701	# 1 Veterans Drive Mexico, MO 65265	1600 S. Hickory Mt. Vernon, MO 65712	620 N. Jefferson St. James, MO 65559	1300 Veterans Road Warrensburg, MO 64093	4411 N. Newstead St. Louis, MO
	Telephone No.:	816-632-6010	573-290-5870	573-581-1088	417-466-7103	573-265-3271	660-543-5075	314-877-2007
Primary Boiler System	Annual Steam Production (lbs)	n / a	n / a	n / a	n / a	n / a	n / a	29,000
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	n / a	n / a	n / a	n / a	n / a	n / a	1,046,000
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	4,800
Laundry Boiler System	Annual Steam Production (lbs)	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	unknown	approx.993,000 gals make-up annually	16000	unknown	unknown	unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	6,000

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF CORRECTIONS		
ACC - Algoa Correctional Center	**MONTHLY SITE VISITS**	
BCC - Boonville Correctional Center	**MONTHLY SITE VISITS**	
CMCC - Central Missouri Correctional Center	**MONTHLY SITE VISITS**	
CCC - Chillicothe Correctional Center	**MONTHLY SITE VISITS**	
CRCC - Crossroads Correctional Center	**MONTHLY SITE VISITS**	
ERDCC - Eastern Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
Farmington Community Supervision Center	**MONTHLY SITE VISITS**	X
FCC - Farmington Correctional Center	**MONTHLY SITE VISITS**	
FRDC - Fulton Reception and Diagnostic Center	**MONTHLY SITE VISITS**	
Hannibal Community Supervision Center	**MONTHLY SITE VISITS**	X
JCCC - Jefferson City Correctional Center	**MONTHLY SITE VISITS**	
KCCRC - Kansas City Community Release Center	**MONTHLY SITE VISITS**	X
Kennett Community Supervision Center	**MONTHLY SITE VISITS**	X
MTC - Maryville Treatment Center	**MONTHLY SITE VISITS**	
MECC - Missouri Eastern Correctional Center	**MONTHLY SITE VISITS**	X
MCC - Moberly Correctional Center	**MONTHLY SITE VISITS**	
NECC - Northeast Correctional Center	**MONTHLY SITE VISITS**	X
OCC - Ozark Correctional Center	**MONTHLY SITE VISITS**	
Poplar Bluff Community Supervision Center	**MONTHLY SITE VISITS**	X
PCC - Potosi Correctional Center	**MONTHLY SITE VISITS**	
SCCC - South Central Correctional Center	**MONTHLY SITE VISITS**	
SECC - Southeast Correctional Center	**MONTHLY SITE VISITS**	
SLCRC - St. Louis Community Release Center	**MONTHLY SITE VISITS**	
St. Joseph Community Supervision Center	**MONTHLY SITE VISITS**	X
TCC - Tipton Correctional Center	**MONTHLY SITE VISITS**	
WMCC - Western Missouri Correctional Center	**MONTHLY SITE VISITS**	X
WRDCC - Western Reception, Diagnostic and Correctional Center	**MONTHLY SITE VISITS**	
WERDCC - Women's Eastern Reception, Diagnostic Correctional Center	**MONTHLY SITE VISITS**	
MVE - MO Vocational Enterprise Complex	**MONTHLY SITE VISITS**	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF ELEMENTARY & SECONDARY EDUCATION		
B.W. Robinson State School	MONTHLY SITE VISITS	X
Boonslick State School	MONTHLY SITE VISITS	X
Cedar Ridge State School	MONTHLY SITE VISITS	X
College View State School	MONTHLY SITE VISITS	X
Delmar Cobble State School	MONTHLY SITE VISITS	X
Gateway/Hubert Wheeler State School	MONTHLY SITE VISITS	X
Greene Valley State School	MONTHLY SITE VISITS	X
Lakeview Woods State School	MONTHLY SITE VISITS	X
Maple Valley State School	MONTHLY SITE VISITS	X
Missouri School For The Blind	MONTHLY SITE VISITS	
Missouri School For The Deaf-Kerr	MONTHLY SITE VISITS	
Missouri School For The Deaf-Resource Center	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Rice	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Stark	MONTHLY SITE VISITS	
Missouri School For The Deaf-Tate	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Vocational	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Wheeler	MONTHLY SITE VISITS	
Missouri School For The Deaf-Central Supply	MONTHLY SITE VISITS	X
Oakview State School	MONTHLY SITE VISITS	X
Prairie View State School	MONTHLY SITE VISITS	X
Rolling Meadows State School	MONTHLY SITE VISITS	
Shady Grove State School	MONTHLY SITE VISITS	
Trails West State School (Dale M. Thompson)	MONTHLY SITE VISITS	X
Verelle Peniston State School	MONTHLY SITE VISITS	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DEPARTMENT OF MENTAL HEALTH		
Albany Regional Office	MONTHLY SITE VISITS	
Bellefontaine Hab Center	MONTHLY SITE VISITS	
Fulton State Hospital	MONTHLY SITE VISITS	X
Hawthorn Children Psychiatric Hospital	MONTHLY SITE VISITS	
Higginsville Hab Center	MONTHLY SITE VISITS	X
Joplin Regional Center	MONTHLY SITE VISITS	
Marshall Hab Center	MONTHLY SITE VISITS	
Metropolitan St. Louis Psych Center	MONTHLY SITE VISITS	X
MO Sexual Offender Treatment Center	MONTHLY SITE VISITS	
Nevada Hab Center	MONTHLY SITE VISITS	X
Northwest Habilitation Center	MONTHLY SITE VISITS	
Northwestern MO Psych Rehab Center	MONTHLY SITE VISITS	X
Sikeston Regional Office	MONTHLY SITE VISITS	X
South County Habilitation Center	MONTHLY SITE VISITS	
Southeast MO Mental Health Center	MONTHLY SITE VISITS	X
Springfield Regional Office	MONTHLY SITE VISITS	X
St. Charles Habilitation Center	MONTHLY SITE VISITS	
St. Louis Psychiatric Rehab Center	MONTHLY SITE VISITS	
Western MO Mental Health Center	MONTHLY SITE VISITS	
FACILITIES OPERATIONS		
Fletcher Daniels State Office Building	MONTHLY SITE VISITS	
Joplin Career Center	MONTHLY SITE VISITS	X
Kansas City DOLIR State Office Building	MONTHLY SITE VISITS	
Prince Hall State Office Building	MONTHLY SITE VISITS	X
St. Joseph Career Center	MONTHLY SITE VISITS	
St. Joseph State Office Building	MONTHLY SITE VISITS	
Wainwright State Office Building	MONTHLY SITE VISITS	
MISSOURI STATE HIGHWAY PATROL		
MSHP Crime Laboratory - Springfield	MONTHLY SITE VISITS	X
MSHP General Headquarters Academy-Jefferson City	MONTHLY SITE VISITS	
MSHP General Headquarters Annex-Jefferson City	MONTHLY SITE VISITS	X
MSHP General Headquarters-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop A-Lee's Summit	MONTHLY SITE VISITS	X
MSHP Troop B-Macon	MONTHLY SITE VISITS	X
MSHP Troop C Service Center-Park Hills	MONTHLY SITE VISITS	X
MSHP Troop F-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop I-Rolla	MONTHLY SITE VISITS	

FACILITY SITE VISIT REQUIREMENTS		
FACILITY	**REQUIREMENT**	"X" Designates Exclusively Closed Loop Heating/Cooling System
DSS-YOUTH SERVICES		
Fulton Treatment Center	**MONTHLY SITE VISITS**	X
Hogan Street Youth Center	**MONTHLY SITE VISITS**	X
Montgomery City Youth Center	**MONTHLY SITE VISITS**	X
Mt. Vernon Treatment Center	**MONTHLY SITE VISITS**	X
Riverbend Treatment Center	**MONTHLY SITE VISITS**	X
W.E. Sears Youth Center	**MONTHLY SITE VISITS**	
Missouri Hills Youth Center	**MONTHLY SITE VISITS**	X
MISSOURI VETERANS HOMES		
MVH - Cameron	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Cape Girardeau	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mexico	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mt. Vernon	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. James	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. Louis	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Warrensburg	**Monthly Site Visits While Cooling Tower Is In Operation**	

State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Ortmeyer, Laura

From: Brinkley, Rebecca
Sent: Monday, March 07, 2016 2:05 PM
To: Ortmeyer, Laura
Subject: RE: Amendment 4

Please proceed.

Rebecca Brinkley
Contract Services Unit - Section Manager
State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction
Harry S Truman Office Building
301 West High Street, Room 730
Jefferson City, MO 65102
Phone: (573) 526-4135
Fax: (573) 751-7277
E-mail: Rebecca.Brinkley@oa.mo.gov

From: Ortmeyer, Laura
Sent: Monday, March 07, 2016 8:18 AM
To: Brinkley, Rebecca
Subject: FW: Amendment 4

Please advise.

From: Ortmeyer, Laura
Sent: Tuesday, February 16, 2016 3:56 PM
To: Brinkley, Rebecca
Subject: FW: Amendment 4

Please advise if the attached amendment is acceptable.

From: Kathy Martin [mailto:kathy@walterlouis.com]
Sent: Tuesday, February 16, 2016 3:42 PM
To: Ortmeyer, Laura
Subject: Amendment 4

Thank you,

Kathy Martin
Customer Service Specialist

Walter Louis
FLUID TECHNOLOGIES

WALTER LOUIS FLUID TECHNOLOGIES
530 South 5th Street

Quincy, IL 62301-4896
Office: 217-223-2019
Fax: 217-223-7734
www.walterlouis.com

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Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Purchasing
301 West High Street, Room 630
Post Office Box 809
Jefferson City, Missouri 65102-0809
(573) 751-2387 FAX: (573) 526-9815
TTD: 800-735-2966 Voice: 800-735-2466
http://oa.mo.gov/purchasing

Karen S. Boeger
Director

TO: File C314153001

FROM: Laura Ortmeyer

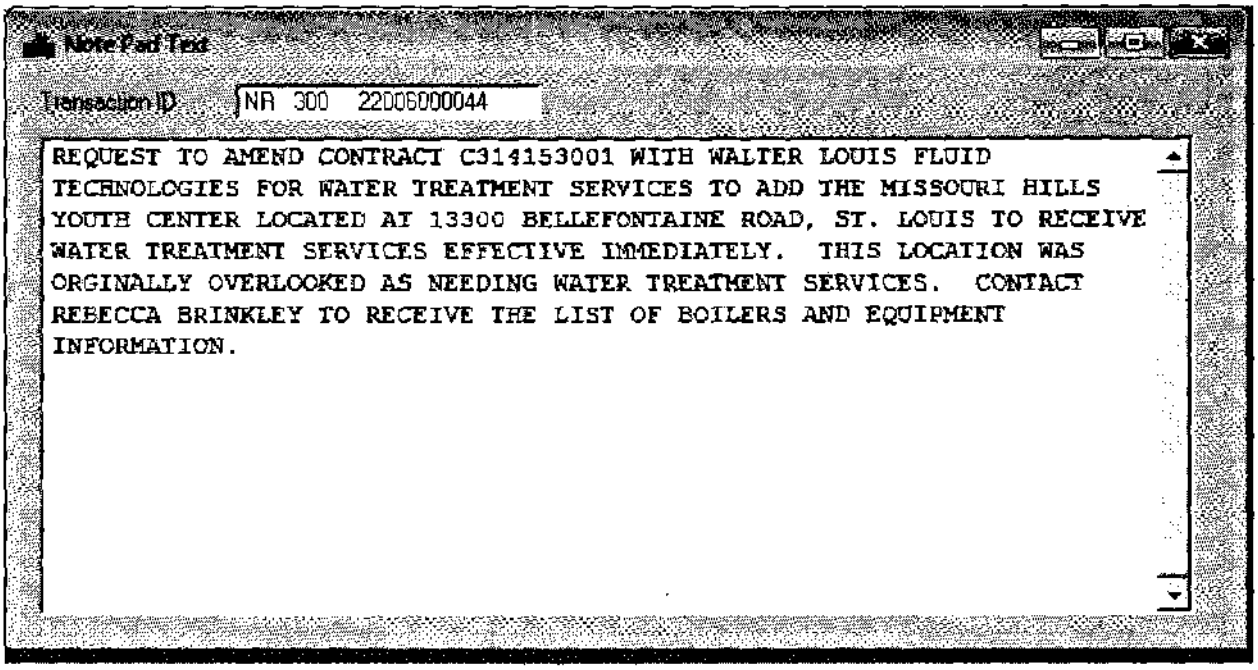
DATE: January 21, 2015

RE: Contract Amendment to Add Location

Contract C314153001 is for Water Treatment Services for the Office of Administration, Division of Facilities Management (OA/FMDC) contract be amended to add the Missouri Hills Youth Center to the above referenced contract. Paragraph 2.1.3 of the contract states, "*[d]ue to circumstances that may arise, the state agency may add or remove one or more facility(ies) at any time during the term of the contract.*" According to OA/FMDC, the Missouri Hills Youth Center was overlooked at the time the Water Treatment Services were originally being procured.

Additionally, 1 CSR 40-1.050 (8) states, "*Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract.*" Since the intent of the contract does not change with the amendment, I am proceeding with the amendment to the contract as requested by the state agency."

Since the intent of the contract does not change with the amendment, I am proceeding to amend contract C314153001 for OA/FMDC to add the Missouri Hills Youth Center.


Note Pad Text
Transaction ID:
NR 300 22006000044
REQUEST TO AMEND CONTRACT C314153001 WITH WALTER LOUIS FLUID TECHNOLOGIES FOR WATER TREATMENT SERVICES TO ADD THE MISSOURI HILLS YOUTH CENTER LOCATED AT 13300 BELLEFONTAINE ROAD, ST. LOUIS TO RECEIVE WATER TREATMENT SERVICES EFFECTIVE IMMEDIATELY. THIS LOCATION WAS ORGINALLY OVERLOOKED AS NEEDING WATER TREATMENT SERVICES. CONTACT REBECCA BRINKLEY TO RECEIVE THE LIST OF BOILERS AND EQUIPMENT INFORMATION.

PURCHASING **CONTRACT AMENDMENT ROUTING GUIDE** C 314153001 A# 4 24

Revised 08/17/15

1. Indicate Contract Amendment Type

RENEWAL: _____ PERIOD OF _____ TOTAL

- ____ Renewal - % Increase ____ Cost Savings
- ____ Renewal - $ Increase ____ Cost Savings
- ____ Renewal – W/O Increase
- ____ SFS Renewal – Prices In Original Contract
- ____ SFS Renewal – Prices Not in Original Contract

EXTENSION PERIOD: _____

- ____ Extension – 30-Day
- ____ Termination
- ____ Extension - $ Increase ____ Cost Savings
- ____ Extension – W/O Increase
- ____ Assignment
- ____ Cancellation/Termination
- ____ Other Amendment

Performance Security Deposit: $_____

Surety Bond: $_____

Annual Wage Order Number: _____

Annual Wage Order Date: _____

County(ies): _____

Other Instructions: _____

2. Preliminary Tasks/Verifications				
A.	Section 34.040.6, RSMo	Buyer/Section Support	____	____
B.	Purchasing Suspension List	Buyer/Section Support	____	____
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	____	____
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	____	____
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer	____	____
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	____	____
3. Prepare Contract Amendment		Buyer/Section Support	____	____
4. Review/Approve Contract Amendment (If Signature Required)		Buyer		
Initial Date	Supervisor	Section Manager LO 1/20/16	Asst Director	Director
5. E-Mail/Fax Contract Amendment (If Signature Required)		Buyer/Section Support	passed away DF	1/28/16
Contractor E-Mail Address/Fax Number		Christy@walterlous.com / wgie sing@walterlous.com		
State Agency Contact E-Mail Address		Becky.Bohrer@		
Section 34.040.6, RSMo, Letter		Follow-Up Notes: emailed 2nd notice 2-9-16		
6. Review Contract Amendment Response – Verifications				
A.	Renewal/Extension Pricing	Buyer/Section Support	LO	3/7/16
B.	Section 34.040.6, RSMo	Buyer/Section Support	____	____
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support	____	____
D.	Renewal/Extension with Cost Savings Language	Buyer	____	____
E.	Statewide Notice	Buyer	____	____
F.	SFS Authorized Limit $	Buyer	____	____
G.	**Contract/Assignment Only Verifications – Complete unless completed in Step 2 above**			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support	____	____
	2. Assignment and Consent Form	Buyer/Section Support	____	____
	3. Purchasing Suspension List	Buyer/Section Support	____	____
	4. Federal Suspension – SAM.GOV	Buyer/Section Support	____	____
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	____	____
7. Prepare Contract Amendment Award Document/Statewide Notice		Buyer/Section Support	JS	3/8/16
8. Review/Approve Contract Amendment Award Document		Buyer		
Initial Date	Supervisor	Section Manager LO 3/8/16	Asst Director	Director
9. Process Contract Amendment		Buyer/Section Support	DF	3-15-16
AM 300 PMM 0007151 MS		Buyer/Section Support	DF	3-15-16
Distribute E-Verify & SDV Documents		Buyer/Section Support	____	____
E-Mail/Fax NOA to Contractor/Assignee & Agency Contact		Buyer/Section Support	DF	3-15-16
Copy/Save As Statewide Notice to Internet Folder		Buyer/Section Support	____	____
10. Log Participation Commitment Information		Central Support-Participation	TT	3-22
11. Image Contract Amendment Packet		Central Support-Imaging		

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

B32 14153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER 003	**CONTRACT PERIOD** January 1, 2015 through December 31, 2016
REQUISITION NUMBER NR 300 22006000023 & NR 300 22006000029	**VENDOR NUMBER** 3709087450 1
CONTRACTOR NAME AND ADDRESS Walter Louis Fluid Technologies 530 South 5th Street Quincy, IL 62301	**STATE AGENCY'S NAME AND ADDRESS** Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #003, dated 10/19/15.

BUYER	BUYER CONTACT INFORMATION
Jason Kolks	*Email:* jason.kolks@oa.mo.gov Phone: (573) 522-1620 Fax: (573) 526-9816
SIGNATURE OF BUYER Jason Kolks	**DATE** 10-23-15

DIRECTOR OF PURCHASING

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING (PURCHASING)
CONTRACT AMENDMENT

AMENDMENT NO.: 003
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 10/5/15

REQ NO.: NR 300 22006000023
BUYER: Jason Kolks
PHONE NO.: (573) 522-1620
E-MAIL: jason.kolks@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 52301-4896

RETURN AMENDMENT BY NO LATER THAN: 10/19/15 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING (PURCHASING) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	jason.kolks@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	PURCHASING, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	PURCHASING, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technologies	Walter Louis Chemicals
MAILING ADDRESS	IRS FORM 1099 MAILING ADDRESS
530 South 5th Street	530 South 5th Street
CITY, STATE, ZIP CODE	CITY, STATE, ZIP CODE
Quincy, IL 62301	Quincy, IL 62301

CONTACT PERSON	EMAIL ADDRESS
Christy Emerick	christy@walterlouis.com
PHONE NUMBER	FAX NUMBER
217-223-2017	217-223-7734

TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
370908745	_X_ FEIN __ SSN	3709087450 1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)

X Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___ IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
[signature]	10/19/15
PRINTED NAME	TITLE
FRANK MURPHY-GIESING	DIR OPS

AMENDMENT #003 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2015 through December 31, 2016

Effective October 1, 2015, the State of Missouri desires to add the Missouri School for the Deaf, Central Supply Building at 505 E. Fifth Street in Fulton, MO 65251 and Joplin Career Center at 730 South Wall Ave. in Joplin, MO 64801 to the provisions and requirements of the contract. As a result, Revised Attachment #1 is deleted and replaced with the attached Revised Attachment #1 dated 9/30/15 and Attachment #2 is deleted and replaced with the attached Revised Attachment #2 dated 9/30/15.

All references to Attachment #1 shall be hereby deemed to mean Revised Attachment #1 dated 9/30/15 and all references to Attachment #2 shall be herby deemed to mean Revised Attachment #2 dated 9/30/15.

Furthermore, the contractor shall develop and submit a proposed water treatment program for the newly added facilities in accordance with the attached Exhibit E.

The contractor shall indicate on the pricing table below, the guaranteed not-to-exceed price for the original contract period and the guaranteed not-to-exceed maximum prices for each potential renewal period for performing services in accordance with the terms, conditions, and provisions of the contract.

Water Treatment Services – Missouri School for the Deaf –Central Supply Building				
Line Item	Original Contract Period Guaranteed Not-to-Exceed Price	First Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)
175	$10,880	$11,315	$11,776	$12,232

Water Treatment Services – Joplin Career Center				
Line Item	Original Contract Period Guaranteed Not-to-Exceed Price	First Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)
176	$0	$0	$0	$0

All other requirements and provisions of the contract, including all other prices, shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it, along with the completed Exhibit E, on or before the date indicated on the cover page of this document.

EXHIBIT E

WATER TREATMENT PROGRAM

Based on the contractor's inspections of the steam and hydronic systems, the contractor's results of the chemistry analysis of the water sample, and the provisions and requirements specified in the RFP portion of the contract, the contractor shall develop and submit a proposed water treatment program for any new facilities added to the contract. The contractor must provide the following information and must submit supporting documentation to fully describe and explain the proposed water treatment program. The contractor should copy and complete the following pages for each facility.

The contractor must identify the existing water treatment equipment for each facility. In addition, the contractor must identify the test equipment and supplies that will be provided by the contractor in order to implement the water treatment program, including specific details.

The contractor must identify the chemicals proposed for each water treatment program, as applicable, for each facility. In addition, the contractor must indicate the proposed dosage, in either pounds or gallons, of each chemical within the defined parameters.

1) When used in conjunction with the guaranteed not-to-exceed prices indicated on the pricing table for each facility, the dosages should validate the guaranteed not-to-exceed annual price proposed for each facility.

2) Based on the results of the chemistry analysis of the water samples, the contractor should provide recommendations for corrective action and/or changes to the current operating procedures in order to obtain optimum chemical protection and heat transfer efficiency.

3) The contractor should develop the water treatment program to: (1) prevent corrosion, scale, and microbiological activity in equipment and systems, (2) protect the existing equipment, (3) ensure optimum heat transfer and equipment operating efficiency, and (4) maintain the highest cycle of concentration possible in boiler and cooling tower systems without boiler water carryover, forming scale, or corrosion of the systems.

4) The contractor should submit materials safety data sheets on each chemical proposed. The contractor should use OSHA's current form; however, any other manner or form used for presenting information equivalent to OSHA's current form is acceptable. A product bulletin that does not contain detailed information on hazards, handling instructions, and emergency and emission procedures will be considered inadequate and insufficient if submitted in lieu of a material safety data sheet.

REVISED EXHIBIT E

WATER TREATMENT PROGRAM

DESE Missouri School for the Deaf

Recommendations:
Maintain a chemical program which demonstrates consistent program management, record keeping, follow-up and equipment maintenance.
This tower is located on the ground, which needs thorough cleaning before start-up.
Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

New Boilers: Chemical Program: Walter Louis 157L (phosphate/sulfite/amine).
Method for injection; Chemical pump – directly into feedwater tank.
Blowdown: Manually per operator per TDS test

SystemName: Raw Water Supply

PROCEDURE ***Result: LoLimit: HiLimit:***
CaHardness(Ca) 86 ppm/CaCO3 N/A N/A
CHLORIDES 20 ppm N/A N/A
CONDUCTIVITY 693 uS N/A N/A
HARDNESS 289 ppm/CaCO3 N/A N/A
Iron (Fe) 0.02 ppm N/A N/A
Magnesium(Mg) 30 ppm/CaCO3 N/A N/A
M-ALK 325 ppm\CaCO3 N/A N/A
NITRATE(NO3) .01 ppm N/A N/A
P-ALK 10 ppm\CaCO3 N/A N/A
pH 7.6 unit N/A N/A
PHOSPHATE 0.3 ppm N/A N/A
SILICA(SiO2) 7.0 ppm N/A N/A
SULFATE(SO4) 40 ppm N/A N/A

SystemName: Chilled Water Loop

PROCEDURE ***Result: LoLimit: HiLimit:***
CONDUCTIVITY 2950 uS 2200 3000
Iron (Fe) 0.7 ppm 0 0.5
NITRITE 900 ppm 800 1200
HARDNESS 0 ppm/CaCO3 N/A N/A
P-ALK 530 ppm\CaCO3 N/A N/A
M-ALK 580 ppm\CaCO3 N/A N/A

pH 10.0 unit N/A N

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Missouri School for the Deaf – Fulton, Mo.		
FUEL OIL SYSTEM TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Mo. School for the Deaf – Fulton, Mo.		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 157L Boiler Compound	3 gallons	90
(Boil Out Cleaner) CL-100		
Existing Equipment (include make, model, and quantity)		
1 – 30 gallon chemical mixing tank		
4 – By Pass Feeders (each boiler has it's own pot feeder)		
2 – 60 hp. Hurst Steam Boilers		
2 – 120 hp. Hurst Steam Boilers		
1 – Feedwater Tank		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mo. School for the Deaf – Fulton, Mo.		
DEAERATOR/FEEDWATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
592 L Oxygen Scavenger	10 gallons	60 gallons
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Mo. School for the Deaf – Fulton, Mo.		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535		45 gallons
Existing Equipment (include make, model, and quantity)		
N/A		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mo. School for the Deaf – Fulton, Mo.		
COOLING TOWER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351		90 gallons
WLFT AM 714		36 gallons
WLFT Verox 8		30 gallons
Existing Equipment (include make, model, and quantity)		
LMI chemical feed pumps / tower controllers (WLFT)		
Wheeler tower: 150 ton		
Stark tower: 100 ton		
Administration tower: 50 ton		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Mo. School for the Deaf – Fulton, Mo.		
CLOSED LOOP HEATING SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839		60 gallons
Existing Equipment (include make, model, and quantity)		
6 – individual closed loops, all have by-pass feeders (6 buildings)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mo. School for the Deaf – Fulton, Mo.		
CLOSED LOOP COOLING SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839		30 gallons
Existing Equipment (include make, model, and quantity)		
3 – closed chill loops with by pass feeders (3 buildings)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Mo. School for the Deaf – Fulton, Mo.		
DEALKALIZER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mo. School for the Deaf – Fulton, Mo.

WASTE WATER SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
N/A		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

Facility: Mo. School for the Deaf – Fulton, Mo.

CONDENSATE SYSTEM

Chemical	Dosage (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
N/A		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage	_____ Conventional Drum

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mo. School for the Deaf – Fulton, Mo.		
DOMESTIC WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
Hard water make-up (200 ppm hardness)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

REVISED ATTACHMENT #1, 9/30/15

FACILITIES OPERATIONS FACILITIES								
	Department	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilitites Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilitites Operations State Owned Buildings
	Facility	Fletcher Daniels State Office Building	St. Joseph State Office Building	Kansas City DOLIR State Office Building	St. Joseph Career Center	Wainwright State Office Bldg.	Prince Hall State Office Building	Joplin Career Center
	Address	615 E. 13th Street Kansas City, MO	525 Jules Kansas City, MO	1410 Gnesee Kansas City, MO	301 South 7th Street St. Joseph, MO	111 N. Seventh St. Louis, MO	4411 N. Newstead St. Louis, MO	730 South Wall Ave. Joplin, MO
	Telephone No.:	816-889-2076	816-889-2076	816-387-2270	816-387-2270	314-340-6801	314-877-2007	573-751-4709
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	29,000	unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	1,046,000	unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	N/A	N/A	Unknown	Unknown	4,800	unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	N/A	unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	N/A	unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	no	no	no	no	No	NO	unknown
	Total Cooling Tower Annual Makeup (gals)	2463	Unknown	N/A	N/A	Unknown	40,000	unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	N/A	N/A	Unknown	6,000	unknown

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REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF MENTAL HEALTH FACILITIES								
	Department	Mental Health	Mental Health	Mental Health	Mental Health			
	Facility	Peery Apartments	New Prospects	Kansas City Regional Office	Springfield Regional Office			
	Address	2659 Peery Avenue Kansas City, MO 64127	2600 East 12th Street Kansas City, MO 64127	821 East Admiral Blvd. Kansas City, MO	1515 E. Pythian Springfield, MO			
	Telephone No.:	(816) 512-7109	(816) 512-7109	(816) 512-7109	(417) 895-7400			
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A			
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A			
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Estimated 500 gal.	Estimated 500 Gallons.	Estimated 500 gal.	Estimated 500 gal.			
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A			
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A			
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A			
	Cooling Closed Loop Annual Makeup (gals)	2 pipe syst. Shared w/ heating syst.	N/A	N/A	2 pipe syst. Shared w/ heating syst.			

REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Northwest Habilitation Center	South County Habilitation Center	St. Charles Habilitation Center	Joplin Regional Center	Hawthorn Children Psychiatric Hospital	Center for Behavioral Medicine
	Address	#11 Brady Circle Overland, MO 63114	2312 Lemay Ferry Road St. Louis, MO 63125	22 Marr Lane St. Charles, MO 63303	3600 E Newman Rd Joplin, MO 64802	1901 Pennsylvania Ave St. Louis, MO	1000 East 24th Street Kansas City, MO 64108
	Telephone No.:	314-541-9110	314-541-9110	314-541-9110	660 831-3029	314-512-7564	(816) 512-7109
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	Unknown	N/A	N/A
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown/Automatic	Approx. 1,000 gal.
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	NA	NA	NA	N/A	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	NO	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	125,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	Approx. 1,000 gal.
DEPARTMENT OF MENTAL HEALTH FACILITIES							

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REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF MENTAL HEALTH FACILITIES								
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	
	Facility	Nevada Habilitation Center	Bellefontaine Habilitation Center	Higginsville Habilitation Center	Northwestern Missouri Psych Rehab Center	St. Louis Psych Rehab Center	Southeast MO Mental Health Center	
	Address	2323 North Ash Nevada, MO 64772	10695 Bellefontaine Road St. Louis, MO 63137	West 1st Street Higginsville, MO 64037	3505 Frederick Avenue St. Joseph, MO 64506	5300 Arsenal St. Louis, MO 63139	1010 West Columbia St. Farmington, MO	
	Telephone No.:	417 448-1145	314 340-6235	660 584-4834	816 512-7111	314-877-5880	573 218-6854	
Primary Boiler System	Annual Steam Production (lbs)	15,330,000 lbs/year	71,700,000 lbs/year	22,995,000 lbs/year, assuming 50% load and 6 months of operation	N/A	14,000,000 lbs/year	N/A	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	1,460,000 gal.	15% or 10,755,000 lbs/year	15% = 3,500,000 lbs/year	N/A	2,100,000 gal/year	N/A	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	Not metered	Did not meter (420 hp of water boilers)	Did not meter (300hp of water boilers)	1,500 gal/year	Staples Bldg. 4800 gal per year	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	6,132,000 lbs/year	N/A	Unknown	N/A	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	15% = 919,800 lbs/year	N/A	Unknown	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	60,000 gal	5,000 gpd or 1,825,000 gal/year	N/A	292,000 gal/year	2000000 gal/year	Staples Bldg. 85,000 gal/Forensics 28,000 gal.	
	Cooling Closed Loop Annual Makeup (gals)	none if No leaks	N/A	Did not meter (630 tons)	N/A	Unknown	Staples Bldg. 2,400 gal	

REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	MO Sexual Ofender Treatment Center	Metropolitan St. Louis Psych Center	Albany Regional Center	Sikeston Regional Office	Fulton State Hospital	Marshall Hab Center
	Address	1016 West Columbia Farmington, MO 63640	5351 Delmar St. Louis, MO 63112	809 North 13th Street Albany, MO 64402	112 Plaza Drive, Box 966 Sikeston, MO 63801	600 East 5th Street Fulton, MO 65251	700 East Slater Marshall, MO 65340
	Telephone No.:	573 218-6016	314 877-0707	660 726-1531	573 472-6538	573-592-3482	660 831-3029
Primary Boiler System	**Annual Steam Production (lbs)**	Recieve steam from FCC		N/A	Unknown	140,204,000	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	Unknown	N/A	Unknown	4,229,000	131,000 gal.
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	5 gallons annual Blair 5 gallons Hoctor	500 GALLONS	10 gallon	New system	N/A	Not metered
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	Unknown	N/A	Unknown	NA	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/a	Unknown	N/A	Unknown	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	921,500 GALLONS	N/A	Unknown	unable to estimate No gauges avail.	No cooling towers
	Cooling Closed Loop Annual Makeup (gals)	3 gallons Blair 5 gallons Hoctor	500 GALLONS	10Gallons	New System	unable to estimate No gauges avail.	Not metered

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REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES								
	Department	DESE	DESE	DESE	DESE			
	Facility	Oakview State School	Shady Grove State School	Trails West State School (Dale M. Thompson)	Missouri School for the Deaf-Central Supply Building			
	Address	200 Linden St. Monelt, MO	2400 High Street Poplar Bluff, MO	4800 Grandview Road Kansas City, MO	505 E. 5th Street Fulton, Mo 65251			
	Telephone No.:	417-895-6848 (FC's)	417-895-6848 (FC's)	660-287-0099 (NK's)	573-592-2520			
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	N/A	Unknown			
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	No meter	No meter	No meter	Unknown			
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	N/A	Unknown			
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	No meter	Unknown			
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	No meter	Unknown			
	Cooling Closed Loop Annual Makeup (gals)	No meter	No meter	No meter	Unknown			

REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Maple Valley State School	Veretle Peniston State School	Rolling Meadows State School	Prairie View State School	Greene Valley State School	Cedar Ridge State School
	Address	2575 NE Barry Rd Kansas City, MO	1530 Clay Street Chillicothe, MO	1101 West 29th St. Higginsville, MO	945 North Miami Marshall, MO	1601 East Pythian Springfield, MO	901 North Olive St. Nevada, MO
	Telephone No.:	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	417-895-6848 (FC's)	417-895-6848 (FC's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown	No meter
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown, No meter	No meter	No meter

REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Deaf-Rice	B.W. Robinson State School	Boonslick State School	Gateway/Huber Wheeler State School	Delmar Cobble State School	Lakeview Woods State School
	Address	505 E. 5th Street Fulton, Mo 65251	300 Lanning Lane Rolla, MO	321 Knaust Road St. Peters, MO	100 South Garrison St. Louis, MO	108 West Craig St. Columbia, MO	351 NE Gregory Lee's Summit, MO
	Telephone No.:	573-592-2520	636-931-0080 (KH's)	636-931-0080 (KH's)	636-931-0080 (KH's)	660-530-5575 (NK's)	660-530-5575 (NK's)
Primary Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown
Laundry Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown ,No meter	Unknown, No meter	Unknown ,No meter	Unknown, No meter	Unknown, No meter

REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Blind	Missouri School for the Deaf-Wheeler	Missouri School for the Deaf-Tate	Missouri School for the Deaf-Kerr	Missouri School for the Deaf-Stark	Missouri School for the Deaf-Vocational
	Address	3815 Magnolia St.Louis, MO	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251	505 E. 5th Street Fulton, Mo 65251
	Telephone No.:	314-776-4320, x125	573-592-2520	573-592-2520	573-592-2520	573-592-2520	573-592-2520
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Chilled water closed loop	Chilled water closed loop	chilled water closed loop	2 Steam to water heat closed loops.
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	650 Gals.	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	813, 937 and 800 gal est reported	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF CORRECTIONS FACILITIES								
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)		
	Facility	Farmington Community Supervision Center	Crossroads Correctional Center	Missouri Eastern Correctional Center	Potosi Correctional Center	St. Joseph Community Supervision Center		
	Address	1430 Doubet Road Farmington, MO 63640	1115 E Pence Rd. Cameron, MO 64429	18701 Old Hwy 66 Pacific, MO 63069	11593 State Highway O Mineral Point, MO 63660	3305 Faraon St. St. Joseph, Mo 64506		
	Telephone No.:	573-218-7100, ext 428 (Rick Alvers at Farmington Correctional Center)	816-632-2727 ext1370 (Brett Adkinson at Crossroads Correctional Center)	636-257-3322 ext 1205 (Ed Moody at Potosi Correctional Center	573-438-6000, ext 1308 (Steve Helms at Potosi Correctional Center)	816-271-3131 ext 257		
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	N/A		
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	N/A		
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	N/A		
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	N/A	N/A		
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	N/A	N/A		
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	Yes	No	No	No		
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	2,250,000 gallons	N/A		
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A		

REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	DOC-MVE
	Facility	St. Louis Community Release Center	Kennett Community Supervision Center	Poplar Bluff Community Supervision Center	Chillicothe Correctional Center-New	Moberly Correctional Center	MVE Complex
	Address	1621 North 1st Street Saint Louis, MO 63102	875 County Highway V V Kennett 63857	1441 Black River Industrial Park Road Poplar Bluff, MO 63901	3151 Litton Road Chillicothe, MO 64601	5201 South Morley Street Moberly, MO 65270	1717 Industrial Drive Jeffferson City, MO 65109
	Telephone No.:	314-877-0300	573-888-4800	576-840-9555	660-646-4032	660-263-3778 Ext. 1205	573-526-2893
Primary Boiler System	Annual Steam Production (lbs)	N/A	New Facility - No Past Data	New Facility - No Past Data	N/A	N/A	N/A
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	NA
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	182,500	We have No meter on system but we do use about 30 gallons of 839 closed loop system treatment
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	12,420,000	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	900,000	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	Yes	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	Unknown	65,500	We have No meter on the system but we do use about 10 to 15 gallongs 4707 cooling tower treatment system
	Cooling Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	8,000	We have No meter on the system but we do use about 5 to 10 gallongs 839 closed loop system treatment

REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF CORRECTIONS FACILITIES

	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Women's Eastern Reception Diagnostic and Correctional Center	Western Reception Diagnostic and Correctional Center	Ozark Correctional Center	Central Missouri Correctional Center	Jefferson City Correctional Center	Fulton Reception & Diagnostic Center
	Address	1101 East Highway 54 Vandalia, MO 63382	3401 Faraon Street St. Joseph, Mo. 64506	929 Honor Camp Lane Fordland, MO 65652	2600 Highway 179 Jefferson City, MO 65102	8200 No More Victums Road Jefferson City, MO 65101	1393 Route O Fulton, MO 65251
	Telephone No.:	573-594-6686	816-387-2156	417-767-4491	573-751-2053	573-751-3224	573-592-4040
Primary Boiler System	**Annual Steam Production (lbs)**	Two Boilers - Provide steam to laundry and kitchen	Not metered	Unknown	8,585,192 lbs	53,120,714	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	2,000 Gal.	1,421,096 Gallon for boiler feed water	1,389,920	124,857 gals	643,987	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	54,000 Gal (Leaks Underground) Repaired	Not metered		15,000 gals	500	10000
Laundry Boiler System	**Annual Steam Production (lbs)**	Minimal Usage	Same boilers above supply this steam.	N/A	Zero (Facility Closed)	337973 lbs./yr. Based on gas usage	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**		Same boilers above supply this steam.	N/A	Zero (Facility Closed)	5000 gals for MVE boiler	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	Yes	Yes	No	No
	Total Cooling Tower Annual Makeup (gals)	Not Metered-Need Meter Installed	Not metered	N/A	N/A	6,005,000	700000
	Cooling Closed Loop Annual Makeup (gals)	51,000 Gal (Leaks Underground) Repaired	Not metered	N/A	N/A	1,200	100

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REVISED ATTACHMENT #1, 9/30/15

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Maryville Treatment Center	South Central Correctional Center	Southeast Correctional Center	Farmington Correctional Center	Tipton Correctional Center	Western Missouri Corrections Center
	Address	30227 Hwy 136 Maryville, MO 64468	255 West Hwy 32 Licking, MO 65542	300 E. Pedro Simmons Dr. Charleston, MO 63834	1012 W.Columbia Farmington Mo. 63640	619 N. Osage Avenue Tipton, MO 65081	609 East Pence Road Cameron, MO 64429
	Telephone No.:	660-582-6542	573-674-4470	573-683-4409	573-218-7100	660-433-2031	816-632-1390
Primary Boiler System	Annual Steam Production (lbs)	No Steam meter onsite	N/A	N/A	4937630	35mbl	NONE
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	7 Year average 7,715	N/A	N/A	131908	412,570 gal	NONE
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Est 1000 to 1500 Gallons No water meter	623 Gals.	14764	35,510 Sept thru June	25	Major heating leaks= 17,000 gal Boiler Prevent. Maint.=8,000gal (Refill) Total= 25,000 gal
Laundry Boiler System	Annual Steam Production (lbs)	N/A	10,608,000 lbs.	N/A	N/A	N/A	Unknown
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	N/A	N/A	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	2,729,536 gals.	3980533.3	UNKNOWN AT THIS TIME	Unknown	NONE
	Cooling Closed Loop Annual Makeup (gals)	N/A	93 gals.	571.44	UNKNOWN AT THIS TIME	25	NONE

C314153001

REVISED ATTACHMENT #1, 9/30/15

				DEPARTMENT OF CORRECTIONS FACILITIES			
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Kansas City Community Release Center	Eastern Reception Diagnostic and Correctional Center	Northeast Correctional Center	Boonville Correctional Center	Algoa Correctional Center	Hannibal Community Supervision Center
	Address	651 Mulberry Street Kansas City, MO 64101	2727 Highway K Bonne Terre, MO 63628	13698 Airport Road Bowling Green, MO 63334	1216 East Morgan, Boonville, MO 65233	8501 No More Victims Rd. Jefferson City, MO 656101	2002 Warren Barrett Dr, Hannibal, MO 63401
	Telephone No.:	816-842-7467	573-358-5038	573-324-9975	660-882-6521	573-751-3911	573-248-2450
Primary Boiler System	**Annual Steam Production (lbs)**	I do not believe this concerns KCCRC. KCCRC only has a water softener for domestic hot water. Water tube hot water Heater. Cooling by 24 A/C units.	56,245,000 LBS.	573,763 GAL.	48,676,693.58 lbs of steam	22909594	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	729,500 GAL.	Unknown	485176 gallons of Make- Make	448000	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	3,660 GAL.	Unknown	No Meter to measure gals of Make-Up	Unknown	No way of gauging
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	604,700 GAL.	Unknown	No Meter to measure gals of Make-Up	10,000 gal and 450000	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	1,900 GAL	Unknown	No Meter to measure gals of Make-Up	Unknown	Unknown

REVISED ATTACHMENT #1, 9/30/15

MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	
	Facility	General Headquarters - Jefferson City	General Headquarters - ANNEX	General Headquarters - ACADEMY	TROOP A - Lee's Summit	TROOP B - Macon	MO. STATE HIGHWAY PATROL SPRINGFIELD CRIME LABORATORY	
	Address	1510 EAST ELM ST	1510 EAST ELM ST	1510 EAST ELM ST	504 S.E.BLUE PARKWAY LEE'S SUMMIT MO. 64063	308 PINE CREST DRIVE MACON MO 63552	425 EAST PHELPS ST. SPRINGFIELD MO. 65806	
	Telephone No.:	526-6286	526-6286	526-6286	816-622-0800	660-385-2132	417-868-9400	
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	N/A	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	Unknown	N/A	N/A	N/A	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	

REVISED ATTACHMENT #1, 9/30/15

MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol				
	Facility	TROOP F - Jefferson City	TROOP I - Rolla	TROOP C Service Center - Park Hills				
	Address	P.O. BOX 568 2920 NORTH SHAMROCK RD, JEFFERSON CITY, MO. 65102	P.O. BOX 128 NAGOGAMI RD WEST, ROLLA MO. 65402	P.O. Box 612 5268 Flat River R.D. Park Hills Mo. 63601				
	Telephone No.:	573-751-1000	573-368-2345	573-431-0176				
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	Unknown	Unknown				
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No				
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A				
	Cooling Closed Loop Annual Makeup (gals)	Unknown	N/A	Unknown				

REVISED ATTACHMENT #1, 9/30/15

DSS-YOUTH SERVICES								
	Department	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	
	Facility	Fulton Treatment Center	Montgomery City Youth Center	W.E. Sears Youth Center	Hogan Street Youth Center	Riverbed Treatment Center	Mt. Vernon Treatment Center	
	Address	1650 Highway O P.O. box 847 Fulton, MO 63251-0847	300 Niedergerke Drive Montgomergy City, MO 63361-2616	9400 Sears Lane Poplar Bluff, MO 63901-9716	1839 Hogan Street St. Louis, MO 63106-3098	5910 Mitchell Avenue St. Joseph, MO 64507-7762	500 State Drive Mt. Vernon, MO 65712	
	Telephone No.:						417-466-0292	
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	Unknown	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	NO	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	

C314153001

REVISED ATTACHMENT #1, 9/30/15

MISSOURI VETERANS HOMES								
	Department	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS	Missouri Veterens Commission - DPS
	Facility	MVH - Cameron	MVH - Cape Girardeau	MVH - Mexico	MVH - Mt. Vernon	MVH - St. James	MVH - Warrensburg	MVH - St. Louis
	Address	1111 Euclid Cameron, MO 64429	2400 Veterans Memorial Dr. Cape Girardeau. MO 63701	# 1 Veterans Drive Mexico, MO 65265	1600 S. Hickory Mt. Vernon, MO 65712	620 N. Jefferson St. James, MO 65559	1300 Veterans Road Warrensburg, MO 64093	4411 N. Newstead St. Louis, MO
	Telephone No.:	816-632-6010	573-290-5870	573-581-1088	417-466-7103	573-265-3271	660-543-5075	314-877-2007
Primary Boiler System	***Annual Steam Production (lbs)***	n / a	n / a	n / a	n / a	n / a	n / a	29,000
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	n / a	n / a	n / a	n / a	n / a	n / a	1,046,000
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	4,800
Laundry Boiler System	**Annual Steam Production (lbs)**	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Lagoon Requiring Waster Water Treatment Chemicals	***Yes/No***	No	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	unknown	approx.993,000 gals make-up annually	16000	unknown	unknown	unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	unknown	approx. 3,000 gals of make-up annually	1200	unknown	unknown	unknown	6,000

FACILITY SITE VISIT REQUIREMENTS		
		"X" Designates Exclusively Closed Loop Heating/Cooling System
FACILITY	**REQUIREMENT**	
DEPARTMENT OF CORRECTIONS		
ACC - Algoa Correctional Center	MONTHLY SITE VISITS	
BCC - Boonville Correctional Center	MONTHLY SITE VISITS	
CMCC - Central Missouri Correctional Center	MONTHLY SITE VISITS	
CCC - Chillicothe Correctional Center	MONTHLY SITE VISITS	
CRCC - Crossroads Correctional Center	MONTHLY SITE VISITS	
ERDCC - Eastern Reception, Diagnostic and Correctional Center	MONTHLY SITE VISITS	
Farmington Community Supervision Center	MONTHLY SITE VISITS	X
FCC - Farmington Correctional Center	MONTHLY SITE VISITS	
FRDC - Fulton Reception and Diagnostic Center	MONTHLY SITE VISITS	
Hannibal Community Supervision Center	MONTHLY SITE VISITS	X
JCCC - Jefferson City Correctional Center	MONTHLY SITE VISITS	
KCCRC - Kansas City Community Release Center	MONTHLY SITE VISITS	X
Kennett Community Supervision Center	MONTHLY SITE VISITS	X
MTC - Maryville Treatment Center	MONTHLY SITE VISITS	
MECC - Missouri Eastern Correctional Center	MONTHLY SITE VISITS	X
MCC - Moberly Correctional Center	MONTHLY SITE VISITS	
NECC - Northeast Correctional Center	MONTHLY SITE VISITS	X
OCC - Ozark Correctional Center	MONTHLY SITE VISITS	
Poplar Bluff Community Supervision Center	MONTHLY SITE VISITS	X
PCC - Potosi Correctional Center	MONTHLY SITE VISITS	
SCCC - South Central Correctional Center	MONTHLY SITE VISITS	
SECC - Southeast Correctional Center	MONTHLY SITE VISITS	
SLCRC - St. Louis Community Release Center	MONTHLY SITE VISITS	
St. Joseph Community Supervision Center	MONTHLY SITE VISITS	X
TCC - Tipton Correctional Center	MONTHLY SITE VISITS	
WMCC - Western Missouri Correctional Center	MONTHLY SITE VISITS	X
WRDCC - Western Reception, Diagnostic and Correctional Center	MONTHLY SITE VISITS	
WERDCC - Women's Eastern Reception, Diagnostic Correctional Center	MONTHLY SITE VISITS	
MVE - MO Vocational Enterprise Complex	MONTHLY SITE VISITS	

FACILITY SITE VISIT REQUIREMENTS		
		"X" Designates Exclusively Closed Loop Heating/Cooling System
FACILITY	**REQUIREMENT**	
DEPARTMENT OF ELEMENTARY & SECONDARY EDUCATION		
B.W. Robinson State School	MONTHLY SITE VISITS	X
Boonslick State School	MONTHLY SITE VISITS	X
Cedar Ridge State School	MONTHLY SITE VISITS	X
College View State School	MONTHLY SITE VISITS	X
Delmar Cobble State School	MONTHLY SITE VISITS	X
Gateway/Hubert Wheeler State School	MONTHLY SITE VISITS	X
Greene Valley State School	MONTHLY SITE VISITS	X
Lakeview Woods State School	MONTHLY SITE VISITS	X
Maple Valley State School	MONTHLY SITE VISITS	X
Missouri School For The Blind	MONTHLY SITE VISITS	
Missouri School For The Deaf-Kerr	MONTHLY SITE VISITS	
Missouri School For The Deaf-Resource Center	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Rice	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Stark	MONTHLY SITE VISITS	
Missouri School For The Deaf-Tate	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Vocational	MONTHLY SITE VISITS	X
Missouri School For The Deaf-Wheeler	MONTHLY SITE VISITS	
Missouri School For The Deaf-Central Supply	MONTHLY SITE VISITS	X
Oakview State School	MONTHLY SITE VISITS	X
Prairie View State School	MONTHLY SITE VISITS	X
Rolling Meadows State School	MONTHLY SITE VISITS	
Shady Grove State School	MONTHLY SITE VISITS	
Trails West State School (Dale M. Thompson)	MONTHLY SITE VISITS	X
Verelle Peniston State School	MONTHLY SITE VISITS	

FACILITY SITE VISIT REQUIREMENTS		
		"X" Designates Exclusively Closed Loop Heating/Cooling System
FACILITY	**REQUIREMENT**	
DEPARTMENT OF MENTAL HEALTH		X
Albany Regional Office	MONTHLY SITE VISITS	
Bellefontaine Hab Center	MONTHLY SITE VISITS	
Fulton State Hospital	MONTHLY SITE VISITS	X
Hawthorn Children Psychiatric Hospital	MONTHLY SITE VISITS	
Higginsville Hab Center	MONTHLY SITE VISITS	X
Joplin Regional Center	MONTHLY SITE VISITS	
Marshall Hab Center	MONTHLY SITE VISITS	
Metropolitan St. Louis Psych Center	MONTHLY SITE VISITS	X
MO Sexual Offender Treatment Center	MONTHLY SITE VISITS	
Nevada Hab Center	MONTHLY SITE VISITS	X
Northwest Habilitation Center	MONTHLY SITE VISITS	
Northwestern MO Psych Rehab Center	MONTHLY SITE VISITS	X
Sikeston Regional Office	MONTHLY SITE VISITS	X
South County Habilitation Center	MONTHLY SITE VISITS	
Southeast MO Mental Health Center	MONTHLY SITE VISITS	X
Springfield Regional Office	MONTHLY SITE VISITS	X
St. Charles Habilitation Center	MONTHLY SITE VISITS	
St. Louis Psychiatric Rehab Center	MONTHLY SITE VISITS	
Western MO Mental Health Center	MONTHLY SITE VISITS	
FACILITIES OPERATIONS		
Fletcher Daniels State Office Building	MONTHLY SITE VISITS	
Joplin Career Center	MONTHLY SITE VISITS	X
Kansas City DOLIR State Office Building	MONTHLY SITE VISITS	
Prince Hall State Office Building	MONTHLY SITE VISITS	X
St. Joseph Career Center	MONTHLY SITE VISITS	
St. Joseph State Office Building	MONTHLY SITE VISITS	
Wainwright State Office Building	MONTHLY SITE VISITS	
MISSOURI STATE HIGHWAY PATROL		X
MSHP Crime Laboratory - Springfield	MONTHLY SITE VISITS	X
MSHP General Headquarters Academy-Jefferson City	MONTHLY SITE VISITS	
MSHP General Headquarters Annex-Jefferson City	MONTHLY SITE VISITS	X
MSHP General Headquarters-Jefferson City	MONTHLY SITE VISITS	X
MSHP Troop A-Lee's Summit	MONTHLY SITE VISITS	X
MSHP Troop B-Macon	MONTHLY SITE VISITS	X
MSHP Troop C Service Center-Park Hills	MONTHLY SITE VISITS	X

FACILITY SITE VISIT REQUIREMENTS		
		"X" Designates Exclusively Closed Loop Heating/Cooling System
FACILITY	**REQUIREMENT**	
MSHP Troop F-Jefferson City	**MONTHLY SITE VISITS**	X
MSHP Troop I-Rolla	**MONTHLY SITE VISITS**	
DSS-YOUTH SERVICES		X
Fulton Treatment Center	**MONTHLY SITE VISITS**	X
Hogan Street Youth Center	**MONTHLY SITE VISITS**	X
Montgomery City Youth Center	**MONTHLY SITE VISITS**	X
Mt. Vernon Treatment Center	**MONTHLY SITE VISITS**	X
Riverbend Treatment Center	**MONTHLY SITE VISITS**	X
W.E. Sears Youth Center	**MONTHLY SITE VISITS**	

MISSOURI VETERANS HOMES		Exclusively Closed Loop Heating/Cooling System
FACILITY	**SITE VISIT REQUIREMENT**	
MISSOURI VETERANS HOMES		X
MVH - Cameron	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Cape Girardeau	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mexico	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Mt. Vernon	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. James	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - St. Louis	**Monthly Site Visits While Cooling Tower Is In Operation**	X
MVH - Warrensburg	**Monthly Site Visits While Cooling Tower Is In Operation**	

WALTER LOUIS FLUID TECHNOLOGIES
(WALTER LOUIS CHEMICALS)
530 South 5th Street
Quincy IL 62301-4896
Ph. 217-223-2017 Fax 217-223-7734

Fax...

TO: OA. MO. GOV
ATTN: JASON KOCKS
RE:

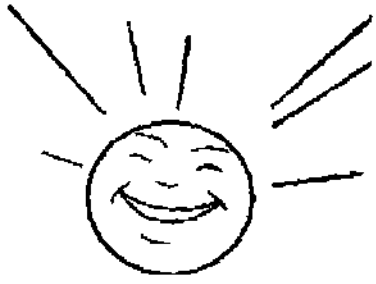
FAX: 573-526-9816
DATE: 10/19/15
PAGES: 11 (includes cover page)

COMMENTS:

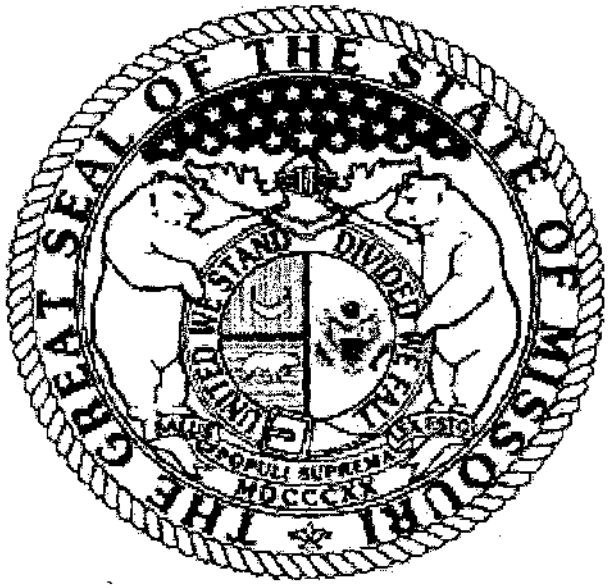
Hi, Jason,

Call me if you have questions or if I need to make changes!

-FRANK



HAVE A GREAT DAY!



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Kolks, Jason

From: Woods, Levi
Sent: Friday, October 23, 2015 1:25 PM
To: Kolks, Jason
Subject: RE: C314153001 Water Treatment Services

FMDC approves of the pricing submitted, please proceed with the contract amendment.

From: Kolks, Jason
Sent: Wednesday, October 21, 2015 7:40 AM
To: Brinkley, Rebecca; Woods, Levi
Subject: C314153001 Water Treatment Services

Becky and Levi,

Please see the attached amendment response from Walter Louis Fluid Technologies. Advise how FMDC would like to proceed.

Thank you,

Jason Kolks
Buyer
Division of Purchasing
Phone #: 573-522-1620

Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Purchasing
301 West High Street, Room 630
Post Office Box 809
Jefferson City, Missouri 65102-0809
(573) 751-2387 FAX: (573) 526-9815
TTD: 800-735-2966 Voice: 800-735-2466
http://oa.mo.gov/purchasing

Karen S. Boeger
Director

TO: File C314153001

FROM: Jason Kolks

DATE: 9/30/15 JWK

RE: Contract Amendment to Add Location

Contract C314153001 is for Water Treatment Services for the Office of Administration, Division of Facilities Management, Design and Construction (OA, FMDC). The OA, FMDC has requested the contract be amended to add buildings to the above referenced contract pursuant to paragraph 2.1.3 of the contract. The addition of services is due to the state agency adding a location that will need water treatment services for its use in the boilers and chillers, located at 505 E. 5th Street Fulton, MO and Joplin Career Center at 730 South Wall Ave. in Joplin, MO 64801and will be effective immediately.

1 CSR 40-1.050 (8) states, "Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract."

Since the intent of the contract does not change with the amendment, I am proceeding to amend contract C314153001 for the Office of Administration, Division of Facilities Management, Design and Construction to add the Missouri School for the Deaf – Central Supply Building and Joplin Career Center.

PURCHASING · CONTRACT AMENDMENT ROUTING GUIDE C# 14153001 A# 003 10-19
Revised 08/17/15

1. Indicate Contract Amendment Type			
RENEWAL: _____ PERIOD OF _____ TOTAL			
____ Renewal - % Increase	____ Cost Savings	Performance Security Deposit:	$ _____
____ Renewal - $ Increase	____ Cost Savings	Surety Bond:	$ _____
____ Renewal – W/O Increase			
____ SFS Renewal – Prices In Original Contract		Annual Wage Order Number:	_____
____ SFS Renewal – Prices Not in Original Contract		Annual Wage Order Date:	_____
EXTENSION PERIOD: _____		County(ies):	_____
____ Extension – 30-Day Termination			
____ Extension - $ Increase	____ Cost Savings	Other Instructions:	_____
____ Extension – W/O Increase			
____ Assignment			
____ Cancellation/Termination			
✓ Other Amendment			

	Tasks	Buyer	Initial	Date
2.	**Preliminary Tasks/Verifications**			
A.	Section 34.040.6, RSMo	Buyer/Section Support	JWK	9-30-15
B.	Purchasing Suspension List	Buyer/Section Support	JWK	9-30-15
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	JWK	9-30-15
D.	Labor Stds - OA/FMDC Contractor Debarment Lists	Buyer/Section Support	JWK	9-30-15
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer	JWK	9-30-15
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	✓	✓
3.	**Prepare Contract Amendment**	Buyer/Section Support	JWK	9-30-15
4.	**Review/Approve Contract Amendment (If Signature Required)**	Buyer	JWK	9-30-15
	Initial / Date – Supervisor	OK 10/1/15	Section Manager	LO 10/1/15
	Asst. Director		Director	
5.	**E-Mail/Fax Contract Amendment (If Signature Required)**	Buyer/Section Support	DJ	10-2-15
	Contractor E-Mail Address/Fax Number	christyp@walterlouis.com / wgiesey@walterlouis.com		
	State Agency Contact E-Mail Address	Becky Brinkley, Levi Woods		
	Section 34.040.6, RSMo, Letter	Follow-Up Notes:		
6.	**Review Contract Amendment Response/Verifications**			
A.	Renewal/Extension Pricing	Buyer/Section Support	✓	✓
B.	Section 34.040.6, RSMo	Buyer/Section Support	JWK	10/23/15
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support	✓	✓
D.	Renewal/Extension with Cost Savings Language	Buyer	✓	✓
E.	Statewide Notice	Buyer	✓	✓
F.	SFS Authorized Limit $	Buyer	✓	✓
G.	**Contract Assignment/Only Verifications) - Complete unless completed in Step 2 above**			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support		
	2. Assignment and Consent Form	Buyer/Section Support		
	3. Purchasing Suspension List	Buyer/Section Support		
	4. Federal Suspension – SAM.GOV	Buyer/Section Support		
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
7.	**Prepare Contract Amendment Award Document/Statewide Notice**	Buyer/Section Support	JWK	10-23-15
8.	**Review/Approve Contract Amendment Award Document**	Buyer	JWK	10/23/15
	Initial / Date – Supervisor	OK 10/26/15	Section Manager	LO 10/26/15
	Asst. Director		Director	
9.	**Process Contract Amendment**	Buyer/Section Support	DJ	10/28/15
	AM 300 PMM 0000169790 M4	Buyer/Section Support	DJ	10/28/15
	Distribute E-Verify & SDV Documents	Buyer/Section Support		
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	DJ	10/28/15
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support		
10.	**Log Participation Commitment Information**	Central Support-Participation	MH	10-29-15
11.	**Image Contract Amendment Packet**	Central Support-Imaging		11-23

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing

B3Z14153

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER	**CONTRACT PERIOD**
002	January 1, 2015 through December 31, 2016
REQUISITION NUMBER	**VENDOR NUMBER**
NR 300 22006000015	3709087450 1
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
Walter Louis Fluid Technologies 530 South 5th Street Quincy, IL 52301-4896	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

Contract C314153001 is hereby amended pursuant to the attached amendment #002, dated 9/2/15.

BUYER	BUYER CONTACT INFORMATION
Molly Hurt	Email: Molly.Hurt@oa.mo.gov Phone: (573) 751-8900 Fax: (573) 526-9816
SIGNATURE OF BUYER Molly Hurt	**DATE** 9-23-15

DIRECTOR OF PURCHASING

Karen S. Boeger

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING AND MATERIALS MANAGEMENT (DPMM)
CONTRACT AMENDMENT

AMENDMENT NO.: 002
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 8/4/15

REQ NO.: NR 300 22006000015
BUYER: Molly Hurt
PHONE NO.: (573) 751-8900
E-MAIL: Molly.Hurt@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 52301-4896

RETURN AMENDMENT BY NO LATER THAN: 8/18/15 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING AND MATERIALS MANAGEMENT (DPMM) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	Molly.Hurt@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	DPMM, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	DPMM, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technologies	Walter Louis Chemicals & Associates
MAILING ADDRESS: 530 So. 5th Street	IRS FORM 1099 MAILING ADDRESS: 530 So. 5th Street
CITY, STATE, ZIP CODE: Quincy, IL 62301-4896	CITY, STATE, ZIP CODE: Quincy, IL 62301-4896

CONTACT PERSON	EMAIL ADDRESS
Walter L. Giesing	wgiesing@walterlouis.com
PHONE NUMBER: 217-223-2017	FAX NUMBER: 217-223-7734

TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
37-0908745	_X_ FEIN ___ SSN	3709087450 1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)
_X_ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
Walter L Giesing	9/2/2015
PRINTED NAME: Walter L. Giesing	TITLE: President

AMENDMENT #002 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January1, 2015 through December 31, 2016

The State of Missouri desires to amend contract C314153001 to add the office building 8800 E. 63rd Street in Raytown, MO to the provisions and requirements of the contract.

Furthermore, the contractor shall develop and submit a proposed water treatment program for the newly added building in accordance with the attached Revised Exhibit E.

The contractor shall indicate on the pricing table below, the guaranteed not-to-exceed price for the original contract period and the guaranteed not–to-exceed maximum prices for each potential renewal period for performing services in accordance with the terms, conditions, and provisions of the contract.

Water Treatment Services – 8800 E. 63rd Street				
Line Item	Original Contract Period Guaranteed Not-to-Exceed Price (2 Years)	First Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)
174	$4,500.00	$4,680.00	$4,868.00	$5,062.00

All other requirements and provisions of the contract shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it, along with the completed Revised Exhibit E, on or before the date indicated on the cover page of this document.

EXHIBIT E

WATER TREATMENT PROGRAM

Based on the offeror's inspections of the steam and hydronic systems, the offeror's results of the chemistry analysis of the water sample, and the provisions and requirements specified herein, the offeror shall develop and submit a proposed water treatment program for each facility. The offeror must provide the following information and must submit supporting documentation to fully describe and explain the proposed water treatment program. The offeror should copy and complete the following pages for each facility.

The offeror must identify the existing water treatment equipment for each facility. In addition, the offeror must identify the test equipment and supplies that will be provided by the offeror in order to implement the water treatment program, including specific details.

The offeror must identify the chemicals proposed for each water treatment program, as applicable, for each facility. In addition, the offeror must indicate the proposed dosage, in either pounds or gallons, of each chemical within the defined parameters.

1) When used in conjunction with the firm, fixed prices indicated on the Pricing Page, the dosages should validate the guaranteed not-to-exceed annual price proposed for each facility as stated on the Pricing Page.

2) Based on the results of the chemistry analysis of the water samples, the offeror should provide recommendations for corrective action and/or changes to the current operating procedures in order to obtain optimum chemical protection and heat transfer efficiency.

3) The offeror should develop the water treatment program to: (1) prevent corrosion, scale, and microbiological activity in equipment and systems, (2) protect the existing equipment, (3) ensure optimum heat transfer and equipment operating efficiency, and (4) maintain the highest cycle of concentration possible in boiler and cooling tower systems without boiler water carryover, forming scale, or corrosion of the systems.

4) The offeror should submit materials safety data sheets on each chemical proposed. The offeror should use OSHA's current form; however, any other manner or form used for presenting information equivalent to OSHA's current form is acceptable. A product bulletin that does not contain detailed information on hazards, handling instructions, and emergency and emission procedures will be considered inadequate and insufficient if submitted in lieu of a material safety data sheet.

EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Raytown St. Office Building 8800 E 63Rd St. Raytown Mo. 64133		
FUEL OIL SYSTEM TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A	N/A	N/A
Existing Equipment (include make, model, and quantity)		
N/A		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Raytown St. Office Building 8800 E 63Rd St. Raytown Mo. 64133		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
None	N/A	N/A
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Raytown St. Office Building 8800 E 63Rd St. Raytown Mo. 64133		
DEAERATOR/FEEDWATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
None	N/A	N/A
Existing Equipment (include make, model, and quantity)		
None		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Raytown St. Office Building 8800 E 63Rd St. Raytown Mo. 64133		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
None	N/A	N/A
Existing Equipment (include make, model, and quantity)		
None		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Raytown St. Office Building 8800 E 63Rd St. Raytown Mo. 64133		
COOLING TOWER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	1 Gallons	75 Gallons
Verox-8	1.25 Gallons	12.5 Gallons
206	3.75 Gallons	12.5 Gallons
Existing Equipment (include make, model, and quantity)		
(1) Walchem Micro Processor Controller		
(1) LMI Chemical Pump		
(1) Advantage Chemical Pump		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: 8800 E 63Rd St. Raytown Mo. 64133		
CLOSED LOOP HEATING SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
839	100 Gallons	N/A
Existing Equipment (include make, model, and quantity)		
Lochinvar Copper Fin Hot Water Heater		
Model CBN1797		
Serial L14H00272657		
1 Gallon Filter/Pott Feeder		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: 8800 E 63Rd St. Raytown Mo. 64133		
CLOSED LOOP COOLING SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
839	100 Gallons	N/A
Existing Equipment (include make, model, and quantity)		
Carrier HFC-134a 146 Ton Chiller		
Model 30HXCC146R-600		
Serial 0897F55732		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: 8800 E 63Rd St. Raytown Mo. 64133		
DEALKALIZER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
None	N/A	N/A
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: 8800 E 63Rd St. Raytown Mo. 64133		
WASTE WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
None	N/A	N/A
Existing Equipment (include make, model, and quantity)		
None		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: 8800 E 63Rd St. Raytown Mo. 64133		
CONDENSATE SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
None	N/A	N/A
Existing Equipment (include make, model, and quantity)		
None		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: 8800 E 63Rd St. Raytown Mo. 64133		
DOMESTIC WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
None	N/A	N/A
Existing Equipment (include make, model, and quantity)		
None		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

CONTRACT NO.: C314153001
AMENDMENT NO.: 002
REQ NO.: NR300 22006000015
TITLE Water Treatment Service
RAYTOWN ST. OFFICE BUILDING
8800 63RD St. Raytown MO. 64133 *System Name:*

System Name: Cooling Tower

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4322	uS	1200	2200
HARDNESS		ppm/CaCO3	400	600
M-ALK		ppm\CaCO3	400	600
pH		unit	8.8	9.2
POLYMER	0	ppm	4	8

System Name: Closed Loop Cold

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2121	uS	2800	3800
pH	8.29	ppm	0	0.5
M-ALK	N/A	ppm\CaCO3	500	800
NITRITE	0	ppm	900	1000

System Name: Closed Loop Hot

PROCEDURE	*Result:*	*LoLimit:*	*HiLimit:*		
CONDUCTIVITY		1879	uS	2800	3800
pH		8.02	ppm	0	0.5
M-ALK		N/A	ppm\CaCO3	500	800
NITRITE		0	ppm	900	1000

System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)		ppm/CaCO3	N/A	N/A
CHLORIDES		ppm	N/A	N/A
CONDUCTIVITY	644	uS	N/A	N/A
HARDNESS	88	ppm/CaCO3	N/A	N/A
Iron (Fe)		ppm	N/A	N/A
Magnesium(Mg)		ppm/CaCO3	N/A	N/A
M-ALK	64	ppm	N/A	N/A
P-ALK		ppm\CaCO3	N/A	N/A
pH	8.7	unit	N/A	N/A
PHOSPHATE		ppm	N/A	N/A
SILICA(SiO2)		ppm	N/A	N/A
SULFATE(SO4)		ppm	N/A	N/A

530 South 5th St * Quincy IL 62301-4896 * Phone: (217)223-2017 * Fax: (217)223-7734 * Email: sales@walterlouis.com

CONTRACT NO.: C314153001
AMENDMENT NO.: 002
REQ NO.: NR300 22006000015
TITLE Water Treatment Service
RAYTOWN ST. OFFICE BUILDING
8800 63RD St. Raytown MO. 64133

System I.D.: Closed system (Non-Potable Hot and Chilled)

Recommendations:
Closed systems should be chemically treated. There is currently no treatment in the hot or cold loop systems.

The Cold loop should have a filter.

The hot loop has a one gallon sock filter, (No indication a sock was ever used to filter the hot loop)

System I.D.: Cooling Tower
Make-Up Water: 100% Hard Water

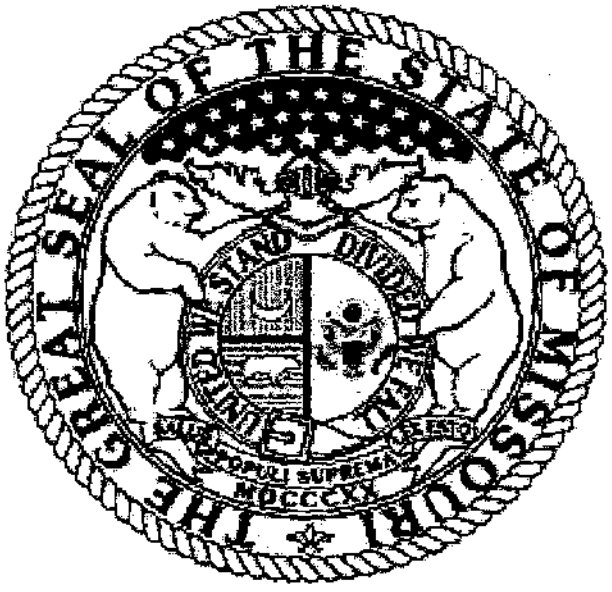
Recommendations:
The water tower should be replaced. The upper part of the tower is corroded on all sides.

The float that controls makeup in the water tower is sunk into the water. The tower is not running however makeup water is trickling into the tower basin and over flowing down the drain. When the tower starts up the makeup line is wide open and water loss will be excessive. This will waste chemical and make it very difficult to treat the tower without drastically over feeding chemical to compensate for the excessive amount of makeup in the system. If the tower is not replaced, the float and valve should be replaced to correct this issue.

The controller currently in place is old technology. I do not know if it is reading properly because the system was not running. There was no flow and the conductivity was not accurately reading on the controller. This could be due to the no flow condition. The controller should be replace to a more reliable and more controllable system. Since this system is on the roof top and will not be seen on a regular basis. Problems could be limited if caught in a timely manner.

There are two pumps currently on site. I was unable to verify their functionality due to the system condition of no flow. The pumps were designated for a particular chemical. One drum is empty. I do not know how long the pump dry pumped due to the empty drum.

It is recommend that the system be maintained with a scale removing corrosion inhibiting treatment. Use WLFT 4707. Alternating Verox-8 and 206 will prevent biological issues. Installing a Dry Contact head water meter is the most efficient way to feed the treatment. Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor should be used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protects metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.



State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing and Materials Management

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Hurt, Molly

From: Woods, Levi
Sent: Wednesday, September 23, 2015 10:25 AM
To: Hurt, Molly
Subject: RE: C314153001 water treatment services amendment

Molly,

Please proceed with the contract amendment. FMDC approves.

From: Hurt, Molly
Sent: Thursday, September 10, 2015 8:04 AM
To: Woods, Levi
Subject: C314153001 water treatment services amendment

Levi please see the attached amendment response and adivse.

Molly (Berkbigler) Hurt

Buyer I
OA, Division of Purchasing
Phone: (573) 751-8900
Email: Molly.Hurt@oa.mo.gov

Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

State of Missouri
OFFICE OF ADMINISTRATION
Division of Purchasing and Materials Management
301 West High Street, Room 630
Post Office Box 809
Jefferson City, Missouri 65102-0809
(573) 751-2387 FAX: (573) 526-9815
TTD: 800-735-2966 Voice: 800-735-2466
http://oa.mo.gov/purchasing-materials-management

Karen S. Boeger
Director

TO: File, C314153001

FROM: Molly Hurt MCH

DATE: 8/4/15

RE: Contract Amendment to Add Building

Contract C314153001 is for Water Treatment Services for the Office of Administration, Division of Facilities Management, Design and Construction. In accordance with the attached email dated 7/31/15, the OA, FMDC has requested the contract be amended to add a building to the above referenced contract pursuant to paragraph 2.1.3 of the contract. The addition of services is due to the state agency acquiring an office building. The building will need water treatment services for the boilers and chillers, located at 8800 E. 63rd Street Raytown, MO and will be effective immediately.

1 CSR 40-1.050 (8) states, "Contracts awarded as the result of a competitive solicitation may be amended when such an amendment is in the best interest of the state and does not significantly alter the original intent or scope of the contract." Since the intent of the contract does not change with the amendment, I am proceeding with the amendment to the contract as requested b the state agency.

Hurt, Molly

From: Woods, Levi
Sent: Friday, July 31, 2015 10:35 AM
To: Hurt, Molly
Cc: Brinkley, Rebecca; Dawson, Stacia L.
Subject: 8800 East 63rd Street Raytown MO contracts

Follow Up Flag: Follow up
Flag Status: Flagged

On July 29, 2015 the Office of Administration Division of Facilities Management, Design, and Construction closed on and took possession of a 77,810 square foot six-story office building located at 8800 East 63rd Street in Raytown, Missouri. Due to the acquisition of this office building FMDC is requesting to amend the following contracts to include services at this new facility:

Elevator inspection and maintenance	MEI	C315025003
Mechanical	Rand	C315048001
Chiller maintenance	Carrier	C315028001
Water treatment services	Walter Louise Fluid Technologies	C314153001
Lawn care/snow removal	Lotus lawn care	C315155001

In contract C315025003 with Minnesota Elevator Inc. paragraph 1.2.2 allows to add additional facilities. The building has two passenger elevators and both are the electric traction type, each with a 2,5001b. load capacity. The motors for each electric traction elevator are located in the penthouse level machine room and are 20hp motors. Both elevators serve the basement level through the sixth floor level. Otis Elevator was the manufacturer of the elevator equipment. As previously noted, the elevator equipment room is located at the southwest corner of the mechanical equipment penthouse.

In contract C315028001 with Carrier Corporation paragraph 2.1.4 allows the addition of units to the contract. The source of cooling for the building is a Carrier-brand chiller also located in the penthouse near the northeast corner. The chiller is a Carrier Model No. 30HXC146R screw-type chiller with a cooling capacity of 145.9 tons. Chilled water from this is used tocirculate through the cold deck cooling coil in the Trane air handling unit located just to the south in the penthouse. The chiller unit uses what appears to be two Carlyle rotary twin-screw type compressors. The nameplate for each is intact but the model number seems to be obsolete and the capacity cannot be determined. These are probably Carlyle remanufactured compressors for the Carrier chiller, an arrangement which is not uncommon. The remanufactured Carlyle compressors can have a life of 15 to 20 years. The date on which these were installed was not apparent though it appears to have probably been in 2007. As of 2015 the usable life remaining for the compressors would still be around 7 to 12 years. There are two chilled water pumps that are piped in parallel and they are located just to the east of the chiller in the penthouse and are driven by 7.5hp, 1,745 rpm Lincoln Electric motors. The chilled water piping is insulated and the condenser water piping is not. Condenser water is pumped through an open Marley NC-Series cooling tower located on the roof off to the northwest of the penthouse. The cooling tower is equipped with one 10hp fan.

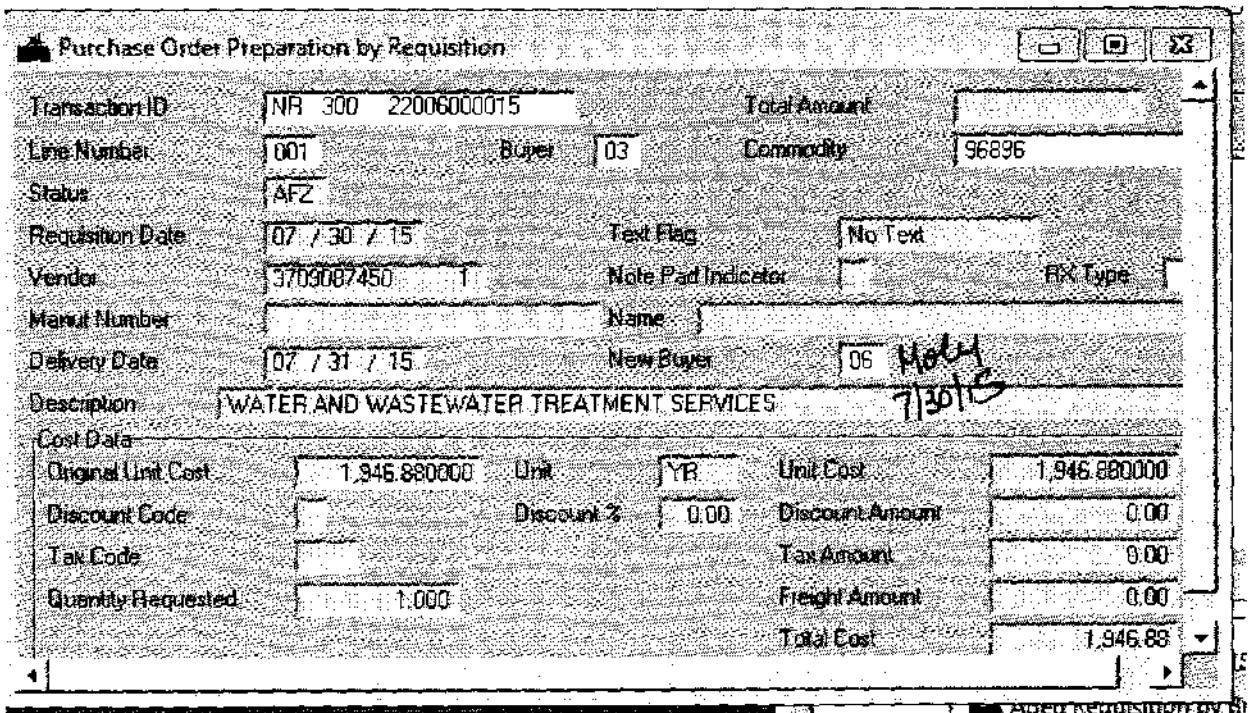
In contract C314153001 with Walter Lewis Fluid Technologies paragraph 2.1.3 allows the addition of facilities. The building will need water treatment for its use in the boilers and chillers.

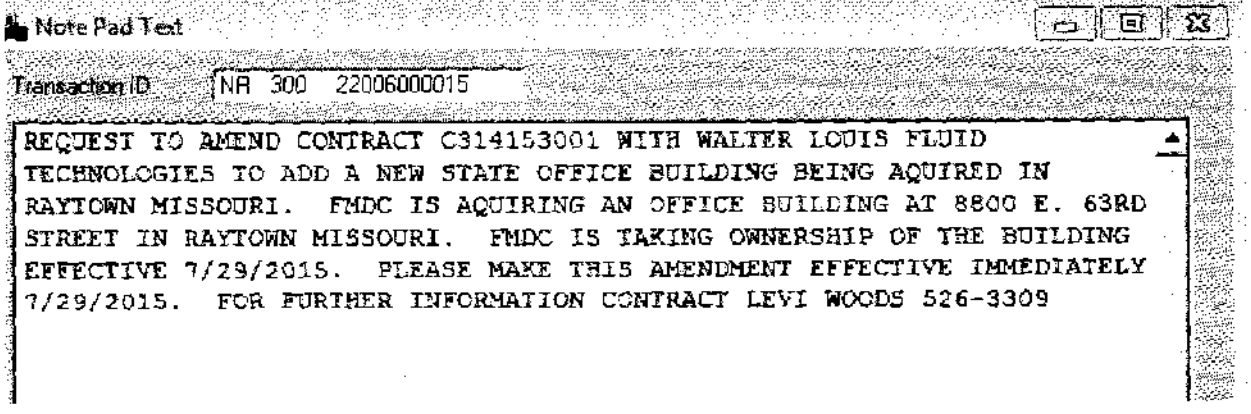
In contract C315048001 with Rand Construction company paragraph 2.1.3 allows the state agency to add one or more units. With the exception of the IT area at the northwest corner of the fifth floor, the building is heated and cooled using a single Trane, walk-in style, dual duct air handling unit equipped with one large supply air fan, a nominal 54-inch Trane Model 82 centrifugal fan powered by a 100hp motor. The supply fan is actually powered using a relatively new looking Eaton-brand VFD, Model No. HVX9000.

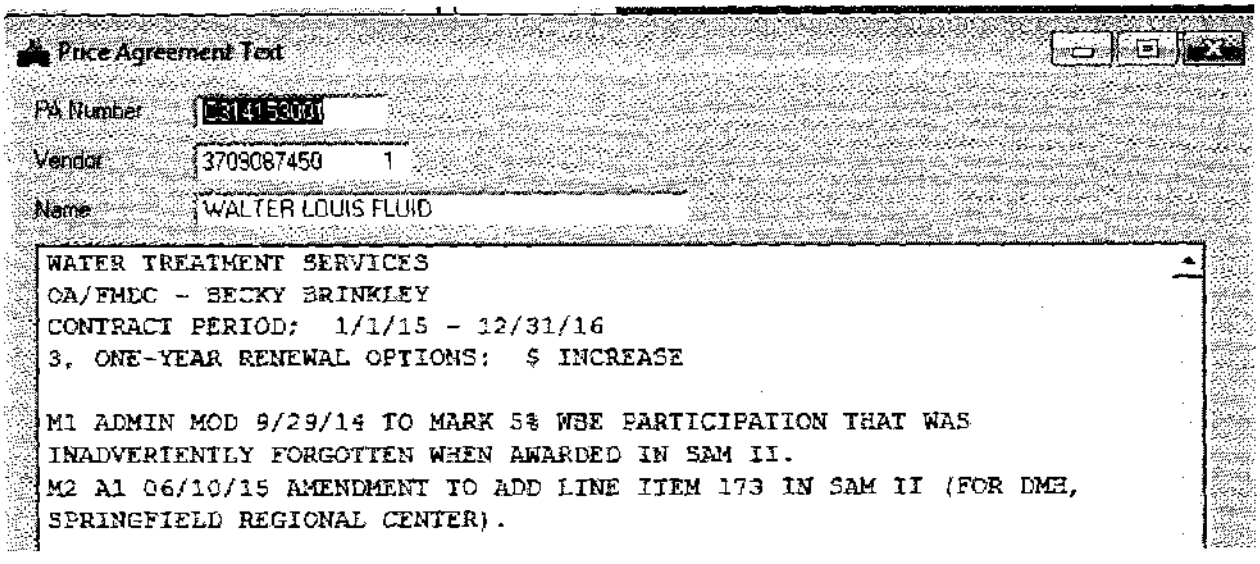
The air handling unit is located in the east end of the penthouse. A dual duct system has been installed which means that hot and cold deck air is simultaneously distributed in separate duct runs down through the building from the penthouse. The source of heat for the building is a new Lochinvar-brand, Model CBN1797 water tube-type heating hot water boiler. The heating coil in the hot deck of the dual duct air handling unit provides heat throughout the building. No preheat coil in the air handling unit was observed. The boiler is a natural gas-fired boiler with an input rating of 1,795,000 Btuh and a heating output capacity of 1,454,000 Btuh. The boiler is advertised as an 81% efficient, non-condensing boiler.

The newly acquired property has grass areas as well as shrubs and trees that will need to be maintained. The property also has a large parking lot that will require snow removal services in the winter months. It is unclear if facilities can be added to contract C315155001, so FMDC will attempt to procure these services though our local spending authority.

Levi Woods
Executive I OA/FMDC
573-526-3309
levi.woods@oa.mo.gov







Molly - would you mind doing this amendment also, since you are doing all of the other amendments & since we don't know who will be taking over Megan's assignments.

Laura

DPMM . CONTRACT AMENDMENT ROUTING GUIDE C_3141530D1 A# 002

8-18

1. Indicate Contract Amendment Type

RENEWAL: _____ PERIOD OF _____ TOTAL

- ____ Renewal - % Increase ____ Cost Savings
- ____ Renewal - $ Increase ____ Cost Savings
- ____ Renewal – W/O Increase
- ____ SFS Renewal – Prices In Original Contract
- ____ SFS Renewal – Prices Not in Original Contract

EXTENSION PERIOD: _____

- ____ Extension – 30-Day
- ____ Termination
- ____ Extension - $ Increase ____ Cost Savings
- ____ Extension – W/O Increase
- ____ Assignment
- ____ Cancellation/Termination
- X Other Amendment

Performance Security Deposit: $_____

Surety Bond: $_____

Annual Wage Order Number: _____

Annual Wage Order Date: _____

County(ies): _____

Other Instructions: _____

		Lead	Date
2.	**Preliminary Tasks/Verifications**		
A.	Section 34.040.6, RSMo	Buyer/Section Support	MCH 8/3
B.	DPMM Suspension List	Buyer/Section Support	MCH 8/3
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	MCH 8/3
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	MCH 8/3
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer	— —
F.	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	— —
3.	**Prepare Contract Amendment**	Buyer/Section Support	MCH 8/3
4.	**Review/Approve Contract Amendment (If Signature Required)**	Buyer	MCH 8/3

Initial	Supervisor	Date	Section Manager	Date	Director	Date
		8/4/15	LO	8/4/15		

5.	**E-Mail/Fax Contract Amendment (If Signature Required)**	Buyer/Section Support	CK	8-5-15
	Contractor E-Mail Address/Fax Number	wgiosing@walterlouis.com		
	State Agency Contact E-Mail Address	Becky Brantley Levi Woods		
	Section 34.040.6, RSMo, Letter	Follow-Up Notes: emailed 2nd notice 8.26.15		
6.	**Review Contract Amendment Response – Verifications**			
A.	Renewal/Extension Pricing	Buyer/Section Support	—	—
B.	Section 34.040.6, RSMo	Buyer/Section Support	—	—
C.	Performance Security Deposit/Surety Bond	Buyer/Section Support	—	—
D.	Renewal/Extension with Cost Savings Language	Buyer	—	—
E.	Statewide Notice	Buyer	—	—
F.	SFS Authorized Limit $	Buyer	—	—
G.	**Contract/Assignment Only Verifications – Complete unless completed at Step 2 above**			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support	—	—
	2. Assignment and Consent Form	Buyer/Section Support	—	—
	3. DPMM Suspension List	Buyer/Section Support	—	—
	4. Federal Suspension – SAM.GOV	Buyer/Section Support	—	—
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	—	—
7.	**Prepare Contract Amendment Award Document/Statewide Notice**	Buyer/Section Support	MCH	9/23/15
8.	**Review/Approve Contract Amendment/Award Document**	Buyer	MCH	9/23/15

Initial	Supervisor	Date	Section Manager	Date	Director	Date
		9/23/15	LO	9/23/15		

9.	**Process Contract Amendment**	Buyer/Section Support	DT	9/30/15
	AM 300 PMM 00069463 M3	Buyer/Section Support	DT	9/30/15
	Distribute E-Verify & SDV Documents	Buyer/Section Support	—	—
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	DT	9/30/15
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support	—	—
10.	**Log Contract and Submit to Imaging**	Central Support-Participation		
11.	**Image Contract Amendment Packet**	Central Support-Imaging		10.20

NOTICE OF CONTRACT AMENDMENT

State Of Missouri
Office Of Administration
Division Of Purchasing And Materials Management
PO Box 809
Jefferson City, MO 65102-0809
http://oa.mo.gov/purchasing-materials-management

B2214103

CONTRACT NUMBER	CONTRACT TITLE
C314153001	Water Treatment Services
AMENDMENT NUMBER Amendment #001	**CONTRACT PERIOD** January 1, 2015 through December 31, 2016
REQUISITION NUMBER NR 300 22005000107	**VENDOR NUMBER** 3709087450 1
CONTRACTOR NAME AND ADDRESS WALTER LOUIS FLUID TECHNOLOGIES 530 S 5TH ST QUINCY IL 62301-4808	**STATE AGENCY'S NAME AND ADDRESS** Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street, Room 730 Jefferson City, MO
ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS: Contract C314153001 is hereby amended pursuant to the attached Amendment #001 dated 05/29/15	
BUYER Megan Howser	**BUYER CONTACT INFORMATION** Email: megan.howser@oa.mo.gov Phone: (573) 781-1686 Fax: (573) 526-9816
SIGNATURE OF BUYER Megan Howser	**DATE** 6/5/15
DIRECTOR OF PURCHASING AND MATERIALS MANAGEMENT Karen S. Boeger	

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING AND MATERIALS MANAGEMENT (DPMM)
CONTRACT AMENDMENT

AMENDMENT NO.: 001
CONTRACT NO.: C314153001
TITLE: Water Treatment Services
ISSUE DATE: 5/7/15

REQ NO.: NR 300 22005000107
BUYER: Megan Howser
PHONE NO.: (573) 751-1686
E-MAIL: megan.howser@oa.mo.gov

TO: Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 52301-4896

RETURN AMENDMENT BY NO LATER THAN: 5/21/15 AT 5:00 PM CENTRAL TIME

RETURN AMENDMENT TO THE DIVISION OF PURCHASING AND MATERIALS MANAGEMENT (DPMM) BY E-MAIL, FAX, OR MAIL/COURIER:

SCAN AND E-MAIL TO:	megan.howser@oa.mo.gov
FAX TO:	(573) 526-9816
MAIL TO:	DPMM, P.O. Box 809, Jefferson City, Mo 65102-0809
COURIER/DELIVER TO:	DPMM, 301 West High Street, Room 630, Jefferson City, Mo 65101-1517

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration, Division of Facilities Management, Design and Construction
301 West High Street
Jefferson City, MO

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO
Walter Louis Fluid Technologies	Walter Louis Chemicals & Associates
MAILING ADDRESS: 530 So. 5th Street	IRS FORM 1099 MAILING ADDRESS: 530 So. 5th Street
CITY, STATE, ZIP CODE: Quincy, IL 62301-4896	CITY, STATE, ZIP CODE: Quincy, IL 62301-4896

CONTACT PERSON	EMAIL ADDRESS	
Walter L. Giesing	wgiesing@walterlouis.com	
PHONE NUMBER: 217-223-2017	FAX NUMBER: 217-223-7734	
TAXPAYER ID NUMBER (TIN): 37-0908745	TAXPAYER ID (TIN) TYPE (CHECK ONE): _X_ FEIN __ SSN	VENDOR NUMBER (IF KNOWN): 3709087450 1
VENDOR TAX FILING TYPE WITH IRS (CHECK ONE): _X_ Corporation __ Individual __ State/Local Government __ Partnership __ Sole Proprietor __ IRS Tax-Exempt		
AUTHORIZED SIGNATURE: Walter L Giesing	DATE: 5/29/2015	
PRINTED NAME: Walter L. Giesing	TITLE: President	

AMENDMENT #001 TO CONTRACT C314153001

CONTRACT TITLE: Water Treatment Services

CONTRACT PERIOD: January 1, 2015 through December 31, 2016

The State of Missouri desires to amend contract C314153001 to add the Department of Mental Health, Springfield Regional Center located at 1515 E. Pythian in Springfield, MO 65802 as an additional "state agency" that will utilize the contractor's services pursuant to the provisions and requirements of the contract. As a result, Attachment #1 is deleted and replaced with the attached Revised Attachment #1.

For services provided for the Department of Mental Health, Springfield Regional Center, the contractor shall submit invoices to the address indicated herein.

Furthermore, the contractor shall develop and submit a proposed water treatment program for the newly added facility in accordance with the attached Revised Exhibit E.

The contractor shall indicate on the pricing table below, the guaranteed not-to-exceed price for the original contract period and the guaranteed not-to-exceed maximum prices for each potential renewal period for performing services in accordance with the terms, conditions, and provisions of the contract.

Water Treatment Services – Springfield Regional Center				
Line Item	Original Contract Period Guaranteed Not-to-Exceed Price (2 Years)	First Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Second Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)	Third Renewal Period Guaranteed Not-to-Exceed Maximum Price (1 Year)
173	- 0 -	- 0 -	- 0 -	- 0 -

All other requirements and provisions of the contract shall remain the same and shall apply hereto.

The contractor shall sign this document as acceptance and return it, along with the completed Revised Exhibit E, on or before the date indicated on the cover page of this document.

REVISED EXHIBIT E

WATER TREATMENT PROGRAM

Based on the contractor's inspections of the steam and hydronic systems, the contractor's results of the chemistry analysis of the water sample, and the provisions and requirements specified in the RFP portion of the contract, the contractor shall develop and submit a proposed water treatment program for any new facilities added to the contract. The contractor must provide the following information and must submit supporting documentation to fully describe and explain the proposed water treatment program. The contractor should copy and complete the following pages for each facility.

The contractor must identify the existing water treatment equipment for each facility. In addition, the contractor must identify the test equipment and supplies that will be provided by the contractor in order to implement the water treatment program, including specific details.

The contractor must identify the chemicals proposed for each water treatment program, as applicable, for each facility. In addition, the contractor must indicate the proposed dosage, in either pounds or gallons, of each chemical within the defined parameters.

1) When used in conjunction with the guaranteed not-to-exceed prices indicated on the pricing table for each facility, the dosages should validate the guaranteed not-to-exceed annual price proposed for each facility.

2) Based on the results of the chemistry analysis of the water samples, the contractor should provide recommendations for corrective action and/or changes to the current operating procedures in order to obtain optimum chemical protection and heat transfer efficiency.

3) The contractor should develop the water treatment program to: (1) prevent corrosion, scale, and microbiological activity in equipment and systems, (2) protect the existing equipment, (3) ensure optimum heat transfer and equipment operating efficiency, and (4) maintain the highest cycle of concentration possible in boiler and cooling tower systems without boiler water carryover, forming scale, or corrosion of the systems.

4) The contractor should submit materials safety data sheets on each chemical proposed. The contractor should use OSHA's current form; however, any other manner or form used for presenting information equivalent to OSHA's current form is acceptable. A product bulletin that does not contain detailed information on hazards, handling instructions, and emergency and emission procedures will be considered inadequate and insufficient if submitted in lieu of a material safety data sheet.

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mental Health – Springfield Regional Office		
FUEL OIL SYSTEM TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility:Mental Health – Springfield Regional Office		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
No Steam Boiler		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mental Health – Springfield Regional Office		
COOLING TOWER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Mental Health – Springfield Regional Office		
CLOSED LOOP HEATING SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839		5 gal. pail
Existing Equipment (include make, model, and quantity)		
500 gal. system volume, very old by-pass feeder, approx. 30 hp hot water boiler.		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mental Health – Springfield Regional Office		
CLOSED LOOP COOLING SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Mental Health – Springfield Regional Office		
DEALKALIZER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mental Health – Springfield Regional Office		
	WASTE WATER SYSTEM	
Chemical	**Dosage** (lbs. or gals.) *per 10,000 Gallons Treated*	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Mental Health – Springfield Regional Office		
	CONDENSATE SYSTEM	
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mental Health – Springfield Regional Office		
DOMESTIC WATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	***Annual Quantity***
N/A		
Existing Equipment (include make, model, and quantity)		
Hard water make-up (210 ppm hardness)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

REVISED EXHIBIT E (continued)

WATER TREATMENT PROGRAM

Facility: Mental Health – Springfield Regional Office		
DEAERATOR/FEEDWATER SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Mental Health – Springfield Regional Office		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
N/A		
Existing Equipment *(include make, model, and quantity)*		
_____ Drumless, Bulk Storage		_____ Conventional Drum

REVISED ATTACHMENT #1

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Kansas City Community Release Center	Eastern Reception Diagnostic and Correctional Center	Northeast Correctional Center	Boonville Correctional Center	Algoa Correctional Center	Hannibal Community Supervision Center
	Address	651 Mulberry Street Kansas City, MO 64101	2727 Highway K Bonne Terre, MO 63628	13698 Airport Road Bowling Green, MO 63334	1216 East Morgan, Boonville, MO 65233	8501 No More Victims Rd Jefferson City, MO 656101	2002 Warren Barrett Dr Hannibal, MO 63401
	Telephone No	816-842-7467	573-358-5038	573-324-9975	660-882-6521	573-751-3911	573-248-2450
Primary Boiler System	**Annual Steam Production (lbs)**	I do not believe this concerns KCCRC KCCRC only has a water softener for domestic hot water Water tube hot water Heater Cooling by 24 A/C units	56,245,000 LBS	573,763 GAl	48,676,693 59 lbs of steam	22909594	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	729,500 GAL	Unknown	485176 gallons of Make- Make	448000	Unknown
	Heating Closed Loop Annual Makeup (gals)	Unknown	3,660 GAl	Unknown	No Meter to measure gals of Make-Up	Unknown	No way of gauging
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Steam Provided from Power Plant	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	604,700 GAL	Unknown	No Meter to measure gals of Make-Up	10 000 gal and 450000	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	1,900 GAL	Unknown	No Meter to measure gals of Make-Up	Unknown	Unknown

REVISED ATTACHMENT #1

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Maryville Treatment Center	South Central Correctional Center	Southeast Correctional Center	Farmington Correctional Center	Tipton Correctional Center	Western Missouri Corrections Center
	Address	30227 Hwy 136 Maryville, MO 64468	255 West Hwy 32 Licking, MO 65542	300 E Pedro Simmons Dr Charleston, MO 63834	1012 W Columbia Farmington Mo 63640	619 N Osage Avenue Tipton, MO 65081	609 East Pence Road Cameron, MO 64429
	Telephone No	660 582-6542	573-674 4470	573-683-4409	573-218-7100	660-433-2031	816 632-1390
Primary Boiler System	**Annual Steam Production (lbs)**	No Steam meter onsite	N/A	N/A	4937630	35mbl	NONE
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	7 Year average 7,715	N/A	N/A	131908	412,570 gal	NONE
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Est 1000 to 1500 Gallons No water meter	623 Gals	14764	35,510 Sept thru June	25	Major heating leaks= 17,000 gal Boiler Prevent Maint =8,000gal (Refill) Total= 25,000 gal
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	10,608,000 lbs	N/A	N/A	N/A	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	Unknown	N/A	N/A	N/A	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	2,729,538 gals	3980533 3	UNKNOWN AT THIS TIME	Unknown	NONE
	Cooling Closed Loop Annual Makeup (gals)	N/A	93 gals	571 44	UNKNOWN AT THIS TIME	25	NONE

REVISED ATTACHMENT #1

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)
	Facility	Women's Eastern Reception Diagnostic *and Correctional* Center	Western Reception *Diagnostic and* Correctional Center	Ozark Correctional Center	Central Missouri Correctional Center	Jefferson City Correctional Center	Fulton Reception & Diagnostic Center
	Address	1101 East Highway 54 Vandalia, MO 63382	3401 Faraon Street St Joseph, Mo 64506	929 Honor Camp Lane Fordland, MO 65652	2600 Highway 179 Jefferson City, MO 65102	8200 No More Victims Road Jefferson City, MO 65101	1393 Route O Fulton, MO 65251
	Telephone No.:	573-594-6686	816-387-2158	417-767-4491	573-751-2053	573-751-3224	573-592-4040
Primary Boiler System	**Annual Steam Production (lbs)**	Two Boilers - Provide steam to laundry and kitchen	Not metered	Unknown	8,585,192 lbs	53,120,714	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	2,000 Gal	1,421,098 Gallon for boiler feed water	1,389,920	124,857 gals	643,967	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	54,000 Gal (Leaks Underground) Repaired	Not metered		15,000 gals	500	10000
Laundry Boiler System	**Annual Steam Production (lbs)**	Minimal Usage	Same boilers above supply this steam	N/A	Zero (Facility Closed)	337973 lbs /yr Based on gas usage	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**		Same boilers above supply this steam	N/A	Zero (Facility Closed)	5000 gals for MVE boiler	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	Yes	Yes	No	No
	Total Cooling Tower Annual Makeup (gals)	Not Metered-Need Meter Installed	Not metered	N/A	N/A	5,005,000	700000
	Cooling Closed Loop Annual Makeup (gals)	51,000 Gal (Leaks Underground) Repaired	Not metered	N/A	N/A	1,200	100

REVISED ATTACHMENT #1

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	DOC MVE
	Facility	St Louis Community Release Center	Kennett Community Supervision Center	Poplar Bluff Community Supervision Center	Chillicothe Correctional Center-New	Moberly Correctional Center	MVE Complex
	Address	1621 North 1st Street Saint Louis, MO 63102	875 County Highway V V Kennett 63857	1441 Black River Industrial Park Road Poplar Bluff, MO 63901	3151 Litton Road Chillicothe, MO 64601	5201 South Morley Street Moberly, MO 65270	1717 Industrial Drive Jefferson City, MO 65109
	Telephone No	314-877-0300	573-888-4900	576-840-9555	660-646-4032	660-263-3778 Ext 1205	573 526-2893
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	New Facility - No Past Data	New Facility - No Past Data	N/A	N/A	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	NA
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	15 gals	N/A	N/A	Unknown	182,500	We have No meter on system but we do use about 30 gallons of 839 closed loop system treatment
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	12,420,000	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	900,000	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	Yes	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	Unknown	65,500	We have No meter on the system but we do use about 10 to 15 gallongs 4707 cooling tower treatment system
	Cooling Closed Loop Annual Makeup (gals)	15 gals	N/A	N/A	Unknown	8,000	We have No meter on the system but we do use about 5 to 10 gallongs 839 closed loop system treatment

REVISED ATTACHMENT #1

DEPARTMENT OF CORRECTIONS FACILITIES							
	Department	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	Corrections (DOC)	
	Facility	Farmington Community Supervision Center	Crossroads Correctional Center	Missouri Eastern Correctional Center	Potosi Correctional Center	St Joseph Community Supervision Center	
	Address	1430 Doubet Road Farmington, MO 63640	1115 E Pence Rd Cameron, MO 64429	18701 Old Hwy 66 Pacific, MO 63069	11593 State Highway O Mineral Point, MO 63660	3305 Faraon St St Joseph, Mo 64506	
	Telephone No	573-218-7100, ext 428 (Rick Alvers at Farmington Correctional Center)	816-632-2727 ext1370 (Brett Adkinson at Crossroads Correctional Center)	636-257-3322 ext 1205 (Ed Moody at Potosi Correctional Center	573-438-6000, ext 1308 (Steve Helms at Potosi Correctional Center)	816-271-3131 ext 257	
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	N/A	
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	N/A	N/A	
	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	Unknown	N/A	N/A	
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	Yes	No	No	No	
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	2,250,000 gallons	N/A	
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	

REVISED ATTACHMENT #1

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Blind	Missouri School for the Deaf-Wheeler	Missouri School for the Deaf Tate	Missouri School for the Deaf-Kerr	Missouri School for the Deaf-Stark	Missouri School for the Deaf-Vocational
	Address	3815 Magnolia St Louis, MO	505 E 5th Street Fulton, Mo 65251	505 E 5th Street Fulton, Mo 65251	505 E 5th Street Fulton, Mo 65251	505 E 5th Street Fulton, Mo 65251	505 E 5th Street Fulton, Mo 65251
	Telephone No	314-776-4320, x125	573-592-2520	573-592-2520	573-592-2520	573-592-2520	573-592-2520
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Chilled water closed loop	Chilled water closed loop	chilled water closed loop	2 Steam to water heat closed loops
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	650 Gals	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	813, 937 and 800 gal est reported	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Missouri School for the Deaf-Rice	B W Robinson State School	Boonslick State School	Gateway/Hubert Wheeler State School	Delmar Cobble State School	Lakeview Woods State School
	Address	505 E 5th Street Fulton, Mo 65251	300 Lanning Lane Rolla, MO	321 Knaust Road St Peters, MO	100 South Garrison St Louis, MO	108 West Craig St Columbia, MO	351 NE Gregory Lee's Summit, MO
	Telephone No	573-592-2520	636-931-0080 (KH's)	636-931-0080 (KH's)	636-931-0080 (KH's)	660-530-5575 (NK's)	660-530-5575 (NK's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Water Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown ,No meter	Unknown, No meter	Unknown ,No meter	Unknown, No meter	Unknown, No meter

REVISED ATTACHMENT #1

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE	DESE	DESE	DESE
	Facility	Maple Valley State School	Verelle Peniston State School	Rolling Meadows State School	Prairie View State School	Greene Valley State School	Cedar Ridge State School
	Address	2575 NE Barry Rd Kansas City, MO	1530 Clay Street Chillicothe, MO	1101 West 29th St Higginsville, MO	945 North Miami Marshall, MO	1601 East Pythian Springfield, MO	901 North Olive St Nevada, MO
	Telephone No	660 530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	660-530-5575 (NK's)	417-895-6848 (FC's)	417 895 6848 (FC's)
Primary Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	Unknown	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown	No meter
Laundry Boiler System	**Annual Steam Production (lbs)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
	Cooling Closed Loop Annual Makeup (gals)	Unknown, No meter	Unknown, No meter	Unknown, No meter	Unknown, No meter	No meter	No meter

REVISED ATTACHMENT #1

DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES							
	Department	DESE	DESE	DESE			
	Facility	Oakview State School	Shady Grove State School	Trails West State School (Dale M Thompson)			
	Address	200 Linden St Monett, MO	2400 High Street Poplar Bluff, MO	4800 Grandview Road Kansas City, MO			
	Telephone No	417-895-6848 (FC's)	417-895-6848 (FC's)	660-287-0099 (NK's)			
Primary Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	N/A			
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	N/A			
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	No meter	No meter	No meter			
Laundry Boiler System	Annual Steam Production (lbs)	Unknown	Unknown	N/A			
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	Unknown	Unknown	No meter			
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No			
	Total Cooling Tower Annual Makeup (gals)	Unknown	Unknown	No meter			
	Cooling Closed Loop Annual Makeup (gals)	No meter	No meter	No meter			

REVISED ATTACHMENT #1

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	MO Sexual Ofender Treatment Center	Metropolitan St Louis Psych Center	Albany Regional Center	Sikeston Regional Office	Fulton State Hospital	Marshall Hab Center
	Address	1016 West Columbia Farmington, MO 63640	5351 Delmar St Louis, MO 63112	809 North 13th Street Albany, MO 64402	112 Plaza Drive, Box 966 Sikeston, MO 63801	600 East 5th Street Fulton, MO 65251	700 East Slater Marshall, MO 65340
	Telephone No	573 218-6016	314 877-0707	660 726-1531	573 472-6538	573-592-3482	660 831-3029
Primary Boiler System	Annual Steam Production (lbs)	Recieve steam from FCC		N/A	Unknown	140,204,000	Unknown
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	Unknown	N/A	Unknown	4,229,000	131,000 gal
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	5 gallons annual Blair 5 gallons Hoctor	500 GALLONS	10 gallon	New system	N/A	Not metered
Laundry Boiler System	Annual Steam Production (lbs)	N/A	Unknown	N/A	Unknown	NA	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/a	Unknown	N/A	Unknown	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	921,500 GALLONS	N/A	Unknown	unable to estimate No gauges avail	No cooling towers
	Cooling Closed Loop Annual Makeup (gals)	3 gallons Blair 5 gallons Hoctor	500 GALLONS	10Gallons	New System	unable to estimate No gauges avail	Not metered

REVISED ATTACHMENT #1

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Nevada Habilitation Center	Bellefontaine Habilitation Center	Higginsville Habilitation Center	Northwestern Missouri Psych Rehab Center	St Louis Psych Rehab Center	Southeast MO Mental Health Center
	Address	2323 North Ash Nevada, MO 64772	10695 Bellefontaine Road St Louis, MO 63137	West 1st Street Higginsville, MO 64037	3505 Frederick Avenue St Joseph, MO 64506	5300 Arsenal St Louis, MO 63139	1010 West Columbia St Farmington, MO
	Telephone No.	417 448-1145	314 340-6235	660 584-4834	816 512-7111	314-877-5880	573 218-6854
Primary Boiler System	**Annual Steam Production (lbs)**	15,330,000 lbs/year	71,700,000 lbs/year	22,995,000 lbs/year, assuming 50% load and 6 months of operation	N/A	14,000,000 lbs/year	N/A
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	1,460,000 gal	15% or 10,755,000 lbs/year	15% = 3,500,000 lbs/year	N/A	2,100,000 gal/year	N/A
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	Not metered	Did not meter (420 hp of water boilers)	Did not meter (300hp of water boilers)	1,500 gal/year	Staples Bldg 4800 gal per year
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	6,132,000 lbs/year	N/A	Unknown	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	15% = 919,800 lbs/year	N/A	Unknown	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	60,000 gal	5,000 gpd or 1,825,000 gal/year	N/A	292,000 gal/year	2000000 gal/year	Staples Bldg 85,000 gal/Forensics 28,000 gal
	Cooling Closed Loop Annual Makeup (gals)	none if No leaks	N/A	Did not meter (630 tons)	N/A	Unknown	Staples Bldg 2,400 gal

REVISED ATTACHMENT #1

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health	Mental Health
	Facility	Northwest Habilitation Center	South County Habilitation Center	St Charles Habilitation Center	Joplin Regional Center	Hawthorn Children Psychiatric Hospital	Center for Behavioral Medicine
	Address	#11 Brady Circle Overland, MO 63114	2312 Lemay Ferry Road St Louis, MO 63125	22 Marr Lane St Charles, MO 63303	3600 E Newman Rd Joplin, MO 64802	1901 Pennsylvania Ave St Louis, MO	1000 East 24th Street Kansas City, MO 64108
	Telephone No.:	314-541-9110	314-541-9110	314-541-9110	660 831-3029	314 512 7564	(816) 512-7109
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	Unknown	N/A	N/A
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	Unknown	N/A	N/A
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unkknown	Unknown/Automatic	Approx 1,000 gal
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
	Steam Boiler System Annual Makeup (gals)	NA	NA	NA	N/A	NA	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	NO	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	125,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	N/A	Approx 1,000 gal

REVISED ATTACHMENT #1

DEPARTMENT OF MENTAL HEALTH FACILITIES							
	Department	Mental Health	Mental Health	Mental Health	Mental Health		
	Facility	Peery Apartments	New Prospects	Kansas City Regional Office	Springfield Regional Office		
	Address	2659 Peery Avenue Kansas City, MO 64127	2600 East 12th Street Kansas City, MO 64127	821 East Admiral Blvd Kansas City, MO	1515 E Pythian Springfield, MO		
	Telephone No	(816) 512-7109	(816) 512-7109	(816) 512-7109	(417) 895-7400		
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A		
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A		
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	Estimated 500 gal	Estimated 500 Gallons	Estimated 500 gal	Estimated 500 gal		
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A		
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A		
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No		
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A		
	Cooling Closed Loop Annual Makeup (gals)	2 pipe syst Shared w/ heating syst	N/A	N/A	2 pipe syst Shared w/ heating syst		

REVISED ATTACHMENT #1

FACILITIES OPERATIONS FACILITIES							
	Department	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings	Facilities Operations State Owned Buildings
	Facility	Fletcher Daniels State Office Building	St Joseph State Office Building	Kansas City DOLIR State Office Building	St Joseph Career Center	Wainwright State Office Bldg	Prince Hall State Office Building
	Address	615 E 13th Street Kansas City, MO	525 Jules *Kansas City, MO*	1410 Gnesee Kansas City, MO	301 South 7th Street St Joseph, MO	111 N Seventh St Louis, MO	4411 N Newstead St Louis, MO
	Telephone No	816-889-2076	816-889-2076	816-387-2270	816 387 2270	314 340-6801	314-877-2007
Primary Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	29,000
Primary Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	1,046,000
Primary Boiler System	**Heating Closed Loop Annual Makeup (gals)**	N/A	N/A	N/A	Unknown	Unknown	4,800
Laundry Boiler System	**Annual Steam Production (lbs)**	N/A	N/A	N/A	N/A	N/A	N/A
Laundry Boiler System	**Steam Boiler System Annual Makeup (gals)**	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	**Yes/No**	no	no	no	no	No	NO
	Total Cooling Tower Annual Makeup (gals)	2463	Unknown	N/A	N/A	Unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	N/A	N/A	Unknown	6,000

REVISED ATTACHMENT #1

MISSOURI STATE HIGHWAY PATROL							
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol
	Facility	General Headquarters - Jefferson City	General Headquarters - ANNEX	General Headquarters - ACADEMY	TROOP A Lee's Summit	TROOP B - Macon	MO STATE HIGHWAY PATROL SPRINGFIELD CRIME LABORATORY
	Address	1510 EAST ELM ST	1510 EAST ELM ST	1510 EAST ELM ST	504 S E BLUE PARKWAY LEE'S SUMMIT MO 64063	308 PINE CREST DRIVE MACON MO 63552	425 EAST PHELPS ST SPRINGFIELD MO 65806
	Telephone No.	526 6286	526-6286	526-6286	816 622-0800	660 385-2132	417-868-9400
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
	Heating Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	N/A
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	Unknown	N/A	N/A	N/A
	Cooling Closed Loop Annual Makeup (gals)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

REVISED ATTACHMENT #1

MISSOURI STATE HIGHWAY PATROL								
	Department	Missouri State Highway Patrol	Missouri State Highway Patrol	Missouri State Highway Patrol				
	Facility	TROOP F - Jefferson City	TROOP I - Rolla	TROOP C Service Center Park Hills				
	Address	P O BOX 568 2920 NORTH SHAMROCK RD, JEFFERSON CITY, MO 65102	P O BOX 128 NAGOGAMI RD WEST, ROLLA MO 65402	P O Box 612 5268 Flat River R D Park Hills Mo 63601				
	Telephone No	573-751-1000	573-368-2345	573-431-0176				
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
	Heating Closed Loop Annual Makeup (gals)	N/A	Unknown	Unknown				
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A				
	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A				
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No				
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A				
	Cooling Closed Loop Annual Makeup (gals)	Unknown	N/A	Unknown				

REVISED ATTACHMENT #1

DSS-YOUTH SERVICES								
	Department	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	Division of Social Services - Youth Services	
	Facility	Fulton Treatment Center	Montgomery City Youth Center	W E Sears Youth Center	Hogan Street Youth Center	Riverbed Treatment Center	Mt Vernon Treatment Center	
	Address	1650 Highway O P O box 847 Fulton, MO 63251-0847	300 Niedergerke Drive Montgomergy City, MO 63361-2616	9400 Sears Lane Poplar Bluff, MO 63901-9716	1839 Hogan Street St Louis, MO 63106-3098	5910 Mitchell Avenue St Joseph, MO 64507-7762	500 State Drive Mt Vernon, MO 65712	
	Telephone No						417-466-0292	
Primary Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	Unknown	
Laundry Boiler System	Annual Steam Production (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
Lagoon Requiring Wasber Water Treatment Chemicals	Yes/No	No	No	No	No	No	NO	
	Total Cooling Tower Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	
	Cooling Closed Loop Annual Makeup (gals)	N/A	N/A	N/A	N/A	N/A	N/A	

C314153001

REVISED ATTACHMENT #1

MISSOURI VETERANS HOMES								
	Department	Missouri Veterans Commission - DPS	Missouri Veterans Commission - DPS	Missouri Veterans Commission - DPS	Missouri Veterans Commission - DPS	Missouri Veterans Commission - DPS	Missouri Veterans Commission - DPS	Missouri Veterans Commission - DPS
	Facility	MVH Cameron	MVH - Cape Girardeau	MVH - Mexico	MVH - Mt Vernon	MVH - St James	MVH - Warrensburg	MVH - St Louis
	Address	1111 Euclid Cameron, MO 64429	2400 Veterans Memorial Dr Cape Girardeau, MO 63701	# 1 Veterans Drive Mexico, MO 65265	1600 S Hickory Mt Vernon, MO 65712	620 N Jefferson St James, MO 65559	1300 Veterans Road Warrensburg, MO 64093	4411 N Newstead St Louis, MO
	Telephone No	816-632-6010	573 290 5870	573-581-1088	417-466-7103	573 265 3271	660-543 5075	314-877-2007
Primary Boiler System	Annual Steam Production (lbs)	n / a	n / a	n / a	n / a	n / a	n / a	29,000
Primary Boiler System	Steam Boiler System Annual Makeup (gals)	n / a	n / a	n / a	n / a	n / a	n / a	1,046,000
Primary Boiler System	Heating Closed Loop Annual Makeup (gals)	unknown	approx 3,000 gals of make-up annually	1200	unknown	unknown	unknown	4,800
Laundry Boiler System	Annual Steam Productron (lbs)	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Laundry Boiler System	Steam Boiler System Annual Makeup (gals)	n / a	n / a	n / a	n / a	n / a	n / a	N/A
Lagoon Requiring Waster Water Treatment Chemicals	Yes/No	No	No	No	No	No	No	NO
	Total Cooling Tower Annual Makeup (gals)	unknown	approx 993,000 gals make-up annually	16000	unknown	unknown	unknown	40,000
	Cooling Closed Loop Annual Makeup (gals)	unknown	approx 3,000 gals of make-up annually	1200	unknown	unknown	unknown	6,000

State of Missouri

OFFICE OF ADMINISTRATION

Division of Purchasing and Materials Management

Contract Amendment Documentation

The following documentation consists of additional contract amendment documentation. The additional contract amendment documentation is not a part of the official contract amendment, but provides supporting information for the official contract amendment.

Howser, Megan

From: Woods, Levi
Sent: Wednesday, June 03, 2015 8 52 AM
To: Howser, Megan
Subject: FW C314153001 - 001 Amend doc

Megan,

FMDC approves of the proposal for amendment 1 submitted by Walter Lewis. Please proceed.

From: Brand, Larry
Sent: Wednesday, June 03, 2015 8:33 AM
To: Woods, Levi
Subject: RE: C314153001 - 001 Amend.doc

You were correct, it is the Springfield Regional Office we needed added Everything looks good.

Thanks
Larry

From: Woods, Levi
Sent: Wednesday, June 03, 2015 8:05 AM
To: Brand, Larry
Subject: FW: C314153001 - 001 Amend.doc

Larry,

Attached is the contract amendment to add the Springfield Regional Center to the Walter Lewis contract. Please review and let me know if you approve

From: Howser, Megan
Sent: Wednesday, June 03, 2015 7:48 AM
To: Woods, Levi
Subject: FW: C314153001 - 001 Amend.doc

Levi,

Please review and advise how FMDC would like DPMM to proceed. Thanks

Megan Howser
State of Missouri, Office of Administration
Division of Purchasing and Materials Management
301 W. High Street
Jefferson City, MO 65101
phone: 573-751-1686
fax: 573-526-9816
megan.howser@oa.mo.gov

From: Christy Emerick [mailto:christy@walterlouis.com]
Sent: Monday, June 01, 2015 4:03 PM
To: Howser, Megan; Temmen, Donna
Cc: Roger; 'Walt Giesing'
Subject: C314153001 - 001 Amend.doc

So sorry for the delay in getting this back to you.

Christy Emerick
Director of Administration

Walter Louis
FLUID TECHNOLOGIES

WALTER LOUIS FLUID TECHNOLOGIES
530 South 5th Street
Quincy, IL 62301-4896
Office: 217-223-2019
Fax 217-223-7734
www.walterlouis.com

Creating Total Water Solutions Since 1968

Memorandum

To: File

From: Megan Howser, Buyer

Date: 5/7/15

Re: Adding DMH – Springfield Regional Center to contract C314153001

Contract C314153001 for Water Treatment Services exists for the Office of Administration, Division of Facilities Management, Design and Construction and services many state agency facilities located throughout the state.

The Office of Administration, Division of Facilities Management, Design and Construction has requested an amendment to the contract to add the Department of Mental Health – Springfield Regional Center facility that was inadvertently omitted from the RFP when these services were bid.

According to RSMo 34.046, ". .The commissioner of administration may also participate in, sponsor, conduct or administer a cooperative purchasing agreement whereby supplies are procured in accordance with a contract established by another governmental entity provided that such contract was established in accordance with the laws and regulations applicable to the establishing governmental entity."

Additionally, paragraph 2.1.3 of the contract allows for the addition of facilities to the contract.

For the above reasons, I am proceeding to amend contract C314153001 for the Office of Administration, Division of Facilities Management, Design and Construction to add the Department of Mental Health – Springfield Regional Center.

DPMM CONTRACT AMENDMENT ROUTING GUIDE C 314153001 A# 001

MR 300 22005000107 5/21

1. Indicate Contract Amendment Type	
RENEWAL: ______ PERIOD OF ______ TOTAL	
___ Renewal - % Increase ___ Cost Savings	Performance Security Deposit: $ ______
___ Renewal - $ Increase ___ Cost Savings	
___ Renewal – W/O Increase	Surety Bond: $ ______
___ SFS Renewal – Prices In Original Contract	
___ SFS Renewal – Prices Not in Original Contract	Annual Wage Order Number: ______
	Annual Wage Order Date: ______
EXTENSION PERIOD: ______	County(ies): ______
Extension – 30-Day	
Termination	
___ Extension - $ Increase ___ Cost Savings	Other Instructions: ______
___ Extension – W/O Increase	
___ Assignment	
___ Cancellation/Termination	
✓ Other Amendment	

	Tasks	Role	Initial	Date
2.	Preliminary Tasks/Verifications			
A.	Section 34 040.6, RSMo	Buyer/Section Support	MH	5/5/15
B.	DPMM Suspension List	Buyer/Section Support	MH	5/5/15
C.	Federal Suspension – SAM.GOV	Buyer/Section Support	MH	5/5/15
D.	Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support	MH	5/5/15
E.	Review of Participation Commitment Attainment – If app, Verify Receipt of 1st Renewal – Blind/Shel Wkshp Affdvt	Buyer	MH	5/5/15
F	SFS Review/Justification – Insert Advertising Date, if applicable	Buyer	—	
3.	Prepare Contract Amendment	Buyer/Section Support	MH	5/5/15
4.	Review/Approve Contract Amendment (If Signature Required)	Buyer	MH	5/5/15
	Initial / Date: Supervisor JC 5.6.15; Section Manager LO 5/6/15; Asst Director		Director	
5.	E-Mail/Fax Contract Amendment (If Signature Required)	Buyer/Section Support	CO	5/6
	Contractor E-Mail Address/Fax Number	christy@walterlouis.com wgiesing@walterlouis.com		
	State Agency Contact E-Mail Address	Becky Brinkley		
	Section 34.040 6, RSMo, Letter	Follow-Up Notes: emailed 2nd notice on 5/26/15		
6.	Review Contract Amendment Response – Verifications			
A	Renewal/Extension Pricing	Buyer/Section Support		
B.	Section 34 040.6, RSMo	Buyer/Section Support		
C	Performance Security Deposit/Surety Bond	Buyer/Section Support		
D.	Renewal/Extension with Cost Savings Language	Buyer		
E.	Statewide Notice	Buyer		
F	SFS Authorized Limit $	Buyer		
G.	Contract Assignment Only Verifications – Complete unless completed in Step 2 above.			
	1. E-Verify Exhibit/Affidavit/Documentation	Buyer/Section Support		
	2. Assignment and Consent Form	Buyer/Section Support		
	3 DPMM Suspension List	Buyer/Section Support		
	4. Federal Suspension – SAM.GOV	Buyer/Section Support		
	5. Labor Stds – OA/FMDC Contractor Debarment Lists	Buyer/Section Support		
7.	Prepare Contract Amendment Award Document/Statewide Notice	Buyer/Section Support	DT	6/4/15
8.	Review/Approve Contract Amendment Award Document	Buyer	MH	6/5/15
	Initial / Date: Supervisor JC 6/9/15; Section Manager LO 6/9/15; Asst Director		Director	
9.	Process Contract Amendment	Buyer/Section Support	DT	6-10-15
	AM 300 PMM 00068339 m2	Buyer/Section Support	DT	6-10-15
	Distribute E-Verify & SDV Documents	Buyer/Section Support	—	—
	E-Mail/Fax NOA to Contractor/Assignee & Agency Contact	Buyer/Section Support	DT	6-10-15
	Copy/Save As Statewide Notice to Internet Folder	Buyer/Section Support	—	—
10.	Log Participation Commitment Information	Central Support-Participation	—	—
11.	Image Contract Amendment Packet	Central Support-Imaging	[illegible]	6-23

Revised May 22, 2013

NOTICE OF AWARD

State Of Missouri
Office Of Administration
Division Of Purchasing And Materials Management
PO Box 809
Jefferson City, MO 65102-0809
http://content.oa.mo.gov/purchasing-materials-management

SOLICITATION NUMBER	CONTRACT TITLE
B3Z14153	Water Treatment Services
CONTRACT NUMBER	**CONTRACT PERIOD**
C314153001	January 1, 2015 through December 31, 2016
REQUISITION NUMBER	**VENDOR NUMBER**
NR 300 22004000035	3709087450 1
CONTRACTOR NAME AND ADDRESS	**STATE AGENCY'S NAME AND ADDRESS**
Walter Louis Fluid Technologies 530 South 5th Street Quincy, IL 62301-4896	Office of Administration, Division of Facilities Management, Design and Construction 301 West High Street, Room 730 Jefferson City, MO

ACCEPTED BY THE STATE OF MISSOURI AS FOLLOWS:

The proposal submitted by Walter Louis Fluid Technologies in response to B3Z14153 is accepted in its entirety, with the inclusion of signed Amendment #1.

BUYER	BUYER CONTACT INFORMATION
Kyle Wilde	Email: kyle.wilde@oa.mo.gov Phone: (573) 751-4148 Fax: (573) 526-9816
SIGNATURE OF BUYER	**DATE**
Kyle Wilde	9/23/2014

DIRECTOR OF PURCHASING AND MATERIALS MANAGEMENT

Karen S. Boeger

STATE OF MISSOURI
OFFICE OF ADMINISTRATION
DIVISION OF PURCHASING AND MATERIALS MANAGEMENT (DPMM)
REQUEST FOR PROPOSAL (RFP)

RFP NO.: B3Z14153
TITLE: Water Treatment Services
ISSUE DATE: April 29, 2014

REQ NO.: NR 300 22004000035
BUYER: Kyle Wilde
PHONE NO.: (573) 751-4148
E-MAIL: kyle.wilde@oa.mo.gov

RETURN PROPOSAL NO LATER THAN: Tuesday July 15, 2014 AT 2:00 PM CENTRAL TIME

MAILING INSTRUCTIONS: Print or type **RFP Number** and **Return Due Date** on the lower left hand corner of the envelope or package. Delivered sealed proposals must be in DPMM office (301 W High Street, Room 630) by the return date and time.

	(U.S. Mail)		(Courier Service)
RETURN PROPOSAL TO:	DPMM	or	DPMM
	PO BOX 809		301 WEST HIGH STREET, RM 630
	JEFFERSON CITY MO 65102-0809		JEFFERSON CITY MO 65101-1517

CONTRACT PERIOD: Effective Date of Contract through Two (2) Years

DELIVER SUPPLIES/SERVICES FOB (Free On Board) DESTINATION TO THE FOLLOWING ADDRESS:

Office of Administration Division of Facilities Management, Design and Construction Various Locations throughout the State of Missouri	Missouri Veterans Commission, Department of Corrections, and Various FMDC Managed Facilities throughout the State of Missouri

WLFT hereby declares understanding, agreement and certification of compliance to provide the items and/or services, at the prices quoted, in accordance with all requirements and specifications contained herein and the *Terms and Conditions Request for Proposal (Revised 12/27/12). WLFT further agrees that the language of this RFP shall govern in the event of a conflict with his/her proposal.* WLFT further agrees that upon receipt of an authorized purchase order from the Division of Purchasing and Materials Management or when a Notice of Award is signed and issued by an authorized official of the State of Missouri, a binding contract shall exist between WLFT and the State of Missouri.

SIGNATURE REQUIRED

DOING BUSINESS AS (DBA) NAME	LEGAL NAME OF ENTITY/INDIVIDUAL FILED WITH IRS FOR THIS TAX ID NO.
Walter Louis Fluid Technologies	Walter Louis Chemicals & Associates
MAILING ADDRESS	IRS FORM 1099 MAILING ADDRESS
530 So. 5th Street	530 So. 5th Street
CITY, STATE, ZIP CODE	CITY, STATE, ZIP CODE
Quincy, IL 62301-4896	Quincy, IL 62301-4896

CONTACT PERSON		EMAIL ADDRESS
Walter L. Giesing		wgiesing@walterlouis.com
PHONE NUMBER		FAX NUMBER
217-223-2017		217-223-7734
TAXPAYER ID NUMBER (TIN)	TAXPAYER ID (TIN) TYPE (CHECK ONE)	VENDOR NUMBER (IF KNOWN)
37-0908745	_X_ FEIN ___ SSN	370908745O1

VENDOR TAX FILING TYPE WITH IRS (CHECK ONE)

_X_ Corporation ___ Individual ___ State/Local Government ___ Partnership ___ Sole Proprietor ___ IRS Tax-Exempt

AUTHORIZED SIGNATURE	DATE
Walter L. Giesing	7/11/2014
PRINTED NAME	TITLE
Walter L. Giesing	President

1. INTRODUCTION AND GENERAL INFORMATION

1.1 Introduction:

1.1.1 This document constitutes a request for competitive, sealed proposals for the provision of water treatment services as set forth herein.

1.1.2 Organization - This document, referred to as a Request for Proposal (RFP), is divided into the following parts:

1) Introduction and General Information
2) Contractual Requirements
3) Proposal Submission Information
4) Pricing Page(s)
5) Exhibits A - K
6) Terms and Conditions
7) Attachments 1-4: WLFT is advised that attachments exist to this document which provide additional information and instruction. These attachments are separate links that must be downloaded from the Division of Purchasing and Materials Management's Internet web site at: https://www.moolb.mo.gov. It shall be the sole responsibility of WLFT to obtain each of the attachments. WLFT shall not be relieved of any responsibility for performance under the contract due to the failure of WLFT to obtain a copy of the attachments.

1.2 Pre-Proposal Conference - A pre-proposal conference regarding this Request for Proposal will be held on Monday, May 12, 2014 at 1:30 p.m. in Room 850 of the Harry S Truman Building, 301 West High Street, Jefferson City, Missouri.

1.2.1 Pre-Proposal Conference Agenda - WLFT did bring a copy of the RFP since it will be used as the agenda for the pre-proposal conference.

1.2.2 Pre-Proposal Conference RFP Questions – WLFT did attend the Pre-Proposal Conference as it will be used as the forum for questions, communications, and discussions regarding the RFP. WLFT should become familiar with the RFP and develop all questions prior to the conference in order to ask questions and otherwise participate in the public communications regarding the RFP.

a. Prior Communication – Prior to the Pre-Proposal Conference, WLFT may submit written communications and/or questions regarding the RFP to the buyer identified on page one. Such prior communication will provide the State of Missouri with insight into areas of the RFP which may be brought up for discussion during the conference and which may require clarification.

b. During the Pre-Proposal Conference, it shall be the sole responsibility of WLFT to orally address all issues previously presented to the buyer by WLFT , including any questions regarding the RFP or areas of the RFP requiring clarification.

c. Amendment to the RFP - Any changes needed to the RFP as a result of discussions from the Pre-Proposal Conference will be accomplished as an amendment to the RFP. Neither formal minutes of the conference nor written records of the questions/communications will be maintained.

1.2.3 Pre-Proposal Conference Special Accommodations - WLFTs are strongly encouraged to advise the Division of Purchasing and Materials Management within five (5) working days of the scheduled pre-proposal conference of any special accommodations needed for disabled personnel who will be attending the conference so that these accommodations can be made.

1.3 Requirements for Submitting Proposals:

1.3.1 Prior to submitting a proposal in response to the RFP for the provision of water treatment services, potential WLFT has inspected the steam and hydronic systems and obtained water samples from the water side areas of the steam and hydronic systems at all facilities listed on Attachment #1 herein.

1.3.2 The purpose of the inspection is to allow potential WLFT an opportunity to inspect the facilities' steam and hydronic systems prior to submitting a proposal. As a result, WLFT is solely responsible for a prudent and complete personal inspection, examination, and assessment of the facilities' steam and hydronic systems and any other existing condition, factor, or item that may affect or impact the performance of service described and required by the contractual requirements herein.

1.3.3 WLFT will contact each facility's head of maintenance, designated plant maintenance engineer, or maintenance supervisor for each facility listed on Attachment #1 to schedule the inspection of the facility's steam and hydronic system and for information about the inspection. WLFT must provide at least 72 hours advance notice of WLFT 's desire to inspect the steam and hydronic system. WLFT must be prepared to provide the state agency with the name, social security number, state of residence, and date of birth for the person(s) conducting the inspections in order for the state agency to conduct a security clearance check. WLFT must obtain prior authorization from the facility's head of maintenance, designated plant maintenance engineer, or maintenance supervisor if WLFT is anticipating the use of camera equipment during the inspection of the steam and hydronic system. A record of those potential WLFTs attending the inspection will be maintained for verification purposes.

1.3.4 During the inspections, if WLFT discovers a discrepancy/conflict with the information provided on Attachment #1, WLFT should immediately notify the buyer of record, Kyle Wilde, at the Division of Purchasing and Materials Management at (573) 751-5341 or kyle.wilde@oa.mo.gov of such discrepancy/conflict.

1.3.5 WLFT is strongly encouraged to advise the facility's head of maintenance, designated plant maintenance engineer, or maintenance supervisor for each facility listed on Attachment #1, at least five (5) calendar days prior to the inspection of the facilities' steam and hydronic systems of any special accommodations needed for any personnel who will be attending the inspection so that these accommodations can be made.

1.3.6 WLFT is advised that no questions will be answered and no information concerning the RFP's requirements for the water treatment services shall be provided during the inspections. Other than questions pertaining to the inspection, all questions regarding this Request for Proposal (RFP) and/or the competitive procurement process must be directed to Kyle Wilde of the Division of Purchasing and Materials Management at (573) 751-4148 or: kyle.wilde@oa.mo.gov.

1.3.7 If available for a facility, a summary of the water steam production for each facility is included in Attachment #1.

1.3.8 A previous contract exists for the services being obtained via this RFP. A copy of the contract can be viewed and printed from the Division of Purchasing and Materials Management's Awarded Bid & Contract Document Search System located on the Internet at: http://content.oa.mo.gov/purchasing-materials-management/. In addition, all proposal and evaluation documentation leading to the award of that contract may also be viewed and printed from the Division of Purchasing and Materials Management's Awarded Bid & Contract Document Search System. Please reference the Bid number B3Z09010 or the contract number C309010001 when searching for these documents.

1.3.9 Although an attempt has been made to provide accurate and up-to-date information, the State of Missouri does not warrant or represent that the background information provided herein reflects all relationships or existing conditions related to this Request for Proposal.

2. CONTRACTUAL REQUIREMENTS

2.1 General Requirements:

2.1.1 Walter Louis Fluid Technologies shall provide water treatment services, chemicals, test equipment, supplies, technical expertise, and training (hereinafter referred to as a "water treatment program") for the steam and hydronic systems, chemical feed equipment, and storage tanks at the facilities identified on Attachment #1.

2.1.2 Walter Louis Fluid Technologies shall perform all services to the sole satisfaction of the state agencies, in accordance with the provisions and requirements of this document.

2.1.3 Addition/Removal of Facilities – Due to circumstances that may arise, the state agency may add or remove one or more facility(ies) at any time during the term of the contract. Any added or removed facility shall be accomplished by an amendment to the contract issued by the Division of Purchasing and Materials Management.

a. For any additional facility(s) that may require a water treatment program(s), Walter Louis Fluid Technologies shall provide the state agency with mutually agreed to guaranteed not-to-exceed pricing for providing the water treatment program(s).

b. It is the state agencies' intent to utilize the contract for all additional facility requirements. Walter Louis Fluid Technologies is advised that the contract shall not be construed as an exclusive arrangement and if it is in the best interest of the State of Missouri and approved by the Division of Purchasing and Materials Management, the state agency may obtain alternate services elsewhere.

2.1.4 Revisions to a Facility's Water Treatment Program – Due to the addition, change, or removal of equipment at a facility, Walter Louis Fluid Technologies shall revise the affected water treatment program in order to accommodate the addition, change or removal of the equipment, including any pricing changes as mutually agreed between Walter Louis Fluid Technologies and the state agency. Walter Louis Fluid Technologies' revised water treatment program shall meet the same objectives described herein. Such revisions to a current water treatment program shall be accomplished by an amendment to the contract issued by the Division of Purchasing and Materials Management.

2.1.5 Because Walter Louis Fluid Technologies was familiar with the facility and the conditions that existed prior to award of the contract, Walter Louis Fluid Technologies shall not be relieved of responsibility for performance under the contract for any reason whatsoever.

2.2 Start-up / Implementation Period Requirements:

2.2.1 Within fourteen (14) calendar days after notification by the state agency to proceed with services, Walter Louis Fluid Technologies shall be fully operational, including purchasing of all required chemicals, providing required personnel, completing all functions, actions, set-up, etc. necessary for successful business operation, and full implementation of all required services pursuant to the requirements stated herein.

2.2.2 Contract Manager - Walter Louis Fluid Technologies shall designate a contract manager in an appropriate managerial position within Walter Louis Fluid Technologies' organization who shall coordinate and direct Walter Louis Fluid Technologies' field representatives' activities at all facilities. The contract manager shall serve as the primary liaison to the state agency's representative(s).

a. Within five (5) days after the issuance of the Notice of Award, Walter Louis Fluid Technologies shall provide the state agency with the name, address, and phone number of Walter Louis Fluid Technologies' contract manager servicing the contract.

2.2.3 Test Procedure Manual - By no later than sixty (60) calendar days after notification by the state agency to proceed with services, Walter Louis Fluid Technologies shall develop a test program specific to each facility. Walter Louis Fluid Technologies shall develop and submit to each facility a hardcopy and a digital copy downloadable through Walter Louis Fluid Technologies' website, of a Test Procedure Manual. The Test Procedure Manual shall include step-by-step instructions of the water chemistry tests to be performed by the state agency staff at each facility and remedial action to be taken if test results indicate an operating status outside of established operating parameters. Walter Louis Fluid Technologies shall comply with the following regarding testing requirements and procedures:

a. All tests shall be by titration (or color comparison or colorimeter only if titration is not available), micro ohms meter, and pH Meter. Litmus paper or soap tests shall not be acceptable.

b. Tests shall include testing for PPM of supplied ingredients, discharged to drain during daily and special operations of equipment treated.

2.2.4 Water Treatment Program Manual - By no later than ninety (90) calendar days after notification by the state agency to proceed with services, Walter Louis Fluid Technologies shall develop and submit to each facility's head of maintenance, designated plant maintenance engineer, or maintenance supervisor a hardcopy and a digital copy downloadable through Walter Louis Fluid Technologies' website, of the water treatment program manual. Walter Louis Fluid Technologies' water treatment program manual must be specific to each facility and must include, but not necessarily be limited to, the following:

a. The specific equipment to be treated pursuant to Walter Louis Fluid Technologies' water treatment program, the chemical feed rates, and the existing feed equipment;

b. Instructions for the state agency's personnel on how to implement and perform Walter Louis Fluid Technologies' water treatment program;

c. Instructions and information detailing how deliveries of chemicals, reagents, test supplies, etc., shall be accomplished and the proposed delivery access routes through the facility water treatment plant; and

d. The test control ranges.

WLFT has provided a sample water treatment manual as separate submittal.

2.2.5 WLFT Database - Walter Louis Fluid Technologies shall provide a database consisting of water treatment data that is accessible through a website with a unique login for each user.

a. Each user shall have the ability to enter into Walter Louis Fluid Technologies' database the water chemical test results for their specific facility.

Please reference document for WLFT Reports in the Appendix

2.3 Water Treatment Program Requirements:

2.3.1 Walter Louis Fluid Technologies' water treatment program shall:

a. Prevent corrosion, scale, and microbiological activity in equipment and systems;

b. Protect the existing equipment;

c. Ensure optimum heat transfer and equipment operating efficiency; and

d. Maintain the highest cycle of concentration possible in boiler and cooling tower systems without boiler water carryover, forming scale, or corrosion of the system(s).

2.3.2 Walter Louis Fluid Technologies' water treatment program shall utilize the state agency's existing chemical feed equipment.

2.4 Inspection and Testing Requirements:

2.4.1 On an annual basis, the state agency will disassemble and open the equipment to conduct an internal inspection of pressure vessels and chillers, as well as internal boilers. In conjunction with pressure vessels and chillers and internal boiler inspections by the state agency, Walter Louis Fluid Technologies shall perform an annual waterside inspection of all systems and equipment, including piping. Walter Louis Fluid Technologies shall be given at least forty-eight (48) hours notice by the state agency prior to the annual waterside inspection. Walter Louis Fluid Technologies shall provide a hardcopy and a digital copy downloadable through Walter Louis Fluid Technologies' website, to the facility's head of maintenance, designated plant maintenance engineer or maintenance supervisor detailing the findings of the waterside inspection and recommendations to remedy any deficiencies discovered.

a. In the event that any waterside inspection conducted by Walter Louis Fluid Technologies reveals additional mineral buildup, scale accumulation, or corrosion damage in excess of that documented in Walter Louis Fluid Technologies' previous waterside inspection report, the contactor shall chemically clean the surfaces at no additional cost to the state agency if there is sufficient documentation that the water chemistry was maintained within the recommended control ranges.

b. If any component of any facility's system experiences scaling/corrosion damage, Walter Louis Fluid Technologies shall send a sample of the mineral buildup/scaling/corrosion to Walter Louis Fluid Technologies' laboratory at the request of the facility's head of maintenance, designated plant maintenance engineer, or maintenance supervisor for scaling/corrosion analysis. The level of analysis to be performed shall be determined by the state agency.

1) If the state agency is not satisfied with the results of the mineral buildup/scaling/corrosion analysis, Walter Louis Fluid Technologies shall send another sample to a third-party laboratory mutually agreed upon by the state agency and Walter Louis Fluid Technologies at the state agency's expense. This mineral buildup/scaling/corrosion analysis shall be used to determine the corrective action, if any, to be performed by Walter Louis Fluid Technologies in the treatment of the systems.

2) Walter Louis Fluid Technologies shall forward a hardcopy and a digital copy downloadable through Walter Louis Fluid Technologies' website, of the test results and recommendations regarding the findings from the waterside inspection to the facility.

2.4.2 On a semi-annual basis, Walter Louis Fluid Technologies shall conduct an analysis of fuel oil at each facility. The state agency facility staff will obtain the fuel oil samples. Walter Louis Fluid Technologies shall analyze the fuel oil samples in accordance with the tests as indicated below. Walter Louis Fluid Technologies shall forward a hardcopy and a digital copy downloadable through Walter Louis Fluid Technologies' website, of the test results regarding the findings as well as their recommendations of needed fuel oil treatment chemicals. The tests shall include, but not necessarily be limited to, the following industry standard for fuel oil analysis:

a. BS & W, % (Bottom sediment and water).
b. API Gravity @ 60° F, (American Petroleum Institute's inverted scale for denoting the "lightness" or "heaviness" of crude oils and other liquid hydrocarbons).
c. lbs/gal (how much one gallon of fuel weighs).
d. BTU/lb (British Thermal Units per pound of fuel).
e. BTU/gal (British Thermal Units per gallons of fuel).
f. Sulfur as S, %; Lead as Pb, ppm; Vanadium as V, ppm; Sodium as Na, ppm (Sulfur, lead, vanadium, and sodium are common chemical elements found in fuel oil.).

2.4.3 Upon request from the state agency, Walter Louis Fluid Technologies shall analyze the resin from a water softener or dealkalizer for fractured beads and perform an elution study. Based on the results of the resin analysis or the elution study, Walter Louis Fluid Technologies shall instruct the state agency to adjust cycles and timers to achieve optimum efficiency.

a. If the results of the resin analysis or elution study indicate that the water softener or dealkalizer requires cleaning, Walter Louis Fluid Technologies shall propose corrective action.

b. Walter Louis Fluid Technologies shall forward a hardcopy and a digital copy downloadable through Walter Louis Fluid Technologies' website, of the results of the resin analysis and elution study to the facility's head of maintenance, designated plant maintenance engineer, or maintenance supervisor.

2.4.4 At the request of the state agency, Walter Louis Fluid Technologies shall perform water analysis on domestic water on an as needed basis at each facility.

a. Walter Louis Fluid Technologies shall be responsible for any equipment damage that occurs as a direct result of Walter Louis Fluid Technologies' water treatment program. In the event any equipment is damaged, Walter Louis Fluid Technologies shall clean, repair, or replace the equipment, as determined necessary by the state agency, at no additional charge to the state agency if there is sufficient documentation that the water chemistry was maintained within the recommended control ranges.

2.4.5 In the event that test(s) are needed, as requested by the state agency, to determine if Walter Louis Fluid Technologies' water treatment program is protecting the existing equipment, the state agency shall obtain an independent laboratory test. If the results of the independent laboratory test show Walter Louis Fluid Technologies' water treatment program is not protecting the existing equipment as required, Walter Louis Fluid Technologies shall be responsible for any costs related to the independent laboratory test, as well as the correction of the problem.

2.4.6 Walter Louis Fluid Technologies shall make Walter Louis Fluid Technologies' laboratory and technical department available for consultation and testing at any time deemed necessary by the state agency.

2.5 Site Visit Requirements:

2.5.1 Walter Louis Fluid Technologies' field representatives shall conduct facility site visits as specified in Attachment #2 and at a minimum, must perform the following requirements:

a. Review and evaluate logs, reports, tests, etc., completed by the state agency staff.
b. Perform verification testing on all systems and equipment.
c. Critique and evaluate with state agency staff, the in-house test practices, test results and data, and chemical safety practices being performed.
d. Identify and document potential problems affecting the facility's physical plant longevity, reliability, efficiency, and chemical safety.
e. Provide instruction and respond to any questions from state agency staff.
f. Review the chemical, reagent, and test supplies inventory with state agency staff and make written recommendations regarding inventory requirements in order to maintain the minimum and maximum inventories required herein, considering chemical shelf life and applicable regulating chemical storage codes.

2.5.2 In addition to the required facility site visits as specified in Attachment #2, Walter Louis Fluid Technologies' field representative shall provide up to two (2) additional site visits annually at each facility on an as needed, if needed basis at the request of the state agency.

2.5.3 By no later than thirty (30) calendar days after each facility site visit conducted by Walter Louis Fluid Technologies' field representative, Walter Louis Fluid Technologies shall provide an Equipment/Systems Inspection Report, Site Visit Report, and a Water Chemistry and Treatment Management Report accessible through each facility's specific website established by Walter Louis Fluid Technologies. At a minimum, the Equipment/Systems Inspection Report, Site Visit Report, and Water Chemistry and Treatment Management Report must include the following:

a. Equipment/Systems Inspection Report:
   1) Equipment inspected;
   2) Any additional analyses to be performed;
   3) Preliminary findings of the equipment inspection and what effect, if any, these conditions would have on efficiency; and
   4) Recommendations based on the current findings.

b. Site Visit Report:
   1) Summarize all activities which took place during each site visit;
   2) Water chemistry data;
   3) Observations;
   4) Chemical, test reagent, and test supply inventories; and
   5) Recommendations such as chemical dosage adjustments, corrective adjustments, blow down adjustments, etc.

c. Water Chemistry and Treatment Management Report:
   1) The overall conditions of the systems at the facility;
   2) Recommended changes to the water treatment program; and
   3) Identification of any system not being maintained within the control range.

Please reference water treatment manual tab in separate submittal for examples

2.6 Chemical and Reagent Requirements:

2.6.1 As part of Walter Louis Fluid Technologies' water treatment program, Walter Louis Fluid Technologies shall provide each facility with at least a thirty (30) calendar day supply, but no more than a ninety (90) calendar day supply, of chemicals that meet the following conditions per each system. The chemicals, reagents, and test supplies shall be included in the guaranteed not-to-exceed pricing stated in Section 4 herein.

a. Boilers (Steam) Systems - Walter Louis Fluid Technologies shall supply the following four (4) chemicals which shall be used individually or in combination, as needed. Chemicals shall be injected into each steam boiler separately.

   1) Synthetic Polymers
   2) Phosphates
   3) Chelates capable of controlling iron deposits and capable of being fed substoichiometrically
   4) Alkalinity Builder

b. Closed Loop Heating/Cooling Systems - Walter Louis Fluid Technologies shall supply the following three (3) chemicals which shall be used individually or in combination, as needed.

   1) Nitrite-based, non-chromate, non-zinc, anodic inhibitor for corrosion control
   2) Microbiocide compatible with the above
   3) Citricorganophosphonic acid for on line cleaning

c. Deaerator/Feedwater Pretreatment System - Walter Louis Fluid Technologies shall supply the following:

1) A catalyzed sodium sulfite in liquid form shall be injected into the deaerator to scavenge 100% of the oxygen from the feedwater prior to introduction into the boiler, and shall maintain a minimum of 20 PPM sulfite residual in the boiler at all times.
2) Liquid caustic for dealkalizer regeneration.

d. Condensate Treatment System - Walter Louis Fluid Technologies shall comply with the following:

1) Walter Louis Fluid Technologies' condensate chemical treatment program may consist of three (3) amines. The amines must not be blended with other boiler water treatment. Condensate treatment cannot be blended with boiler compounds and must be injected independently as a separate chemical into the steam header and must maintain a condensate pH from 8.0 to 8.5.

- The amines shall meet FDA requirements for food handling applications.

e. Cooling Towers and Systems - Walter Louis Fluid Technologies shall supply the following chemicals which shall be fed separately:

1) A mineral acid, if compatible with metallurgy.

- A non-chromate, non-zinc, corrosion/scale inhibitor blend. This chemical must contain:
- A corrosion inhibitor such as phosphate or molybdate,
- The sequestrant HEDP,
- A polymeric dispersant, and
- A yellow corrosion inhibitor.

2) Two (2) cooling water microbiocides, each liquid, non-oxidizing, and EPA-approved for direct discharge at use concentration. These chemicals shall be used alternately to prevent development by organisms of immunity to either microbiocide. Therefore, killing mechanisms must differ sufficiently to permit this mode of application.

f. Waste Water Treatment System - Walter Louis Fluid Technologies shall supply the chemicals, test programs, and related training for the chemicals listed below. All chemicals must be acceptable for discharge at use concentrations by all federal, state, and local regulations.

1) Calcium Nitrate, or approved equal, for control of odor, and Hydrogen Sulfide,
2) Aqueous Organic Sulfides for control of Flocculent Precipitant,
3) Ferrous Sulfate for Sludge Conditioning, and
4) Bio-L-220 Grease Digesting Bacteria, or approved equal.

g. Domestic Water Systems - Walter Louis Fluid Technologies shall provide a polymerized sodium polyphosphate, or approved equal, for sequestering iron, manganese, and calcium and corrosion protection. In addition, Walter Louis Fluid Technologies shall provide a fifteen percent (15%) sodium hypochlorite bleach as needed to chlorinate wells, tanks, and lagoon systems.

h. Water Softener and Dealkalizer Systems – Walter Louis Fluid Technologies shall provide a resin cleaning solution.

i. Fuel Oil Treatment System – Walter Louis Fluid Technologies shall provide fuel oil chemicals recommended in the fuel oil analysis that prevents the following:

1) accumulation of sludge,
2) sediment and water in storage tanks;
3) corrosion of fuel oil storage tanks;

4) low viscosity;
5) sludge buildup in the fuel system,
6) varnish and rust;
7) deposits of sludge and rust in heaters;
8) plugging of strainers, burner tips and nozzles.

2.6.2 Walter Louis Fluid Technologies shall only provide water treatment chemicals approved by the Food and Drug Administration (FDA) and Environmental Protection Agency (EPA) which shall comply with all applicable federal, state, and local regulations including regulations for sewer system disposal.

2.6.3 For each chemical and test reagent used, Walter Louis Fluid Technologies must deliver Walter Louis Fluid Technologies' product specification sheet and a material safety data sheet prepared in accordance with the OSHA Hazard Communications Standard, 29 CFR 1910.12000 specific to each facility as identified in Attachment #1.

2.6.4 Walter Louis Fluid Technologies shall be allowed to modify, substitute, add or delete chemicals identified as part of Walter Louis Fluid Technologies' water treatment program as outlined on Exhibit E, in Walter Louis Fluid Technologies' awarded proposal, with another chemical.

a. Prior to modifying, substituting, adding to, or deleting chemicals from Walter Louis Fluid Technologies' water treatment program at any facility, Walter Louis Fluid Technologies must notify the state agency in writing and obtain the state agency's approval.

b. For each new chemical added to the water treatment program, Walter Louis Fluid Technologies must provide the state agency with a material safety data sheet and product specification sheet.

c. Any approved chemical change must provide the same or better results.

2.6.5 In the event of an unforeseen or emergency situation (e.g. equipment malfunction, replacements, decrease of quality in feed water), the state agency reserves the right to require Walter Louis Fluid Technologies to provide additional chemical(s) or contingency chemical(s) shown on the Pricing Page of Walter Louis Fluid Technologies' awarded proposal to combat the situation.

a. Any additional chemical(s) or contingency chemical(s) provided in the event of an unforeseen or emergency situation shall be in addition to the guaranteed not-to-exceed price as stated on the Pricing Page of Walter Louis Fluid Technologies' awarded proposal.

2.7 Test Equipment and Refractometer Requirements:

2.7.1 Test Equipment – By no later than thirty (30) calendar days after notification by the state agency to begin providing services, Walter Louis Fluid Technologies shall provide new test equipment at each state agency facility as listed below. Upon expiration, termination or cancellation of the original contract period, the ownership of all test equipment provided by Walter Louis Fluid Technologies shall transfer to the state agency.

a. Bench top pH Meter with the following minimum features:
   1) Probe arm
   2) Probe
   3) AC/DC converter
   4) R analog output

b. Bench top T.D.S. Conductivity Meter with the following minimum features:
   1) Battery operated
   2) Micro ohms scale 0-5000
   3) Increments of 1-10-100-1000

4) Battery test
5) Multi-range

Please reference Data Sheet in the equipment tab

2.7.2 Refractometers - By no later than thirty (30) calendar days after notification by the state agency to begin providing services, Walter Louis Fluid Technologies shall provide each state agency facility with glycol closed loop systems, a new handheld Propylene Glycol & Ethylene Glycol Refractometers, including the minimum features listed below, to be used for measuring concentration and freezing temperature of Ethylene Glycol and Propylene Glycol. Each refractometer shall include a protective storage case and owner's manual. Upon expiration, termination, or cancelation of the original contract period, the ownership of the refractometers provided by Walter Louis Fluid Technologies shall transfer to the state agency.

a. PG concentration 0 - 70% (accuracy ±1.0%)
b. PG freezing point 0 to -50°C (accuracy ±1.0°C)
c. EG concentration 0 - 70% (accuracy ±1.0%)
d. EG freezing point 0 to -50°C. (accuracy ±1.0°C)

Please reference Data Sheet in the equipment tab

2.7.3 Water Chemistry Test Kits – By no later than thirty (30) calendar days after notification by the state agency to begin providing services, Walter Louis Fluid Technologies shall supply each state agency facility with water chemistry test kits including, but not necessarily limited to the following:

a. All sample containers, burettes, graduated cylinders, test tubes, beakers, petri dishes, measuring scoops, spoons, and all other test equipment and test reagents necessary to test by titration, for chemical residuals of all chemicals supplied by Walter Louis Fluid Technologies.

b. Walter Louis Fluid Technologies shall provide test reagents on an as needed, if needed basis to maintain quantities for testing purposes.

2.8.5 Walter Louis Fluid Technologies shall provide the chemical feed equipment listed below with the requirements specified on Attachment #3 on an as needed, if needed basis at the request of the state agency. Walter Louis Fluid Technologies shall install the chemical feed equipment upon request by the state agency. In the event the state agency installs the equipment, Walter Louis Fluid Technologies shall guarantee the chemical feed equipment for one year from the date of purchase. In the event Walter Louis Fluid Technologies installs the equipment, Walter Louis Fluid Technologies shall guarantee the chemical feed equipment for one year from the date of installation.

a Chemical Metering Pumps
b Chemical Feed Controllers and Components
c Boiler Conductivity Controller

Please reference Data Sheet in the equipment tab

2.8 Storage Tank Requirements:

2.8.1 Walter Louis Fluid Technologies shall provide the state agency with chemical storage tanks and specifications including the requirements below, on an as needed, if needed basis. Walter Louis Fluid Technologies shall deliver the chemical storage tanks within fourteen (14) calendar days from the date of order by the state agency.

a Industrial grade quality.
b Professionally assembled.

c Manufactured in accordance with ASTM D 1998 Standards.
d Corrosion resistant.
e Compatible with the chemicals used for water treatment.
f Produced at 1.9 specific gravity.
g Ranging in size from 15 gallons up to 500 gallons.
h High Density Linear or cross-linked Polyethylene.
i Cylinder shaped or square.
j Double Wall/Dual Containment, reinforced, or heavy duty.
k Has fitting connections or outlets.

Please reference Data Sheet in the equipment tab

2.9 Packaging and Delivery Requirements:

2.9.1 Walter Louis Fluid Technologies shall deliver all requested chemicals within fourteen (14) calendar days of receiving a written request from the state agency. Walter Louis Fluid Technologies shall contact the state agency at least twenty-four (24) hours prior to each delivery.

a. Unless written permission for another time is obtained from the state agency, Walter Louis Fluid Technologies shall deliver chemicals between the hours of 8:00 a.m. and 3:00 p.m. Monday through Friday (excluding official state holidays). A list of Missouri State Holidays is posted on the Internet at: http://content.oa.mo.gov/commissioners-office/state-holidays.

2.9.2 Walter Louis Fluid Technologies shall agree and understand that the state agency will not receive, off load, or handle any chemicals, delivery/shipping drums, or other containers.

2.9.3 For those facilities using a drum-less, bulk storage water treatment program, Walter Louis Fluid Technologies shall deliver chemicals by bulk truck.

a. Walter Louis Fluid Technologies shall transfer (pump) chemicals from Walter Louis Fluid Technologies' truck to the appropriate storage tank at the facility using only Walter Louis Fluid Technologies' transfer equipment.

b. Walter Louis Fluid Technologies shall be responsible for tank openings and closures, chemical transfer spillage, and spillage cleanup in accordance with all applicable laws.

c. Walter Louis Fluid Technologies' delivery operator shall be trained in chemical safety handling and capable of identification and proper application of the chemicals being delivered.

d. Walter Louis Fluid Technologies must have the material safety data sheets in the possession of the delivery operator at all times while the chemicals are in transport.

Please reference Technical Data Bulletin in the equipment tab

2.9.4 For those facilities with the conventional drum type water treatment program, Walter Louis Fluid Technologies shall comply with the following:

a. Walter Louis Fluid Technologies shall make deliveries using a lift gate truck if the delivery includes drums, barrels, pallets, or containers with a unit weight of over one hundred pounds (100 lbs).

b. Delivery/shipping drums or containers made of paper, plastic, metal, or any combination of paper, plastic, or metal shall remain the property of Walter Louis Fluid Technologies. At a minimum,

Walter Louis Fluid Technologies shall remove all empty delivery/shipping containers every thirty (30) calendar days. Walter Louis Fluid Technologies shall dispose of such containers in compliance with all regulations and laws promulgated in the State of Missouri Department of Natural Resources, Department of Health and Senior Services, and other applicable state, local, and federal agencies.

2.9.5 Walter Louis Fluid Technologies shall agree and understand that unless the field representative also serves as a delivery operator, the arrival of Walter Louis Fluid Technologies' delivery operator shall not constitute a facility site visit by a field representative.

2.10 Personnel Requirements:

2.10.1 Field Representative(s) - Walter Louis Fluid Technologies must provide field representative(s) for the management of Walter Louis Fluid Technologies' water treatment program for all facilities identified herein.

a. Each field representative shall have either (a) a minimum of a bachelor's degree in the physical sciences or mechanical engineering, plus at least five (5) years experience in institutional water treatment, or (b) at least five (5) years experience in institutional water treatment and certification through an accredited water treatment program.

b. If Walter Louis Fluid Technologies' designated field representative is not available, Walter Louis Fluid Technologies must provide the state agency with a backup person with equal qualifications.

c. After being contacted by the state agency, Walter Louis Fluid Technologies' Field Representative shall be available via telephone within a four (4) hour period.

2.10.2 Walter Louis Fluid Technologies' personnel shall be reasonably dressed and groomed while at the facilities.

2.10.3 Upon arrival to the facilities and prior to beginning service, Walter Louis Fluid Technologies' personnel shall follow the sign-in procedures specified below:

a. For Department of Corrections (DOC) and Department of Mental Health (DMH) facilities listed on Attachment #1, Walter Louis Fluid Technologies shall provide five (5) calendar days advanced notice prior to arrival at the facility.

1) Upon arrival to the facility, Walter Louis Fluid Technologies' personnel must present a legal photo form of identification, the tools being taken into the facilities, and a written inventory of the tools for verification.

b. For the Department of Elementary and Secondary Education (DESE) facilities listed on Attachment #1, Walter Louis Fluid Technologies shall provide forty-eight (48) hours advanced notice prior to arrival at the facility.

1) Upon arrival to the facility, Walter Louis Fluid Technologies' personnel shall sign in at the main reception/front desk or with the building manager.

c. For Office of Administration, Division of Facility Management, Design and Construction (FMDC) and Missouri State Highway Patrol (MSHP) facilities listed on Attachment #1, Walter Louis Fluid Technologies shall sign in at the main reception/front desk or with the building manager upon arrival to the facility.

2.10.4 Walter Louis Fluid Technologies' personnel shall wear an article of clothing identifying Walter Louis Fluid Technologies or sub WLFT, including a picture ID tag visible at all times.

2.10.5 WLFT Badge - Walter Louis Fluid Technologies shall obtain a WLFT badge from each location for the Department of Corrections, Department of Mental Health, Missouri State Highway Patrol, and each regional office of the Division of Facilities Management, Design and Construction. Walter Louis Fluid Technologies' personnel shall wear Walter Louis Fluid Technologies badge at all times while working at each facility.

2.10.6 Security Clearance- Walter Louis Fluid Technologies and Walter Louis Fluid Technologies' personnel assigned to the contract must have a security clearance in order to provide service under the contract.

a. By no later than fifteen (15) calendar days after notification by the state agency to begin providing services, Walter Louis Fluid Technologies shall provide the following:

1) For Walter Louis Fluid Technologies' personnel assigned to provide services at any Department of Corrections facility, Walter Louis Fluid Technologies must submit a list of names, social security numbers, and dates of birth of Walter Louis Fluid Technologies' personnel to the applicable Department of Corrections facility.
2) For Walter Louis Fluid Technologies' personnel assigned to provide services at any Department of Mental Health facility, Walter Louis Fluid Technologies must submit a list of names, social security numbers, and dates of birth of Walter Louis Fluid Technologies' personnel to the applicable Department of Mental Health facility.
3) For Walter Louis Fluid Technologies' personnel assigned to provide services at any Office of Administration, Facility Management, Design and Construction facility, Walter Louis Fluid Technologies must obtain a security clearance from the Missouri State Highway Patrol and submit it to Office of Administration, Division of Facilities Management, Design and Construction.
4) For Walter Louis Fluid Technologies' personnel assigned to provide services at any Missouri State Highway Patrol facilities, Walter Louis Fluid Technologies must submit a list of names, social security numbers and dates of birth of Walter Louis Fluid Technologies' personnel to: the Missouri State Highway Patrol, Attn: Service Level Manager, 1510 E. Elm Street, PO Box 568, Jefferson City, Missouri, 65102.

b. For each new person assigned to provide services, Walter Louis Fluid Technologies must provide the required security clearance information at least five (5) calendar days prior to the new person providing services.

c. The state agency shall have the right to deny any of Walter Louis Fluid Technologies' personnel access to any facility for any reason.

2.10.7 Substitution of Personnel - Walter Louis Fluid Technologies agrees and understands that the State of Missouri's agreement to the contract is predicated in part on the utilization of the specific key individual(s) and/or personnel qualifications identified in the proposal. Therefore, Walter Louis Fluid Technologies agrees that no substitution of such specific key individual(s) and/or personnel qualifications shall be made without the prior written approval of the state agency. Walter Louis Fluid Technologies further agrees that any substitution made pursuant to this paragraph must be equal or better than originally proposed and that the state agency's approval of a substitution shall not be construed as an acceptance of the substitution's performance potential. The State of Missouri agrees that an approval of a substitution will not be unreasonably withheld.

2.10.8 Authorized Personnel:

a. Walter Louis Fluid Technologies shall only employ personnel authorized to work in the United States in accordance with applicable federal and state laws. This includes but is not limited to the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and INA Section 274A.

b. If Walter Louis Fluid Technologies is found to be in violation of this requirement or the applicable state, federal and local laws and regulations, and if the State of Missouri has reasonable cause to believe that Walter Louis Fluid Technologies has knowingly employed individuals who are not eligible to work in the United States, the state shall have the right to cancel the contract immediately without penalty or recourse and suspend or debar Walter Louis Fluid Technologies from doing business with the state. The state may also withhold up to twenty-five percent of the total amount due to Walter Louis Fluid Technologies.

c. Walter Louis Fluid Technologies shall agree to fully cooperate with any audit or investigation from federal, state, or local law enforcement agencies.

d. If Walter Louis Fluid Technologies meets the definition of a business entity as defined in section 285.525, RSMo, pertaining to section 285.530, RSMo, Walter Louis Fluid Technologies shall maintain enrollment and participation in the E-Verify federal work authorization program with respect to the employees hired after enrollment in the program who are proposed to work in connection with the contracted services included herein. If Walter Louis Fluid Technologies' business status changes during the life of the contract to become a business entity as defined in section 285.525, RSMo, pertaining to section 285.530, RSMo, then Walter Louis Fluid Technologies shall, prior to the performance of any services as a business entity under the contract:

1) Enroll and participate in the E-Verify federal work authorization program with respect to the employees hired after enrollment in the program who are proposed to work in connection with the services required herein; AND
2) Provide to the Division of Purchasing and Materials Management the documentation required in the exhibit titled, Business Entity Certification, Enrollment Documentation, and Affidavit of Work Authorization affirming said company's/individual's enrollment and participation in the E-Verify federal work authorization program; AND
3) Submit to the Division of Purchasing and Materials Management a completed, notarized Affidavit of Work Authorization provided in the exhibit titled, Business Entity Certification, Enrollment Documentation, and Affidavit of Work Authorization.

e. In accordance with subsection 2 of section 285.530, RSMo, Walter Louis Fluid Technologies should renew their Affidavit of Work Authorization annually. A valid Affidavit of Work Authorization is necessary to award any new contracts.

2.11 Training Requirements:

2.11.1 Walter Louis Fluid Technologies shall train state-agency staff at each facility: (1) to be proficient in the safe handling of chemicals and application of Walter Louis Fluid Technologies' water treatment program, and (2) improve the energy and operating efficiency at the facility.

2.11.2 Annual Training - By no later than ninety (90) calendar days after notification by the state agency to begin providing services and annually thereafter, Walter Louis Fluid Technologies shall conduct a training session which must be a minimum of four (4) hours for each region as specified in Attachment #4 to instruct state agency personnel in the topics listed below. The training shall take place at a location and on dates mutually agreed upon between Walter Louis Fluid Technologies and the state agency.

a. How to calculate the proper dosage of chemicals;
b. The function of each chemical;
c. Proper safety precautions and procedures in handling, administering, storing, and disposing of the chemicals;
d. Proper safety measures for emergency situations in accordance with OSHA and EPA standards;
e. How to perform the tests required in the Test Procedure Manual;
f. How to calculate production and reporting energy efficiency;
g. Water testing procedures

h. Basic principles of water chemistry and treatment;
i. Water softener operation and maintenance;
j. Dealkalizer operation and its importance;
k. Deaerator function and oxygen removal;
l. Boiler water treatment and reaction;
m. The importance of pH levels in the steam and hydronic systems; and
n. Other applicable procedures.

Please reference document in the Appendix

2.11.3 Walter Louis Fluid Technologies shall provide written instructional material for state agency staff who attend the training. The instructional material must be current and shall be specific to the facility. In addition, Walter Louis Fluid Technologies must provide a training certificate for all state agency personnel who successfully complete training.

2.11.4 Walter Louis Fluid Technologies shall agree and understand that all instructional material shall become property of the state agency.

2.11.5 Walter Louis Fluid Technologies shall gear all training and instruction for entry-level and experienced operating personnel.

2.12 Reporting and Additional Requirements:

2.12.1 Walter Louis Fluid Technologies' Contract Manager shall meet with the state agency's Service Level Manager(s) or designee(s) in Jefferson City, Missouri on a quarterly basis as mutually agreed upon between the state agency and Walter Louis Fluid Technologies. At the quarterly meetings, Walter Louis Fluid Technologies shall provide the state agency with a quarterly report which documents the information listed below. Walter Louis Fluid Technologies must provide a hardcopy and a PDF copy of the quarterly report to the state agency Service Level Manager(s) or designee(s).

a. A summary detailing the present condition of the steam and hydronic systems and equipment at each facility serviced.
b. Confirmation of contract fulfillment and compliance by Walter Louis Fluid Technologies, including identification of training, chemicals, reagents, test supplies, and services provided.

c. A report of the disposal of delivery/shipping containers in accordance with the requirements specified elsewhere herein including, but not limited to, documented identification of all chemical containers delivered/shipped, in use, and disposed of during the quarter. The documentation shall include:

1) Construction type;
2) Size;
3) Contents;
4) Department of Transportation designation and specific unit identification;
5) Date received;
6) Dates used [from and to];
7) Date removed; and
8) Disposal documentation as required by the Missouri Department of Natural Resources (DNR), Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and other applicable laws and regulations.

Please reference documents in the Appendix

2.12.2 Unless otherwise specified herein, Walter Louis Fluid Technologies shall furnish all material, labor, facilities, equipment, and supplies necessary to perform the services required herein.

2.12.3 Walter Louis Fluid Technologies must maintain financial and accounting records and evidence pertaining to the contract in accordance with generally accepted accounting principles and other procedures specified by the state agency.

a. Walter Louis Fluid Technologies shall make all such records, books, and other documents relevant to the contract available to the state agency and its designees and the Missouri State Auditor in a format acceptable to the state agency at all reasonable times during the term of the contract.

b. Walter Louis Fluid Technologies shall retain all such records according to the state agency's retention period or the completion of an independent audit, whichever is later. If any litigation, claim, negotiation, audit, investigation, or other actions involving the records has been started before the expiration of the retention period, Walter Louis Fluid Technologies shall retain such records until completion of such action and resolution of all issues that arise from it.

c. Walter Louis Fluid Technologies shall permit the state agency, governmental auditors and authorized representatives of the State of Missouri to audit or examine, copy, or investigate any of Walter Louis Fluid Technologies' records, procedures, books, documents, papers, and records recording receipts and disbursements of any of the funds paid to Walter Louis Fluid Technologies. Failure to retain adequate documentation for any service billed may result in recovery of payments for services not adequately documented. Any audit exception noted by governmental auditors shall not be paid by the state agency and shall be the sole responsibility of Walter Louis Fluid Technologies. However, Walter Louis Fluid Technologies may contest any such exception by any legal procedure Walter Louis Fluid Technologies deems appropriate. The state agency will pay Walter Louis Fluid Technologies all amounts which Walter Louis Fluid Technologies may ultimately be held entitled to receive as a result of any such legal action.

2.13 Invoicing and Payment Requirements:

2.13.1 Prior to any payments becoming due under the contract, Walter Louis Fluid Technologies must return a completed State of Missouri Vendor Input/ACH-EFT Application, which is downloadable from the Vendor Services Portal at: https://www.vendorservices.mo.gov/vendorservices/Portal/Default.aspx.

a. Walter Louis Fluid Technologies understands and agrees that the State of Missouri reserves the right to make contract payments through electronic funds transfer (EFT).

b. Walter Louis Fluid Technologies must submit invoices on Walter Louis Fluid Technologies' original descriptive business invoice form and must use a unique invoice number with each invoice submitted. The unique invoice number will be listed on the State of Missouri's EFT addendum record to enable Walter Louis Fluid Technologies to properly apply the state agency's payment to the invoice submitted. Walter Louis Fluid Technologies may obtain detailed information for payments issued for the past 24 months from the State of Missouri's central accounting system (SAM II) on the Vendor Services Portal at:
https://www.vendorservices.mo.gov/vendorservices/Portal/Default.aspx

2.13.2 Invoicing – Walter Louis Fluid Technologies shall submit a monthly invoice itemizing services provided as well as the specific purchase order (P.O.) number. Services or goods must be received before payment can be made. The invoice must be submitted to the state agency utilizing Walter Louis Fluid Technologies' services at the "bill to" address as specified on the purchase order.

2.13.3 Payments – After receipt and approval of the required written reports and invoice by the state agency, Walter Louis Fluid Technologies shall be paid and reimbursed for services performed.

a. Water Treatment Program - Walter Louis Fluid Technologies shall be paid for the services provided at each facility for the performance of all requirements, including all chemicals, tests, and equipment

listed in Exhibit E of Walter Louis Fluid Technologies' awarded proposal, based upon the normal usage in accordance with all provisions and requirements of the water treatment program.

b. Additional Chemicals/Equipment/Services – In the event Walter Louis Fluid Technologies provided any of the following, Walter Louis Fluid Technologies shall be paid in accordance with the following additional services and in addition to the water treatment program guaranteed not-to-exceed prices stated on the Pricing Page.

1) Chemicals – In the event Walter Louis Fluid Technologies provided additional chemical(s) or contingency chemical(s) due to an unforeseen or emergency circumstance for any of the steam and hydronic systems indicated on Exhibit E of Walter Louis Fluid Technologies' awarded proposal, Walter Louis Fluid Technologies shall be paid the applicable firm, fixed unit price stated on the Pricing Pages for such additional chemical or contingency chemical for the specific steam and hydronic system.
2) Resin Analysis and Elution Study – In the event Walter Louis Fluid Technologies performed a Resin Analysis and Elution Study pursuant to the state agency's request, Walter Louis Fluid Technologies shall be paid the firm, fixed price stated on the Pricing Pages.
3) Resin Cleaning Solution – For each gallon of Resin Cleaning Solution provided, Walter Louis Fluid Technologies shall be paid the firm, fixed price stated on the Pricing Pages.
4) Domestic Water System – For each unit of polymerized sodium polyphosphate and sodium hypochloride bleach provided as required herein for the Domestic Water System, Walter Louis Fluid Technologies shall be paid the firm, fixed price stated on the Pricing Pages.
5) Waste Water System - For each unit of Calcium Nitrate, Hydrogen Sulfide, Aqueous Organic Sulfides, Ferrous Sulfate, and Bio-L-220 Grease Digesting Bacteria provided as required herein for the Waste Water System, Walter Louis Fluid Technologies shall be paid the firm, fixed price stated on the Pricing Pages.
6) Test Equipment or Refractometer – Walter Louis Fluid Technologies shall be paid the firm, fixed unit price stated on the Pricing Pages for any additional or replacement units of Test Equipment or Refractometer replaced by Walter Louis Fluid Technologies.
7) Chemical Feed Equipment – Walter Louis Fluid Technologies shall be paid the firm, fixed percentage over actual net cost for Chemical Feed Equipment as stated on the Pricing Pages.
8) Storage Tank - Walter Louis Fluid Technologies shall be paid the firm, fixed percentage over actual net cost for Storage Tanks as stated on the Pricing Pages.

2.13.4 Other than the payments specified above, no other payments or reimbursements shall be made to Walter Louis Fluid Technologies for any reason whatsoever.

2.14 Other Contractual Requirements:

2.14.1 Contract - A binding contract shall consist of: (1) the RFP, amendments thereto, and any Best and Final Offer (BAFO) request(s) with RFP changes/additions, (2) Walter Louis Fluid Technologies' proposal including any WLFT BAFO response(s), (3) clarification of the proposal, if any, and (4) the Division of Purchasing and Materials Management's acceptance of the proposal by "notice of award". All Exhibits and Attachments included in the RFP shall be incorporated into the contract by reference.

a. A notice of award issued by the State of Missouri does not constitute an authorization for shipment of equipment or supplies or a directive to proceed with services. Before providing equipment, supplies and/or services for the State of Missouri, Walter Louis Fluid Technologies must receive a properly authorized purchase order or other form of authorization given to Walter Louis Fluid Technologies at the discretion of the state agency.

b. The contract expresses the complete agreement of the parties and performance shall be governed solely by the specifications and requirements contained therein.

c. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of Walter Louis Fluid Technologies and the Division of Purchasing and Materials Management prior to the effective date of such modification. Walter Louis Fluid Technologies expressly and explicitly understands and agrees that no other method and/or no other document, including correspondence, acts, and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

2.14.2 Contract Period - The original contract period shall be as stated on page 1 of the Request for Proposal. The contract shall not bind, nor purport to bind, the state for any contractual commitment in excess of the original contract period. The Division of Purchasing and Materials Management shall have the right, at its sole option, to renew the contract for three (3) additional one-year periods, or any portion thereof. In the event the Division of Purchasing and Materials Management exercises such right, all terms and conditions, requirements and specifications of the contract, including prices, shall remain the same and apply during renewal periods. However, Walter Louis Fluid Technologies shall understand and agree the state may determine funding limitations necessitate a decrease in Walter Louis Fluid Technologies' pricing for the renewal period(s). If such action is necessary and Walter Louis Fluid Technologies rejects the decrease, the contract may be terminated, and a new procurement process may be conducted.

2.14.3 Renewal Periods - If the option for renewal is exercised by the Division of Purchasing and Materials Management, Walter Louis Fluid Technologies shall agree that the prices for the renewal period shall not exceed the maximum price for the applicable renewal period stated on the Pricing Page of the contract.

a. If renewal prices are not provided, then prices during renewal periods shall be the same as during the original contract period.

b. In addition, Walter Louis Fluid Technologies shall understand and agree that renewal period price increases specified in the contract are not automatic. At the time of contract renewal, if the state determines funding does not permit the specified renewal pricing increase or even a portion thereof, the renewal pricing shall remain the same as during the previous contract period. If such action is rejected by Walter Louis Fluid Technologies, the contract may be terminated, and a new procurement process may be conducted. Walter Louis Fluid Technologies shall also understand and agree the state may determine funding limitations necessitate a decrease in Walter Louis Fluid Technologies' pricing for the renewal period(s). If such action is necessary and Walter Louis Fluid Technologies rejects the decrease, the contract may be terminated, and a new procurement process may be conducted.

2.14.4 Termination - The Division of Purchasing and Materials Management reserves the right to terminate the contract at any time, for the convenience of the State of Missouri, without penalty or recourse, by giving written notice to Walter Louis Fluid Technologies at least thirty (30) calendar days prior to the effective date of such termination. Walter Louis Fluid Technologies shall be entitled to receive compensation for services and/or supplies delivered to and accepted by the State of Missouri pursuant to the contract prior to the effective date of termination.

2.14.5 Transition:

a. Upon award of the contract, Walter Louis Fluid Technologies shall work with the state agency and any other organizations designated by the state agency to ensure an orderly transition of services and responsibilities under the contract and to ensure the continuity of those services required by the state agency.

b. Upon expiration, termination, or cancellation of the contract, Walter Louis Fluid Technologies shall assist the state agency to ensure an orderly and smooth transfer of responsibility and continuity of those services required under the terms of the contract to an organization designated by the state

agency. If requested by the state agency, Walter Louis Fluid Technologies shall provide and/or perform any or all of the following responsibilities:

1) Walter Louis Fluid Technologies shall deliver, FOB destination, all records, documentation, reports, data, recommendations, or printing elements, etc., which were required to be produced under the terms of the contract to the state agency and/or to the state agency's designee within seven (7) days after receipt of the written request in a format and condition that are acceptable to the state agency.

2) Walter Louis Fluid Technologies shall discontinue providing service or accepting new assignments under the terms of the contract, on the date specified by the state agency, in order to ensure the completion of such service prior to the expiration of the contract.

3) If requested in writing via a formal contract amendment, Walter Louis Fluid Technologies shall agree to continue providing any part or all of the services in accordance with the terms and conditions, requirements and specifications of the contract for a period not to exceed sixty (60) calendar days after the expiration, termination or cancellations date of the contract for a price not to exceed those prices set forth in the contract.

2.14.6 WLFT Liability - Walter Louis Fluid Technologies shall be responsible for any and all personal injury (including death) or property damage as a result of Walter Louis Fluid Technologies' negligence involving any equipment or service provided under the terms and conditions, requirements and specifications of the contract. In addition, Walter Louis Fluid Technologies assumes the obligation to save the State of Missouri, including its agencies, employees, and assignees, from every expense, liability, or payment arising out of such negligent act.

a. Walter Louis Fluid Technologies also agrees to hold the State of Missouri, including its agencies, employees, and assignees, harmless for any negligent act or omission committed by any WLFT sub or other person employed by or under the supervision of Walter Louis Fluid Technologies under the terms of the contract.

b. Walter Louis Fluid Technologies shall not be responsible for any injury or damage occurring as a result of any negligent act or omission committed by the State of Missouri, including its agencies, employees, and assignees.

c. Under no circumstances shall Walter Louis Fluid Technologies be liable for any of the following: (1) third party claims against the state for losses or damages (other than those listed above); or (2) economic consequential damages (including lost profits or savings) or incidental damages, even if Walter Louis Fluid Technologies is informed of their possibility.

Please reference documents in the Appendix

2.14.7 Insurance - Walter Louis Fluid Technologies shall understand and agree that the State of Missouri cannot save and hold harmless and/or indemnify Walter Louis Fluid Technologies or employees against any liability incurred or arising as a result of any activity of Walter Louis Fluid Technologies or any activity of Walter Louis Fluid Technologies' employees related to Walter Louis Fluid Technologies' performance under the contract. Therefore, Walter Louis Fluid Technologies must acquire and maintain adequate liability insurance in the form(s) and amount(s) sufficient to protect the State of Missouri, its agencies, its employees, its clients, and the general public against any such loss, damage and/or expense related to his/her performance under the contract. General and other non-professional liability insurance shall include an endorsement that adds the State of Missouri as an additional insured. Self-insurance coverage or another alternative risk financing mechanism may be utilized provided that such coverage is verifiable and irrevocably reliable and the State of Missouri is protected as an additional insured.

2.14.8 WLFT Subs - Any subcontracts for the products/services described herein must include appropriate provisions and contractual obligations to ensure the successful fulfillment of all contractual obligations agreed to by Walter Louis Fluid Technologies and the State of Missouri and to ensure that the State of Missouri is indemnified, saved, and held harmless from and against any and all claims of damage, loss, and cost (including attorney fees) of any kind related to a subcontract in those matters described in the contract between the State of Missouri and Walter Louis Fluid Technologies.

a. Walter Louis Fluid Technologies shall expressly understand and agree that he/she shall assume and be solely responsible for all legal and financial responsibilities related to the execution of a subcontract.

b. Walter Louis Fluid Technologies shall agree and understand that utilization of WLFT subs to provide any of the products/services in the contract shall in no way relieve Walter Louis Fluid Technologies of the responsibility for providing the products/services as described and set forth herein.

c. Walter Louis Fluid Technologies must obtain the approval of the State of Missouri prior to establishing any new subcontracting arrangements and before changing any WLFT subs. The approval shall not be arbitrarily withheld.

d. Pursuant to subsection 1 of section 285.530, RSMo, no WLFT or WLFT subs shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the state of Missouri. In accordance with sections 285.525 to 285.550, RSMo, a general WLFT or WLFT sub of any tier shall not be liable when such WLFT or WLFT subs contracts with its direct WLFT sub who violates subsection 1 of section 285.530, RSMo, if the contract binding Walter Louis Fluid Technologies and WLFT sub affirmatively states that

1) The direct WLFT sub is not knowingly in violation of subsection 1 of section 285.530, RSMo, and shall not henceforth be in such violation.
2) Walter Louis Fluid Technologies or WLFT sub receives a sworn affidavit under the penalty of perjury attesting to the fact that the direct WLFT sub's employees are lawfully present in the United States.

2.14.9 Participation by Other Organizations - Walter Louis Fluid Technologies must comply with any Organization for the Blind/Sheltered Workshop, Service-Disabled Veteran Business Enterprise (SDVE), and/or Minority Business Enterprise/Women Business Enterprise (MBE/WBE) participation levels committed to in Walter Louis Fluid Technologies' awarded proposal.

a. Walter Louis Fluid Technologies shall prepare and submit to the Division of Purchasing and Materials Management a report detailing all payments made by Walter Louis Fluid Technologies to Organizations for the Blind/Sheltered Workshops, SDVEs, and/or MBE/WBEs participating in the contract for the reporting period. Walter Louis Fluid Technologies must submit the report on a monthly basis, unless otherwise determined by the Division of Purchasing and Materials Management.

b. The Division of Purchasing and Materials Management will monitor Walter Louis Fluid Technologies' compliance in meeting the Organizations for the Blind/Sheltered Workshop and SDVE participation levels committed to in Walter Louis Fluid Technologies' awarded proposal. The Division of Purchasing and Materials Management in conjunction with the Office of Equal Opportunity (OEO) will monitor Walter Louis Fluid Technologies' compliance in meeting the MBE/WBE participation levels committed to in Walter Louis Fluid Technologies' awarded proposal. If Walter Louis Fluid Technologies' payments to the participating entities are less than the amount committed, the state may cancel the contract and/or suspend or debar Walter Louis Fluid Technologies from participating in future state procurements, or retain payments to Walter Louis

Fluid Technologies in an amount equal to the value of the participation commitment less actual payments made by Walter Louis Fluid Technologies to the participating entity. If the Division of Purchasing and Materials Management determines that Walter Louis Fluid Technologies becomes compliant with the commitment, any funds retained as stated above, will be released.

c. If a participating entity fails to retain the required certification or is unable to satisfactorily perform, Walter Louis Fluid Technologies must obtain other certified MBE/WBEs or other organizations for the blind/sheltered workshops or other SDVEs to fulfill the participation requirements committed to in Walter Louis Fluid Technologies' awarded proposal.

1) Walter Louis Fluid Technologies must obtain the written approval of the Division of Purchasing and Materials Management for any new entities. This approval shall not be arbitrarily withheld.

2) If Walter Louis Fluid Technologies cannot obtain a replacement entity, Walter Louis Fluid Technologies must submit documentation to the Division of Purchasing and Materials Management detailing all efforts made to secure a replacement. The Division of Purchasing and Materials Management shall have sole discretion in determining if the actions taken by Walter Louis Fluid Technologies constitute a good faith effort to secure the required participation and whether the contract will be amended to change Walter Louis Fluid Technologies' participation commitment.

d. No later than 30 days after the effective date of the first renewal period, Walter Louis Fluid Technologies must submit an affidavit to the Division of Purchasing and Materials Management. The affidavit must be signed by the director or manager of the participating Organizations for the Blind/Sheltered Workshop verifying provision of products and/or services and compliance of all WLFT payments made to the Organizations for the Blind/Sheltered Workshops. Walter Louis Fluid Technologies may use the affidavit available on the Division of Purchasing and Materials Management's website at http://content.oa.mo.gov/sites/default/files/bswaffidavit.doc or another affidavit providing the same information.

2.14.10 WLFT Status - Walter Louis Fluid Technologies is an independent WLFT and shall not represent Walter Louis Fluid Technologies or Walter Louis Fluid Technologies' employees to be employees of the State of Missouri or an agency of the State of Missouri. Walter Louis Fluid Technologies shall assume all legal and financial responsibility for salaries, taxes, FICA, employee fringe benefits, workers compensation, employee insurance, minimum wage requirements, overtime, etc., and agrees to indemnify, save, and hold the State of Missouri, its officers, agents, and employees, harmless from and against, any and all loss; cost (including attorney fees); and damage of any kind related to such matters.

2.14.11 Coordination - Walter Louis Fluid Technologies shall fully coordinate all contract activities with those activities of the state agency. As the work of Walter Louis Fluid Technologies progresses, advice and information on matters covered by the contract shall be made available by Walter Louis Fluid Technologies to the state agency or the Division of Purchasing and Materials Management throughout the effective period of the contract.

2.14.12 Property of State – Walter Louis Fluid Technologies shall agree and understand that all documents, data, reports, supplies, equipment, and accomplishments prepared, furnished, or completed by Walter Louis Fluid Technologies pursuant to the terms of the contract shall become the property of the State of Missouri. Upon expiration, termination, or cancellation of the contract, said items shall become the property of the State of Missouri, which shall include all rights and interests for present and future use or sale as deemed appropriate by the state agency.

a. The State of Missouri understands and agrees that any ancillary software tools or pre-printed materials (e.g., project management software tools or training software tools, etc.) developed or acquired by Walter Louis Fluid Technologies that may be necessary to perform a particular service

required hereunder but not required as a specific deliverable of the contract, shall remain the property of Walter Louis Fluid Technologies; however, Walter Louis Fluid Technologies shall be responsible for ensuring such tools and materials are being used in accordance with applicable intellectual property rights and copyrights.

b. Walter Louis Fluid Technologies shall further agree that no reports, documentation, or material prepared, including the program(s) developed as required by the contract, shall be used or marketed by Walter Louis Fluid Technologies or released to the public without the prior written consent of the state agency.

2.14.13 Confidentiality:

a. Walter Louis Fluid Technologies shall agree and understand that all discussions with Walter Louis Fluid Technologies and all information gained by Walter Louis Fluid Technologies as a result of Walter Louis Fluid Technologies' performance under the contract shall be confidential and that no reports, documentation, or material prepared as required by the contract shall be released to the public without the prior written consent of the state agency.

b. If required by the state agency, Walter Louis Fluid Technologies and any required WLFT personnel must sign specific documents regarding confidentiality, security, or other similar documents upon request. Failure of Walter Louis Fluid Technologies and any required personnel to sign such documents shall be considered a breach of contract and subject to the cancellation provisions of this document.

2.14.14 Publicity - Any publicity release mentioning contract activities shall reference the contract number and the state agency. Any publications, including audiovisual items produced with contract funds, shall give credit to the contract and the state agency. Walter Louis Fluid Technologies shall obtain approval from the state agency prior to the release of such publicity or publications.

2.14.15 WLFT Equipment Use:

a. Title - Title to any equipment required by the contract shall be held by and vested in Walter Louis Fluid Technologies. The State of Missouri shall not be liable in the event of loss, incident, destruction, theft, damage, etc., for the equipment including, but not limited to, devices, wires, software, technical literature, etc. It shall be Walter Louis Fluid Technologies' sole responsibility to obtain insurance coverage for such loss in an amount that Walter Louis Fluid Technologies deems appropriate.

b. Liability - Walter Louis Fluid Technologies shall agree that the State of Missouri shall not be responsible for any liability incurred by Walter Louis Fluid Technologies or Walter Louis Fluid Technologies' employees arising out of the ownership, selection, possession, leasing, rental, operation, control, use, maintenance, delivery, return, and/or installation of equipment provided by Walter Louis Fluid Technologies, except as otherwise provided in the contract.

2.14.16 State agency equipment - Equipment purchased by the state agency and placed in the custody of Walter Louis Fluid Technologies shall remain the property of the state agency. Walter Louis Fluid Technologies must ensure these items are safeguarded and maintained appropriately, and return such equipment to the state agency within the time frame specified by the state agency.

2.14.17 Commercial Drivers License - Walter Louis Fluid Technologies and Walter Louis Fluid Technologies' drivers who, in the provision of services under the contract: (1) operate any single vehicle with a Gross Vehicle Weight Rating (GVWR) of over 26,000 pounds or any combination vehicle with a Gross Combination Weight Rating of over 26,000 pounds provided the Gross Vehicle Weight Rating of the vehicle(s) being towed is in excess of 10,000 pounds, (2) operate any size vehicle which requires hazardous materials placards, (3) operate any vehicle designed to transport more than 15 persons

(including the driver), or (4) engage in any other activity outlined in the Commercial Motor Vehicle Safety Act, must comply with all other requirements in the Commercial Motor Vehicle Safety Act. Walter Louis Fluid Technologies must submit proof or verification of compliance with such Act to the state agency no later than thirty (30) calendar days after award of the contract.

2.14.18 Hazardous Materials Data Sheet and Labeling - The State of Missouri, Division of Purchasing and Materials Management, in accordance with the revised rules and regulations of the Occupational Safety and Health Administration (OSHA) requires that all hazardous chemicals and other appropriate commodities purchased by the State of Missouri must contain a material safety data sheet and warning labels with each shipment. Therefore, Walter Louis Fluid Technologies must comply with this mandatory requirement for all commodities which contain hazardous material. Failure to comply with this requirement may cause cancellation of the contract with goods returned at Walter Louis Fluid Technologies' expense as well as suspension from the solicitation list for future requirements.

2.14.19 Prison Rape Elimination Act (PREA) Requirements:

a. All of Walter Louis Fluid Technologies' employees and agents providing service in the facility must be at least 18 years of age. A Missouri Uniform Law Enforcement System (MULES) or other background investigation may be required on Walter Louis Fluid Technologies' employees and agents before allowing entry into the institution. Such investigation shall be equivalent to investigations required of all personnel employed by the Department. The institution shall have the right to deny access into the institution for any of Walter Louis Fluid Technologies' employees or agents for any reason. Such denial shall not relieve Walter Louis Fluid Technologies of any requirements of the contract.

b. WLFT's employees and agents under active federal or state felony or misdemeanor supervision must receive written division director approval prior to performing services on a Department contract. WLFTs/employees/agents with prior felony convictions and not under active supervision must receive written division director approval in advance.

c. Walter Louis Fluid Technologies, its employees, and others acting under Walter Louis Fluid Technologies' control, shall at all times observe and comply with all applicable state statues, Department rules, regulations, guidelines, internal management policy and procedures, and general orders of the Department that are applicable, regarding operations and activities in and about all Department property. Furthermore, Walter Louis Fluid Technologies, its agents or employees, shall not obstruct the Department nor any of its designated officials from performing their duties in response to court orders or in the maintenance of a secure and safe correctional environment. Walter Louis Fluid Technologies shall comply with the Department's policy and procedures relating to employee conduct.

1) The Department has a zero tolerance policy for any form of sexual misconduct to include staff/WLFT/volunteer on offender or offender on offender sexual harassment, sexual assault, sexual abusive contact and consensual sex. Any WLFT or WLFT's employee or agent who witnesses sexual abuse or sexual harassment must immediately report it to the warden. A WLFT or WLFT's employee or agent who engages in, fails to report, or knowingly condones sexual harassment or sexual contact with or between offenders shall be grounds for canceling the contract and may subject Walter Louis Fluid Technologies or WLFT's employee or agent to criminal prosecution.

2) Any WLFT, WLFT's employee or agent who has engaged in sexual abuse in a prison, jail, lockup, community confinement facility, juvenile facility or other institution shall be denied access into the institution.

d. Walter Louis Fluid Technologies and/or WLFT's employees and agents shall not interact with the offenders except as is necessary to perform the requirements of the contract. Walter Louis Fluid

Technologies and/or WLFT's employees and agents shall not give anything to nor accept anything from the offenders except in the normal performance of the contract.

3. PROPOSAL SUBMISSION INFORMATION

3.1 Submission of Proposals:

3.1.1 ELECTRONIC SUBMISSION OF PROPOSALS THROUGH THE ON-LINE BIDDING/VENDOR REGISTRATION SYSTEM WEB SITE IS NOT AVAILABLE FOR THIS RFP.

3.1.2 When submitting a proposal, WLFT will include six (6) additional copies along with their original proposal. The front cover of the original proposal is labeled "original" and the front cover of all copies are labeled "copy".

a. Recycled Products - The State of Missouri recognizes the limited nature of our resources and the leadership role of government agencies in regard to the environment. Accordingly, WLFT is requested, but not required, to print the proposal double sided using recycled paper, if possible, and minimize or eliminate the use of non-recyclable materials such as plastic report covers, plastic dividers, vinyl sleeves, and binding. Lengthy proposals may be submitted using printer or other loose leaf paper in a notebook or binder.

b. Open Records - Pursuant to section 610.021, RSMo, WLFT's proposal shall be considered an open record after a contract is executed or all proposals are rejected. At that time, all proposals are scanned into the Division of Purchasing and Materials Management imaging system.

1) The scanned information will be available for viewing through the Internet from the Division of Purchasing and Materials Management Awarded Bid & Contract Document Search system. Therefore, WLFT is advised not to include any information in the proposal that WLFT does not want to be viewed by the public, including personal identifying information such as social security numbers.
2) In preparing a proposal, WLFT should be mindful of document preparation efforts for imaging purposes and storage capacity that will be required to image the proposals and should limit proposal content to items that provide substance, quality of content, and clarity of information.

3.1.3 To facilitate the evaluation process, WLFT is encouraged to organize their proposal into sections that correspond with the individual evaluation categories described herein. WLFT is cautioned that it is WLFT's sole responsibility to submit information related to the evaluation categories and that the State of Missouri is under no obligation to solicit such information if it is not included with the proposal. WLFT's failure to submit such information may cause an adverse impact on the evaluation of the proposal.

a. Each section should be titled with each individual evaluation category and all material related to that category should be included therein.
b. The proposal should be page numbered.
c. The signed page one from the original RFP and all signed amendments should be placed at the beginning of the proposal.

3.1.4 Questions Regarding the RFP - Except as may be otherwise stated herein, WLFT and WLFT's agents (including WLFT subs, employees, consultants, or anyone else acting on their behalf) must direct all of their questions or comments regarding the RFP, the solicitation process, the evaluation, etc., to the buyer of record indicated on the first page of this RFP. Inappropriate contacts to other personnel are grounds for suspension and/or exclusion from specific procurements. WLFT and their agents who have questions regarding this matter should contact the buyer.

a. The buyer may be contacted via e-mail or phone as shown on the first page, or via facsimile to 573-526-9816.

b. Only those questions which necessitate a change to the RFP will be addressed via an amendment to the RFP. Written records of the questions and answers will not be maintained. WLFTs are advised that any questions received less than ten calendar days prior to the RFP opening date may not be addressed.

c. WLFT may contact the Office of Equal Opportunity (OEO) regarding MBE/WBE certification or subcontracting with MBE/WBE companies.

3.2 Competitive Negotiation of Proposals - WLFT is advised that under the provisions of this Request for Proposal, the Division of Purchasing and Materials Management reserves the right to conduct negotiations of the proposals received or to award a contract without negotiations. If such negotiations are conducted, the following conditions shall apply:

3.2.1 Negotiations may be conducted in person, in writing, or by telephone.

3.2.2 Negotiations will only be conducted with potentially acceptable proposals. The Division of Purchasing and Materials Management reserves the right to limit negotiations to those proposals which received the highest rankings during the initial evaluation phase. WLFT is involved in the negotiation process and will be invited to submit a best and final offer.

3.2.3 Terms, conditions, prices, methodology, or other features of WLFT's proposal may be subject to negotiation and subsequent revision. As part of the negotiations, WLFT may be required to submit supporting financial, pricing and other data in order to allow a detailed evaluation of the feasibility, reasonableness, and acceptability of the proposal.

3.2.4 The mandatory requirements of the Request for Proposal shall not be negotiable and shall remain unchanged unless the Division of Purchasing and Materials Management determines that a change in such requirements is in the best interest of the State of Missouri.

3.3 Evaluation and Award Process:

3.3.1 After determining that a proposal satisfies the mandatory requirements stated in the Request for Proposal, the evaluator(s) shall use both objective analysis and subjective judgment in conducting a comparative assessment of the proposal in accordance with the evaluation criteria stated below. The contract shall be awarded to the lowest and best proposal.

a. Cost ..... 100 points
b. WLFT's Experience, Reliability and Expertise of Personnel ..... 30 points
c. Method of Performance ..... 60 points
d. MBE/WBE Participation ..... 10 points

3.3.2 After an initial screening process, a question and answer conference or interview may be conducted with WLFT, if deemed necessary by the Division of Purchasing and Materials Management. In addition, WLFT may be asked to make an oral presentation of their proposal during the conference. Attendance cost at the conference shall be at WLFT's expense. All arrangements and scheduling shall be coordinated by the Division of Purchasing and Materials Management.

3.4 Evaluation of Cost:

3.4.1 Pricing – WLFT must provide pricing as required on the Pricing Page.

3.4.2 Objective Evaluation of Cost – The objective evaluation of cost shall be calculated based on a total cost determined using the quantities stated below and the firm, fixed price stated on the Pricing Page for the original and each potential renewal period:

1) Guaranteed not-to-exceed prices for each facility,
2) One (1) of each Chemical and Contingency chemical
3) One (1) of each chemical for the closed loop heating and cooling systems to treat 10,000 gallons of makeup water, and the contingency chemicals,
4) One (1) of each fuel oil chemical needed to treat 400,000 gallons of diesel fuel, and the contingency chemicals,
5) One (1) resin analysis and elution study,
6) One (1) gallon of resin cleaning solution,
7) 55-gallons of polymerized sodium polyphosphate,
8) 55-gallons of sodium hypochlorite bleach,
9) One (1) gallon of Calcium Nitrate,
10) One (1) gallon of Aqueous Organic Sulfides,
11) One (1) gallon of Ferrous Sulfate,
12) One (1) gallon of Bio-L-220 Grease Digesting Bacteria or approved equal,
13) One (1) Bench top PH. Meter/Microcomputer (test equipment),
14) One (1) Bench top T.D.S. Conductivity Meter (test equipment),
15) Propylene Glycol & Ethylene Glycol Refractometer,
16) $10,000 worth of chemical feed equipment*, and
17) $5,000 worth of storage tanks*.

*The $10,000 worth of chemical feed equipment, and the $5,000 worth of storage tanks shall not be included in the cost evaluation, only the total of the percentage over the actual net cost shall be included.

a. Cost evaluation points shall be determined from the result of the calculation stated above using the following formula:

$$\frac{\text{Lowest Responsive WLFT's Price}}{\text{Compared WLFT's Price}} \times \text{Maximum Cost Evaluation points (100)} \cdot \text{Assigned Cost Points}$$

b. WLFT shall agree and understand that the quantities used in the evaluation of cost are provided solely to document how cost will be evaluated. The State of Missouri makes no guarantee regarding the accuracy of the quantities stated nor does the State of Missouri intend to imply that the figures used for the cost evaluation in any way reflect either actual or anticipated usage.

3.5 Evaluation of WLFT's Experience and Reliability and Expertise of Personnel:

3.5.1 Experience and reliability of WLFT 's organization will be considered subjectively in the evaluation process. Therefore, WLFT is advised to submit information concerning WLFT 's organization and information documenting WLFT 's experience in past performances, especially those performances related to the requirements of this RFP. If WLFT is proposing an entity other than WLFT to perform the required services, WLFT should also submit the information requested for such proposed WLFT sub.

a. WLFT Information - WLFT should provide information about WLFT 's organization on Exhibit A.

b. Experience - WLFT should provide information related to previous and current services/contracts of WLFT or WLFT's proposed WLFT sub where performance was similar to the required services of this RFP. The information may be shown on Exhibit B or in a similar manner.

1) As part of the evaluation process, the State of Missouri may contact WLFT 's references, including references not listed or identified within WLFT 's proposal but who have current or previous experiences with WLFT .
2) WLFT shall agree and understand that the State of Missouri is not obligated to contact WLFT 's references.

3.5.2 The qualifications of the personnel proposed by WLFT to perform the requirements of this RFP, whether from WLFT 's organization or from a proposed WLFT sub, will be subjectively evaluated. Therefore, WLFT should submit detailed information related to the experience and qualifications, including education and training, of proposed personnel.

a. Personnel Expertise - WLFT should provide the information requested on Exhibit C for each key person proposed to provide the services required herein. If additional personnel resources are available, WLFT may provide information for such personnel by completing Exhibit D.

1) The information provided should be structured to emphasize relevant qualifications and experience of the personnel in completing contracts/performing services of a similar size and scope to the requirements of this RFP.
2) The information submitted should clearly identify previous experience of the person in performing similar services and should include beginning and ending dates, a description of the role of the person in such performances, results of the services performed, and whether the person is proposed for the same services for the State of Missouri.

b. Personnel Qualifications - If personnel are not yet hired, WLFT should provide detailed descriptions of the required employment qualifications; and detailed job descriptions of the position to be filled, including the type of person proposed to be hired.

3.6 Evaluation of Method of Performance - Proposals will be subjectively evaluated based on WLFT 's plan for performing the requirements of the RFP. Therefore, WLFT should present information which demonstrates the method or manner in which WLFT proposes to satisfy these requirements and which confirms WLFT 's ability to satisfy the requirements. The language of the narrative should be straightforward and limited to facts, solutions to problems, and plans of action.

3.6.1 Water Samples– WLFT should conduct a chemistry analysis of each sample taken during the inspection of each waterside area of the steam and hydronic system at each of the facilities listed on Attachment #1. WLFT should submit dated test results of the chemistry analysis of the water sample with the proposal.

3.6.2 Water Treatment Program - Based on WLFT 's inspections of the steam and hydronic systems, WLFT should utilize Exhibit E and submit supporting documentation to fully describe and explain the proposed water treatment program for each facility.

3.6.3 Description of Proposed Services Exhibit F is provided for WLFT 's use in providing information about the proposed method of performance. Unless a particular requirement is not conducive to elaboration, each paragraph within the Contractual Requirements may be addressed by writing a description of how, when, by whom, with what, to what degree, why, and where the requirement will be satisfied and otherwise detailing WLFT 's understanding of the requirements and ability and methodology to successfully perform. When responding to the appropriate provisions in the Contractual Requirements, WLFT should identify the paragraph or subparagraph number then provide the additional elaboration describing WLFT 's plans for performing or meeting the requirement.

3.7 Evaluation of WLFT's Minority Business Enterprise (MBE)/ Women Business Enterprise (WBE) Participation:

3.7.1 In order for the Division of Purchasing and Materials Management (DPMM) to meet the provisions of Executive Order 05-30, WLFT should secure participation of certified MBEs and WBEs in providing the

products/services required in this RFP. The targets of participation recommended by the State of Missouri are 10% MBE and 5% WBE of the total dollar value of the contract.

a. These targets can be met by a qualified MBE/WBE WLFT themselves and/or through the use of qualified WLFT subs, suppliers, joint ventures, or other arrangements that afford meaningful opportunities for MBE/WBE participation.

b. The services performed or the products provided by MBE/WBEs must provide a commercially useful function related to the delivery of the contractually-required service/product in a manner that will constitute an added value to the contract and shall be performed/provided exclusive to the performance of the contract. Therefore, if the services performed or the products provided by MBE/WBEs is utilized, to any extent, in WLFT 's obligations outside of the contract, it shall not be considered a valid added value to the contract and shall not qualify as participation in accordance with this clause.

c. In order to be considered as meeting these targets, the MBE/WBEs must be "qualified" by the proposal opening date (date the proposal is due). (See below for a definition of a qualified MBE/WBE.)

3.7.2 WLFT 's proposed participation of MBE/WBE firms in meeting the targets of the RFP will be considered in the evaluation process as specified below:

a. <u>If Participation Meets Target:</u> WLFTs proposing MBE and WBE participation percentages that meet the State of Missouri's target participation percentage of 10% for MBE and 5% for WBE shall be assigned the maximum stated MBE/WBE Participation evaluation points.

b. <u>If Participation Exceeds Target:</u> WLFTs proposing MBE and WBE participation percentages that exceed the State of Missouri's target participation shall be assigned the same MBE/WBE Participation evaluation points as those meeting the State of Missouri's target participation percentages stated above.

c. <u>If Participation Below Target:</u> WLFT proposing MBE and WBE participation percentages that are lower than the State of Missouri's target participation percentages of 10% for MBE and 5% for WBE shall be assigned a proportionately lower number of the MBE/WBE Participation evaluation points than the maximum MBE/WBE Participation evaluation points.

d. <u>If No Participation:</u> WLFTs failing to propose any commercially useful MBE/WBE participation shall be assigned a score of 0 in this evaluation category.

3.7.3 MBE/WBE Participation evaluation points shall be assigned using the following formula:

$$\frac{\text{WLFT's Proposed MBE \% } \leq 10\% + \text{WBE \% } \leq 5\%}{\text{State's Target MBE \% (10) + WBE \% (5)}} \times \begin{array}{c}\text{Maximum}\\ \text{MBE/WBE}\\ \text{Participation}\\ \text{Evaluation points}\\ (10)\end{array} = \begin{array}{c}\text{Assigned}\\ \text{MBE/WBE}\\ \text{Participation}\\ \text{points}\end{array}$$

3.7.4 If WLFT is proposing MBE/WBE participation, in order to receive evaluation consideration for MBE/WBE participation, WLFT must provide the following information with the proposal.

a. Participation Commitment - If WLFT is proposing MBE/WBE participation, WLFT must complete Exhibit G, Participation Commitment, by listing each proposed MBE and WBE, the committed percentage of participation for each MBE and WBE, and the commercially useful products/services to be provided by the listed MBE and WBE. If WLFT submitting the proposal is a qualified MBE

and/or WBE, WLFT must include WLFT in the appropriate table on the Participation Commitment Form.

b. Documentation of Intent to Participate - WLFT must either provide a properly completed Exhibit H, Documentation of Intent to Participate Form, signed and dated no earlier than the RFP issuance date by each MBE and WBE proposed or must provide a letter of intent signed and dated no earlier than the RFP issuance date by each MBE and WBE proposed which: (1) must describe the products/services the MBE/WBE will provide and (2) should include evidence that the MBE/WBE is qualified, as defined herein (i.e., the MBE/WBE Certification Number or a copy of MBE/WBE certificate issued by the Missouri OEO). If WLFT submitting the proposal is a qualified MBE and/or WBE, WLFT is not required to complete Exhibit H, Documentation of Intent to Participate Form or provide a recently dated letter of intent.

3.7.5 Commitment – If WLFT's proposal is awarded, the percentage level of MBE/WBE participation committed to by WLFT on Exhibit G, Participation Commitment, shall be interpreted as a contractual requirement.

3.7.6 Definition -- Qualified MBE/WBE:

a. In order to be considered a qualified MBE or WBE for purposes of this RFP, the MBE/WBE must be certified by the State of Missouri, Office of Administration, Office of Equal Opportunity (OEO) by the proposal opening date.

b. MBE or WBE means a business that is a sole proprietorship, partnership, joint venture, or corporation in which at least fifty-one percent (51%) of the ownership interest is held by minorities or women and the management and daily business operations of which are controlled by one or more minorities or women who own it.

c. Minority is defined as belonging to one of the following racial minority groups: African Americans, Native Americans, Hispanic Americans, Asian Americans, American Indians, Eskimos, Aleuts, and other groups that may be recognized by the Office of Advocacy, United States Small Business Administration, Washington, D.C.

3.7.7 Resources - A listing of several resources that are available to assist WLFT in their efforts to identify and secure the participation of qualified MBEs and WBEs is available at the website shown below or by contacting the Office of Equal Opportunity (OEO) at:

Office of Administration, Office of Equal Opportunity (OEO)
Harry S Truman Bldg., Room 630, P.O. Box 809, Jefferson City, MO 65102-0809
Phone: (877) 259-2963 or (573) 751-8130
Fax: (573) 522-8078
Web site: http://oeo.mo.gov

3.8 Miscellaneous Submittal Information:

3.8.1 Organizations for the Blind and Sheltered Workshop Preference - Pursuant to section 34.165, RSMo, and 1 CSR 40-1.050, a ten (10) bonus point preference shall be granted to WLFTs including products and/or services manufactured, produced or assembled by a qualified nonprofit organization for the blind established pursuant to 41 U.S.C. sections 46 to 48c or a sheltered workshop holding a certificate of approval from the Department of Elementary and Secondary Education pursuant to section 178.920, RSMo.

a. In order to qualify for the ten bonus points, the following conditions must be met and the following evidence must be provided:

1) WLFT must either be an organization for the blind or sheltered workshop or must be proposing to utilize an organization for the blind/sheltered workshop as a WLFT sub and/or supplier in an amount that must equal the greater of $5,000 or 2% of the total dollar value of the contract for purchases not exceeding $10 million.

2) The services performed or the products provided by an organization for the blind or sheltered workshop must provide a commercially useful function related to the delivery of the contractually-required service/product in a manner that will constitute an added value to the contract and shall be performed/provided exclusive to the performance of the contract. Therefore, if the services performed or the products provided by the organization for the blind or sheltered workshop is utilized, to any extent, in WLFT 's obligations outside of the contract, it shall not be considered a valid added value to the contract and shall not qualify as participation in accordance with this clause.

3) If WLFT is proposing participation by an organization for the blind or sheltered workshop, in order to receive evaluation consideration for participation by the organization for the blind or sheltered workshop, WLFT must provide the following information with the proposal:

- Participation Commitment - WLFT must complete Exhibit G, Participation Commitment, by identifying the organization for the blind or sheltered workshop, the amount of participation committed, and the commercially useful products/services to be provided by the listed organization for the blind or sheltered workshop. If WLFT submitting the proposal is an organization for the blind or sheltered workshop, WLFT must be listed in the appropriate table on the Participation Commitment Form.

- Documentation of Intent to Participate – WLFT must either provide a properly completed Exhibit H, Documentation of Intent to Participate Form, signed and dated no earlier than the RFP issuance date by the organization for the blind or sheltered workshop proposed or must provide a recently dated letter of intent signed and dated no earlier than the RFP issuance date by the organization for the blind or sheltered workshop which: (1) must describe the products/services the organization for the blind/sheltered workshop will provide and (2) should include evidence of the organization for the blind/sheltered workshop qualifications (e.g. copy of certificate or Certificate Number for Missouri Sheltered Workshop).

  NOTE: If WLFT submitting the proposal is an organization for the blind or sheltered workshop, WLFT is not required to complete Exhibit H, Documentation of Intent to Participate Form or provide a recently dated letter of intent.

b. A list of Missouri sheltered workshops can be found at the following Internet address:
http://dese.mo.gov/se/sw/se-sw-directories.html

c. The websites for the Missouri Lighthouse for the Blind and the Alphapointe Association for the Blind can be found at the following Internet addresses:
http://www.lhbindustries.com
http://www.alphapointe.org

d. Commitment – If WLFT 's proposal is awarded, the organization for the blind or sheltered workshop participation committed to by WLFT on Exhibit G, Participation Commitment, shall be interpreted as a contractual requirement.

3.8.2 Service-Disabled Veteran Business Enterprises (SDVEs) – Pursuant to section 34.074, RSMo, and 1 CSR 40-1.050, the Division of Purchasing and Materials Management (DPMM) has a goal of awarding three (3) percent of all contracts for the performance of any job or service to qualified service-disabled veteran

business enterprises (SDVEs). A three (3) point bonus preference shall be granted to WLFTs including products and/or services manufactured, produced or assembled by a qualified SDVE.

a. In order to qualify for the three bonus points, the following conditions must be met and the following evidence must be provided:

1) WLFT must either be an SDVE or must be proposing to utilize an SDVE as a WLFT sub and/or supplier that provides at least three percent (3%) of the total contract value.

2) The services performed or the products provided by the SDVE must provide a commercially useful function related to the delivery of the contractually-required service/product in a manner that will constitute an added value to the contract and shall be performed/provided exclusive to the performance of the contract. Therefore, if the services performed or the products provided by the SDVE are utilized, to any extent, in WLFT's obligations outside of the contract, it shall not be considered a valid added value to the contract and shall not qualify as participation in accordance with this clause.

3) In order to receive evaluation consideration for participation by an SDVE, WLFT must provide the following information with the proposal:

- Participation Commitment - WLFT must complete Exhibit G, Participation Commitment, by identifying each proposed SDVE, the committed percentage of participation for each SDVE, and the commercially useful products/services to be provided by the listed SDVE. If WLFT submitting the proposal is a qualified SDVE, WLFT must be listed in the appropriate table on the Participation Commitment Form.

- Documentation of Intent to Participate – WLFT must either provide a properly completed Exhibit H, Documentation of Intent to Participate Form, signed and dated no earlier than the RFP issuance date by the SDVE or a recently dated letter of intent signed and dated no earlier than the RFP issuance date by the SDVE which: (1) must describe the products/services the SDVE will provide and (2) must include the SDV Documents described below as evidence that the SDVE is qualified, as defined herein.

- Service-Disabled Veteran (SDV) Documents - If a participating organization is an SDVE, unless previously submitted within the past five (5) years to the DPMM, WLFT **must** provide the following Service-Disabled Veteran (SDV) documents:

  ✓ a copy of the SDV's award letter from the Department of Veterans Affairs or a copy of the SDV's discharge paper (DD Form 214, Certificate of Release or Discharge from Active Duty); and
  ✓ a copy of the SDV's documentation certifying disability by the appropriate federal agency responsible for the administration of veterans' affairs.

  NOTE:

  a) If WLFT submitting the proposal is a qualified SDVE, WLFT must include the SDV Documents as evidence that WLFT qualifies as an SDVE. However, WLFT is not required to complete Exhibit H, Documentation of Intent to Participate Form or provide a recently dated letter of intent.

  b) If the SDVE and SDV are listed on the following Internet address, WLFT is not required to provide the SDV Documents listed above.
  http://content.oa.mo.gov/sites/default/files/sdvelisting.pdf

b. Commitment – If awarded a contract, the SDVE participation committed to by WLFT on Exhibit G, *Participation Commitment, shall be interpreted as a contractual requirement.*

c. Definition - Qualified SDVE:

1) SDVE is doing business as a Missouri firm, corporation, or individual or maintaining a Missouri office or place of business, not including an office of a registered agent;

2) SDVE has not less than fifty-one percent (51%) of the business owned by one (1) or more service-disabled veterans (SDVs) or, in the case of any publicly-owned business, not less than fifty-one percent (51%) of the stock of which is owned by one (1) or more SDVs;

3) SDVE has the management and daily business operations controlled by one (1) or more SDVs;

4) SDVE has a copy of the SDV's award letter from the Department of Veterans Affairs or a copy of the SDV's discharge paper (DD Form 214, Certificate of Release or Discharge from Active Duty), and a copy of the SDV's documentation certifying disability by the appropriate federal agency responsible for the administration of veterans' affairs; and

5) SDVE possesses the power to make day-to-day as well as major decisions on matters of management, policy, and operation.

3.8.3 Affidavit of Work Authorization and Documentation - Pursuant to section 285.530, RSMo, if WLFT meets the section 285.525, RSMo, definition of a "business entity" (http://www.moga.mo.gov/statutes/C200-299/2850000525.HTM), WLFT must affirm WLFT 's enrollment and participation in the E-Verify federal work authorization program with respect to the employees hired after enrollment in the program who are proposed to work in connection with the services requested herein. WLFT should complete applicable portions of Exhibit I Business Entity Certification, Enrollment Documentation, and Affidavit of Work Authorization. The applicable portions of Exhibit I must be submitted prior to an award of a contract.

3.8.4 WLFT should complete and submit Exhibit J, Miscellaneous Information.

3.8.5 Business Compliance - WLFT must be in compliance with the laws regarding conducting business in the State of Missouri. WLFT certifies by signing the signature page of this original document and any amendment signature page(s) that WLFT and any proposed WLFT subs either are presently in compliance with such laws or shall be in compliance with such laws prior to any resulting contract award. WLFT shall provide documentation of compliance upon request by the Division of Purchasing and Materials Management. The compliance to conduct business in the state shall include, but not necessarily be limited to:

a. Registration of business name (if applicable)
b. Certificate of authority to transact business/certificate of good standing (if applicable)
c. Taxes (e.g., city/county/state/federal)
d. State and local certifications (e.g., professions/occupations/activities)
e. Licenses and permits (e.g., city/county license, sales permits)
f. Insurance (e.g., worker's compensation/unemployment compensation)

3.8.6 Debarment Certification – WLFT certifies by signing the signature page of this original document and any amendment signature page(s) that WLFT is not presently debarred, suspended, proposed for debarment, declared ineligible, voluntarily excluded from participation, or otherwise excluded from or ineligible for participation under federal assistance programs. WLFT should complete and return the attached certification regarding debarment, etc., Exhibit K with the proposal. This document must be satisfactorily completed prior to award of the contract.

4. PRICING PAGE

4.1 WLFT shall provide guaranteed not-to-exceed pricing for all facilities identified herein to provide the Water Treatment Services in accordance with the provisions and requirements of the RFP. (c/s code 96896)

Water Treatment Services - WLFT shall state a guaranteed not-to-exceed price for the original contract period and a maximum guaranteed not-to-exceed price for each potential renewal period for each facility for performance of all requirements, including all chemicals identified in Exhibit E, based upon normal usage in accordance with the provisions and requirements of the RFP. All costs associated with providing the required services identified within the scope of the RFP, including training, personnel, inspection, testing, reporting, chemicals, reagents, equipment (as specified in Attachment #3), and manuals shall be included in the guaranteed not-to-exceed price per facility.

Line Item	FACILITY	ORIGINAL CONTRACT PERIOD GUARANTEED NOT-TO-EXCEED PRICE (2 YEARS)	FIRST RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED MAXIMUM PRICE (1 YEAR)	SECOND RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED MAXIMUM PRICE (1 YEAR)	THIRD RENEWAL PERIOD GUARANTEED NOT-TO-EXCEED MAXIMUM PRICE (1 YEAR)
Department of Corrections Facilities					
001	Algoa Correctional Center	$ 2,100.00	$ 2,184.00	$ 2,271.00	$ 2,362.00
002	Boonville Correctional Center	$ 13,789.00	$ 14,341.00	$ 14,914.00	$ 15,511.00
003	Central Missouri Correctional Center	$ 0	$ 0	$ 0	$ 0
004	Chillicothe Correctional Center	$ 9,350.00	$ 9,724.00	$ 10,112.96	$ 10,517.48
005	Crossroads Correctional Center	$ 9,300.00	$ 9,672.00	$ 10,059.00	$ 10,461.00
006	Eastern Reception Diagnostic and Correctional Center	$ 25,700.00	$ 26,728.00	$27,797.00	$ 28,909.00
007	Farmington Community Supervision Center	$ 0	$ 0	$ 0	$ 0
008	Farmington Correctional Center	$ 59,800.00	$ 62,192.00	$ 64,680.00	$ 67,267.00
009	Fulton Reception & Diagnostic Center	$ 3,300.00	$ 3,432.00	$ 3,569.00	$ 3,712.00

010	Hannibal Community Supervision Center	$ 0	$ 0	$ 0	$ 0
011	Jefferson City Correctional Center	$ 39,600.00	$ 41,184.00	$ 42,831.00	$44,545.00
012	Kansas City Community Release Center	$ 0	$ 0	$ 0	$ 0
013	Kennett Community Supervision Center	$ 0	$ 0	$ 0	$ 0
014	Maryville Treatment Center	$ 2,600.00	$ 2,704.00	$ 2,812.16	$ 2,925.00
015	Missouri Eastern Correctional Center	$ 0	$ 0	$ 0	$ 0
016	Moberly Correctional Center	$ 13,570.00	$ 14,113.00	$ 14,677.00	$ 15,264.00
017	Northeast Correctional Center	$ 0	$ 0	$ 0	$ 0
018	Ozark Correctional Center	$ 17,700.00	$ 18,408.00	$ 19,144.00	$ 19,910.00
019	Poplar Bluff Community Supervision Center	$ 0	$ 0	$ 0	$ 0
020	Potosi Correctional Center	$12,650.00	$13,156.00	$ 13,682.00	$ 14,230.00
021	South Central Correctional Center	$ 11,852.00	$ 12,326.00	$ 12,819.00	$ 13,332.00
022	Southeast Correctional Center	$ 13,420.00	$ 13,957.00	$ 14,515.00	$ 15,096.00
023	St. Louis Community Release Center	$ 0	$ 0	$ 0	$ 0
024	St. Joseph Community Supervision Center	$ 0	$ 0	$ 0	$ 0
025	Tipton Correctional Center	$ 10,700.00	$ 11,128.00	$ 11,573.00	$ 12,036.00
026	Western Missouri Correctional Center	$ 1,700.00	$ 1,768.00	$ 1,839.00	$ 1,912.00

027	Western Reception Diagnostic and Correctional Center	$ 33,500.00	$ 34,840.00	$ 36,234.00	$ 37,683.00
028	Women's Eastern Reception Diagnostic and Correctional Center	$ 22,300.00	$ 23,192.00	$ 24,120.00	$ 25,085.00
029	MVE Complex (Jefferson City)	$ 1,850.00	$ 1,924.00	$ 2,001.00	$ 2,081.00
Division of Facilities Management, Design and Construction Facilities					
030	Fletcher Daniels State Office Building	$ 9,200.00	$ 9,568.00	$ 9,950.72	$ 10,348.75
031	Kansas City DOLIR State Office Building	$ 0	$ 0	$ 0	$ 0
032	Prince Hall State Office Building	$ 4,800.00	$ 4,992.00	$ 5,192.00	$ 5,399.00
033	St. Joseph Career Center	$ 0	$ 0	$ 0	$ 0
034	St. Joseph State Office Building	$ 4,200.00	$ 4,368.00	$ 4,543.00	$ 4,724.00
035	Wainwright State Office Building	$ 4,900.00	$ 5,096.00	$ 5,300.00	$ 5,512.00
Department of Elementary and Secondary Education Facilities					
036	B.W. Robinson State School	$ 0	$ 0	$ 0	$ 0
037	Boonslick State School	$ 0	$ 0	$ 0	$ 0
038	Cedar Ridge State School	$ 0	$ 0	$ 0	$ 0
039	College View State School	$ 0	$ 0	$ 0	$ 0
040	Delmar Cobble State School	$ 0	$ 0	$ 0	$ 0
041	Gateway/Hubert Wheeler State School	$ 0	$ 0	$ 0	$ 0

042	Greene Valley State School	$ 0	$ 0	$ 0	$ 0
043	Lakeview Woods State School	$ 0	$ 0	$ 0	$ 0
044	Maple Valley State School	$ 0	$ 0	$ 0	$ 0
045	Missouri School for the Blind	$ 7,800.00	$ 8,112.00	$ 8,436.00	$8,774.00
046	Missouri School for the Deaf-Kerr	$ 0	$ 0	$ 0	$ 0
047	Missouri School for the Deaf-Resource Center	$ 0	$ 0	$ 0	$ 0
048	Missouri School for the Deaf-Rice	$ 0	$ 0	$ 0	$ 0
049	Missouri School for the Deaf-Stark	$ 3,900.00	$ 4,056.00	$ 4,218.24	$ 4,386.97
050	Missouri School for the Deaf-Tate	$1,400.00	$ 1,456.00	$ 1,514.00	1,575.00
051	Missouri School for the Deaf-Vocational	$ 0	$ 0	$ 0	$ 0
052	Missouri School of the Deaf-Wheeler	5,800.00	$ 6,032.00	$ 6,273.28	$ 6,524.22
053	Oakview State School	$ 0	$ 0	$ 0	$ 0
054	Prairie View State School	$ 0	$ 0	$ 0	$ 0
055	Rolling Meadows State School	$ 0	$ 0	$ 0	$ 0
056	Shady Grove State School	$ 2,400.00	$ 2,496.00	$ 2,595.84	$ 2,699.68
057	Trails West State School (Dale M. Thompson)	$ 1,800.00	$ 1,872.00	$ 1,947.00	$ 2,025.00
058	Verelle Peniston State School	$ 0	$ 0	$ 0	$ 0

Department of Mental Health Facilities					
059	Albany Regional Center	$ 0	$ 0	$ 0	$ 0
060	Bellefontaine Habilitation Center	$ 6,700.00	$ 6,968.00	$ 7,247.00	$ 7,537.00
061	Fulton State Hospital	$ 39,050.00	$ 40,612.00	$ 42,236.00	$ 43,926.00
062	Hawthorne Children's Psychiatric Hospital	$ 0	$ 0	$ 0	$ 0
063	Higginsville Habilitation Center	$ 1,600.00	$ 1,664.00	$ 1,731.00	$ 1,800.00
064	Joplin Regional Center	$ 0	$ 0	$ 0	$ 0
065	Marshall Habilitation Center	$ 3,060.00	$ 3,182.00	$ 3,310.00	$ 3,442.00
066	Metropolitan St. Louis Psychiatric Center	$ 6,425.00	$ 6,682.00	$ 6,949.00	$ 7,227.00
067	Missouri Sex Offender Treatment Center	$ 0	$ 0	$ 0	$ 0
068	Nevada Habilitation Center	$8,400.00	$ 8,736.00	$ 9,085.00	$ 9,449.00
069	Northwest Habilitation Center	$ 0	$ 0	$ 0	$ 0
070	Northwestern Missouri Psychiatric Rehabilitation Center	$ 10,280.00	$ 10,691.00	$11,119.00	$ 11,564.00
071	Sikeston Regional Office	$ 0	$ 0	$ 0	$ 0
072	South County Habilitation Center	$ 0	$ 0	$ 0	$ 0
073	Southeast Missouri Mental Health Center	$ 8,610.00	$ 8,954.00	$ 9,313.00	$9,685.00
074	St. Charles Habilitation Center	$ 0	$ 0	$ 0	$ 0

075	St. Louis Psychiatric Rehabilitation Center	$ 12,500.00	$ 13,000.00	$ 13,520.00	$ 14,060.80
076	Western Missouri Mental Health Center	$ 7.560.00	$ 7,862.00	$ 8,177.00	$ 8,504.00
	Missouri State Highway Patrol Facilities				
077	MSHP Crime Lab – Springfield	$ 0	$ 0	$ 0	$ 0
078	MSHP General Headquarters Academy: Jefferson City	$ 0	$ 0	$ 0	$ 0
079	MSHP General Headquarters Annex: Jefferson City	$ 0	$ 0	$ 0	$ 0
080	MSHP General Headquarters – Jefferson City	$ 8,100.00	$ 8,424.00	$ 8,761.00	$ 9,111.00
081	MSHP Troop A – Lee's Summit	$ 0	$ 0	$ 0	$ 0
082	MSHP Troop B – Macon	$ 0	$ 0	$ 0	$ 0
083	MSHP Troop C Service Center – Park Hills	$ 0	$ 0	$ 0	$ 0
084	MSHP Troop F – N. Shamrock Rd, Jefferson City	$ 0	$ 0	$ 0	$ 0
085	MSHP Troop I - Rolla	$ 0	$ 0	$ 0	$ 0
	Missouri Veterans Commission Facilities				
086	Missouri Veterans Home-Cameron	$ 6,500.00	$6,760.00	$ 7,030.00	$7,312.00
087	Missouri Veterans Home-Cape Girardeau	$ 6,600.00	$ 6,864.00	$ 7,139.00	$ 7,424.00
088	Missouri Veterans Home-Mexico	$ 7,700.00	$8,008.00	$ 8,328.00	$ 8,661.00
089	Missouri Veterans Home-Mt. Vernon	$8,200.00	$8,528.00	$ 8,869.00	$ 9,224.00
090	Missouri Veterans				

	Home-St. James	$6,700.00	$6,968.00	$7,247.00	$7,537.00
091	Missouri Veterans Home-St. Louis	$ 4,960.00	$ 5,158.00	$ 5,365.00	$ 5,579.00
092	Missouri Veterans Home-Warrensburg	$ 8,600.00	$ 8,944.00	$ 9,302.00	$ 9,674.00
Division of Social Services, Youth Services Facilities					
093	Fulton Treatment Center	$ 0	$ 0	$ 0	$ 0
094	Hogan Street Youth Center	$ 0	$ 0	$ 0	$ 0
095	Montgomery City Youth Center	$ 0	$ 0	$ 0	$ 0
096	Mt. Vernon Treatment Center	$ 0	$ 0	$ 0	$ 0
097	Riverbed Treatment Center	$ 0	$ 0	$ 0	$ 0
098	W.E. Sears Youth Center	$ 0	$ 0	$ 0	$ 0

4.2 Additional Chemicals: WLFT shall provide firm, fixed pricing for all additional chemicals identified in the following tables for the original contract period and a maximum price for each potential renewal period:

Chemicals – WLFT must identify the proposed chemicals for each of the following systems and provide a firm, fixed unit price for each proposed chemical listed for the original contract period and a maximum price for each potential renewal period. WLFT must identify the unit (e.g. gallon, pound, etc) and the container size (e.g. *55 gallon, 5 gallon, etc) for each identified chemical.*

Contingency Chemicals - In addition to the identification of the chemicals outlined on Exhibit E, WLFT may list chemicals that may be needed in the treatment of the system on an emergency basis or for an unforeseen situation. For all such identified chemicals, WLFT must provide a firm, fixed unit price for each proposed chemical for the original contract period and a maximum price for each potential renewal period. WLFT must also identify the unit (e.g. gallon, pound, etc) and the container size (e.g. 55 gallon, 5 gallon, etc) for each identified chemical.

WLFT may copy these pages to provide additional room to identify each chemical as outlined in Exhibit E.

Line Item	**Product Name** BOILER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	Original Contract Period (Firm, Fixed Price)	First Renewal Period (Maximum Price)	Second Renewal Period (Maximum Price)	Third Renewal Period (Maximum Price)
T 99	89-L Boiler Compound	5 gal, 15 gal, 55 gal	$ 79.83/gal	$ 83.03/gal	$ 86.36/gal	$ 89.82/gal
2 100	155-L Single Blend Boiler Compound	15 gal, 55 gal, bulk	$ 19.23/gal	$ 20.00/gal	$ 20.80/gal	$ 21.64/gal
3 101	157-L Single Blend Boiler Compound	15 gal, 55 gal, bulk	$ 19.23/gal	$ 20.00/gal	$ 20.80/gal	$ 21.64/gal
4 102	1435 Boiler Compound	15 gal, 55 gal, bulk	$ 47.48/gal	$ 49.38/gal	$ 51.36/gal	$ 53.42/gal
5 103	1450 Boiler Compound	15 gal, 55 gal, bulk	$ 36.18/gal	$ 37.63/gal	$ 39.14/gal	$ 40.71/gal
6 104	1460 Boiler Compound	15 gal, 55 gal, bulk	$ 42.96/gal	$ 44.68/gal	$ 46.47/gal	$ 48.33/gal
7 105	1495 Boiler Compound	15 gal, 55 gal, bulk	$ 36.18/gal	$ 37.63/gal	$ 39.14/gal	$ 40.71/gal
8 106	1655 Boiler Compound	15 gal, 55 gal, bulk	$ 24.88/gal	$ 25.88/gal	$ 26.92/gal	$ 28.00/gal
9 107	LC-25 Liquid Caustic Soda 25%	15 gal, 55 gal, bulk	$ 3.69/gal	$ 3.84/gal	$ 4.00/gal	$ 4.16/gal
10 108	LC-50 Liquid Caustic Soda 50%	15 gal, 55 gal, bulk	$ 6.30/gal	$ 6.56/gal	$ 6.83/gal	$ 7.11/gal
	Contingency Chemicals					
11 109	123 Acid Cleaner	15 gal, 55 gal	$ 17.26/gal	$ 17.95/gal	$ 18.67/gal	$ 19.42/gal
12 110	29-A Boiler Banking Lay Up	15 gal, 55 gal	$ 18.81/gal	$ 19.57/gal	$ 20.36/gal	$ 21.18/gal
13 111	1146 Liquid Alkaline Boil Out	15 gal, 55 gal	$ 20.53/gal	$ 21.36/gal	$ 22.22/gal	$ 23.11/gal
14 112	1147 Alkaline Boil Out (Dry)	50 lb	$ 2.50/lb	$ 2.60/lb	$ 2.71/lb	$ 2.82/lb

Line Item	Product Name	CONTAINER SIZE AND UNIT	Original Contract Period (Firm, Fixed Price)	First Renewal Period (Maximum Price)	Second Renewal Period (Maximum Price)	Third Renewal Period (Maximum Price)
	DEAERATOR / FEEDWATER SYSTEM CHEMICALS					
~~15~~ 113	592-L Oxygen Scavenger	15 gal, 55 gal, bulk	$ 11.88/gal	$ 12.36/gal	$ 12.86/gal	$ 13.38/gal
~~16~~ 114	595 Oxygen Scavenger	15 gal, 55 gal, bulk	$ 16.97/gal	$ 17.65/gal	$ 18.36/gal	$ 19.10/gal
	Contingency Chemicals					
			$	$	$	$

Line Item	Product Name	CONTAINER SIZE AND UNIT	Original Contract Period (Firm, Fixed Price)	First Renewal Period (Maximum Price)	Second Renewal Period (Maximum Price)	Third Renewal Period (Maximum Price)
	STEAM SYSTEM CHEMICALS					
~~17~~ 115	358 Steamline Treatment	15 gal, 55 gal	$ 12.15/gal	$ 12.64/gal	$ 13.15/gal	$ 13.68/gal
~~18~~ 116	1535 Steamline Treatment	15 gal, 55 gal, bulk	$ 45.21/gal	$ 47.02/gal	$ 48.90/gal	$ 50.86/gal
~~19~~ 117	1565 Steamline Treatment	15 gal, 55 gal, bulk	$ 45.21/gal	$ 47.02/gal	$ 48.90/gal	$ 50.86/gal
20 118	1575 Steamline Treatment	15 gal, 55 gal, bulk	$ 45.21/gal	$ 47.02/gal	$ 48.90/gal	$ 50.86/gal
21 119	PAC-50 Flocculant	15 gal, 55 gal	$ 21.42/gal	$ 22.28/gal	$ 23.18/gal	$ 24.11/gal
	Contingency Chemicals					
			$	$	$	$

Line Item	Product Name	CONTAINER SIZE AND UNIT	Original Contract Period (Firm, Fixed Price)	First Renewal Period (Maximum Price)	Second Renewal Period (Maximum Price)	Third Renewal Period (Maximum Price)
	COOLING TOWER AND SYSTEM CHEMICALS					
~~22~~ 120	206 Biodispersant	15 gal	$ 92.69/gal	$ 96.40/gal	$ 100.26/gal	$ 104.27/gal
~~23~~ 121	290 Dispersant (Oil Problems)	5 gal, 15 gal	$ 93.82/gal	$ 97.58/gal	$ 101.49/gal	$ 105.55/gal
~~24~~ 122	1248 Cooling Tower Wet Lay Up	5 gal, 15 gal, 55 gal	$ 65.25/gal	$ 67.86/gal	$ 70.58/gal	$ 73.41/gal
~~25~~ 123	4707 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 33.92/gal	$ 35.28/gal	$ 36.70/gal	$ 38.17/gal
~~26~~ 124	4709 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 29.40/gal	$ 30.58/gal	$ 31.81/gal	$ 33.09/gal

Line Item	Product Name COOLING TOWER AND SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	Original Contract Period (Firm, Fixed Price)	First Renewal Period (Maximum Price)	Second Renewal Period (Maximum Price)	Third Renewal Period (Maximum Price)
27 125	4714 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 24.88/gal	$ 25.88/gal	$ 26.92/gal	$ 28.00/gal
28 126	7116 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 56.52/gal	$ 58.78/gal	$ 61.14/gal	$ 63.59/gal
29 127	7221 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 45.21/gal	$ 47.02/gal	$ 48.90/gal	$ 50.86/gal
30 128	7351 Cooling Water Treatment	15 gal, 55 gal, bulk	$ 33.97/gal	$ 35.33/gal	$ 36.75/gal	$ 38.22/gal
129 31	AM-545 Microbiocide	5 gal	$ 90.44/gal	$ 94.06/gal	$ 97.83/gal	$ 101.75/gal
32 130	AM-66 Microboiocide Tablets	50 lb	$ 9.06/lb	$ 9.43/lb	$ 9.81/lb	$ 10.21/lb
131 33	AM-714 Microboicide	6 gal	$ 73.47/gal	$ 76.41/gal	$ 79.47/gal	$ 82.65/gal
132 34	CTT Tabs	43 lb	$ 13.58/lb	$ 14.13/lb	$ 14.70/lb	$ 15.29/lb
133 35	ISO-15 Microbiocide	5 gal	$ 81.39/gal	$ 84.65/gal	$ 88.04/gal	$ 91.57/gal
36 134	Verox-8 Microbiocide	5 gal, 15 gal, 55 gal	$ 71.53/gal	$ 74.40/gal	$ 77.38/gal	$ 80.48/gal
37 135	1237 Passivating Tower Blend	5 gal, 15 gal, 55 gal	$ 18.86/gal	$ 19.62/gal	$ 20.41/gal	$ 21.23/gal
136 38	Sulfuric Acid 66 BE	55 gal	$ 7.25/gal	$ 7.54/gal	$ 7.85/gal	$ 8.17/gal
	Contingency Chemicals					
39 137	123 Acid Cleaner	15 gal, 55 gal	$ 17.26/gal	$ 17.95/gal	$ 18.67/gal	$ 19.42/gal

Line Item	Product Name DEALKALIZER SYSTEM CHEMICALS	CONTAINER SIZE AND UNIT	Original Contract Period (Firm, Fixed Price)	First Renewal Period (Maximum Price)	Second Renewal Period (Maximum Price)	Third Renewal Period (Maximum Price)
40 138	LC-25 Liquid Caustic Soda 25%	15 gal, 55 gal, bulk	$ 3.69/gal	$ 3.84/gal	$ 4.00/gal	$ 4.16/gal
41 139	LC-50 Liquid Caustic Soda 50%	15 gal, 55 gal, bulk	$ 6.30/gal	$ 6.56/gal	$ 6.83/gal	$ 7.11/gal
	Contingency Chemicals					
			$	$	$	$
			$	$	$	$

**In addition, WLFT must indicate the amount of chemicals needed to treat 10,000 gallons of make-up water and the total price for such based on the firm, fixed prices provided for the original contract period and a maximum price for each potential renewal periods. WLFT shall agree and understand that such information is requested for cost evaluation purposes only.

ORIGINAL CONTRACT PERIOD					
	Product Name	**Firm, Fixed Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP COOLING SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
~~42~~ 140	839 Closed System Inhibitor	$ 41.84/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,673.60
		$			$
		$			$
		$			$
	Contingency Chemicals				
~~43~~ 141	0225 Closed System Treatment	$ 47.47/gal	15 gal, 55 gal, bulk		
~~44~~ 142	96 System Precleaner	$ 23.74/gal	15 gal, 55 gal, bulk		
143 ~~45~~	996 Resin Cleaner	$ 23.74/gal	15 gal, 55 gal, bulk		
144 ~~46~~	AM-50 Microbiocide	$45.21/gal	15 gal		
145 ~~47~~	Thermal-Guard HT-1	$ 17.26/gal	15 gal, 55 gal, bulk		
146 ~~48~~	Thermal-Guard FG	$ 19.64/gal	15 gal, 55 gal, bulk		
147 ~~49~~	ISA-10 Cleaner	$ 8.23/lb	50 lb		

FIRST RENEWAL PERIOD

	Product Name	Maximum Unit Price		**Treatment of 10,000 Gallons of Makeup Water	
	CLOSED LOOP COOLING SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
50	839 Closed System Inhibitor	$ 43.52/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,740.80
	Contingency Chemicals				
51	0225 Closed System Treatment	$ 49.37/gal	15 gal, 55 gal, bulk		
52	96 System Precleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
53	996 Resin Cleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
54	AM-50 Microbiocide	$ 47.02/gal	15 gal		
55	Thermal-Guard HT-1	$ 17.95/gal	15 gal, 55 gal, bulk		
56	Thermal-Guard FG	$ 20.43/gal	15 gal, 55 gal, bulk		
57	ISA-10 Cleaner	$ 8.56/lb	50 lb		

SECOND RENEWAL PERIOD

	Product Name	Maximum Unit Price		**Treatment of 10,000 Gallons of Makeup Water	
	CLOSED LOOP COOLING SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
58	839 Closed System Inhibitor	$ 45.26/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,810.40
	Contingency Chemicals				
59	0225 Closed System Treatment	$ 51.35/gal	15 gal, 55 gal, bulk		
60	96 System Precleaner	$ 25.68/gal	15 gal, 55 gal, bulk		
61	996 Resin Cleaner	$ 25.68/gal	15 gal, 55 gal, bulk		
62	AM-50 Microbiocide	$ 48.90/gal	15 gal		
63	Thermal-Guard HT-1	$ 18.67/gal	15 gal, 55 gal, bulk		
64	Thermal-Guard FG	$21.25/gal	15 gal, 55 gal, bulk		
65	ISA-10 Cleaner	$ 8.91/lb	50 lb		

THIRD RENEWAL PERIOD					
	Product Name	**Maximum Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP COOLING SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
66	839 Closed System Inhibitor	$ 47.07/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,882.80
	Contingency Chemicals				
67	0225 Closed System Treatment	$ 53.41/gal	15 gal, 55 gal, bulk		
68	96 System Precleaner	$ 26.71/gal	15 gal, 55 gal, bulk		
69	996 Resin Cleaner	$26.71/gal	15 gal, 55 gal, bulk		
70	AM-50 Microbiocide	$ 50.86/gal	15 gal		
71	Thermal-Guard HT-1	$ 19.42/gal	15 gal, 55 gal, bulk		
72	Thermal-Guard FG	$ 22.10/gal	15 gal, 55 gal, bulk		
73	ISA-10 Cleaner	$ 9.27/lb	50 lb		

ORIGINAL CONTRACT PERIOD					
	Product Name	**Firm, Fixed Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP HEATING SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
148 ~~74~~	839 Closed System Inhibitor	$ 41.84/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,673.80
	Contingency Chemicals				
149 ~~75~~	0225 Closed System Treatment	$ 47.47/gal	15 gal, 55 gal, bulk		
150 ~~76~~	96 System Precleaner	$ 23.74/gal	15 gal, 55 gal, bulk		
151 ~~77~~	996 Resin Cleaner	$ 23.74/gal	15 gal, 55 gal, bulk		
152 ~~78~~	AM-50 Microbiocide	$ 45.21/gal	15 gal		
153 ~~79~~	Thermal-Guard HT-1	$ 17.26/gal	15 gal, 55 gal, bulk		
154 ~~80~~	Thermal-Guard FG	$ 19.64/gal	15 gal, 55 gal, bulk		
155 ~~81~~	1193 Aluminum Corrosion Inhibitor	$ 41.84/gal	5 gal, 15 gal, 55 gal, bulk		
156 ~~82~~	2193 High Temp Corrosion Inhibitor	$ 41.84/gal	5 gal, 15 gal, 55 gal, bulk		

FIRST RENEWAL PERIOD

	Product Name	Maximum Unit Price		**Treatment of 10,000 Gallons of Makeup Water	
	CLOSED LOOP HEATING SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZEAND UNIT	Amount of Chemical Required	Total Price
83	839 Closed System Inhibitor	$ 43.52/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,740.80
	Contingency Chemicals				
84	0225 Closed System Treatment	$ 49.37/gal	15 gal, 55 gal, bulk		
85	96 System Precleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
86	996 Resin Cleaner	$ 24.69/gal	15 gal, 55 gal, bulk		
87	AM-50 Microbiocide	$ 47.02/gal	15 gal		
88	Thermal-Guard HT-1	$ 17.95/gal	15 gal, 55 gal, bulk		
89	Thermal-Guard FG	$ 20.43/gal	15 gal, 55 gal, bulk		
90	1193 Aluminum Corrosion Inhibitor	$ 43.52/gal	5 gal, 15 gal, 55 gal, bulk		
91	2193 High Temp Corrosion Inhibitor	$ 43.52/gal	5 gal, 15 gal, 55 gal, bulk		

SECOND RENEWAL PERIOD

	Product Name	Maximum Unit Price		**Treatment of 10,000 Gallons of Makeup Water	
	CLOSED LOOP HEATING SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
92	839 Closed System Inhibitor	$ 45.26/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,810.40
	Contingency Chemicals				
93	0225 Closed System Treatment	$ 51.35/gal	15 gal, 55 gal, bulk		
94	96 System Precleaner	$ 25.68/gal	15 gal, 55 gal, bulk		
95	996 Resin Cleaner	$ 25.68/gal	15 gal, 55 gal, bulk		
96	AM-50 Microbiocide	$ 48.90/gal	15 gal		
97	Thermal-Guard HT-1	$ 18.67/gal	15 gal, 55 gal, bulk		
98	Thermal-Guard FG	$ 21.25/gal	15 gal, 55 gal, bulk		
99	1193 Aluminum Corrosion Inhibitor	$ 45.26/gal	5 gal, 15 gal, 55 gal, bulk		
100	2193 High Temp Corrosion Inhibitor	$ 45.26/gal	5 gal, 15 gal, 55 gal, bulk		

THIRD RENEWAL PERIOD					
	Product Name	**Maximum Unit Price**		****Treatment of 10,000 Gallons of Makeup Water**	
	CLOSED LOOP HEATING SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
101	839 Closed System Inhibitor	$ 47.07/gal	15 gal, 55 gal, bulk	40 gallon	$ 1,882.80
	Contingency Chemicals				
102	0225 Closed System Treatment	$ 53.41/gal	15 gal, 55 gal, bulk		
103	96 System Precleaner	$ 26.71/gal	15 gal, 55 gal, bulk		
104	996 Resin Cleaner	$ 26.71/gal	15 gal, 55 gal, bulk		
105	AM-50 Microbiocide	$ 50.86/gal	15 gal		
106	Thermal-Guard HT-1	$ 19.42/gal	15 gal 55 gal, bulk		
107	Thermal-Guard FG	$ 22.10/gal	15 gal, 55 gal, bulk		
108	1193 Aluminum Corrosion Inhibitor	$ 47.07/gal	5 gal, 15 gal, 55 gal, bulk		
109	2193 High Temp Corrosion Inhibitor	$ 47.07/gal	5 gal, 15 gal, 55 gal, bulk		

***In addition, WLFT must indicate the amount of chemicals needed to treat 400,000 gallons of diesel fuel and the total price for such based on the firm, fixed prices provided for the original contract period and a maximum price for each potential renewal period. WLFT shall agree and understand that such information is requested for cost evaluation purposes only.

ORIGINAL CONTRACT PERIOD

	Product Name	Firm, Fixed Unit Price		***Treatment of 400,000 Gallons of Diesel Fuel	
	FUEL OIL SYSTEM CHEMICALS	UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
157 ~~110~~	Sludge-Free Dispersant	$ 34.21/gal	5 gal, 15 gal, 55 gal	13 gallon	$ 444.73
158 ~~111~~	Fuel-Save Stabilizer (Anti-bacterial)	$ 77.94/gal	5 gal	1.8 gallon	$ 140.30
		$			$
		$			$
	Contingency Chemicals				
		$			
		$			

FIRST RENEWAL PERIOD

	Product Name	Maximum Unit Price		***Treatment of 400,000 Gallons of Diesel Fuel	
	FUEL OIL SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
112	Sludge-Free Dispersant	$ 35.58/gal	5 gal, 15 gal, 55 gal	13 gallon	$ 462.54
113	Fuel-Save Stabilizer (Anti-bacterial)	$ 81.06/gal	5 gal	1.8 gallon	$ 145.91
		$			$
		$			$
	Contingency Chemicals				
		$			
		$			

SECOND RENEWAL PERIOD					
	Product Name	**Maximum Unit Price**		***Treatment of 400,000 Gallons of Diesel Fuel**	
	FUEL OIL SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
114	Sludge-Free Dispersant	$ 37.01/gal	5 gal, 15 gal, 55 gal	13 gallon	$ 481.13
115	Fuel-Save Stabilizer (Anti-bacterial)	$ 84.31/gal	5 gal	1.8 gallon	$ 151.76
		$			$
		$			$
	Contingency Chemicals				
		$			
		$			

THIRD RENEWAL PERIOD					
	Product Name	**Maximum Unit Price**		***Treatment of 400,000 Gallons of Diesel Fuel**	
	FUEL OIL SYSTEM CHEMICALS	MAXIMUM UNIT PRICE	CONTAINER SIZE AND UNIT	Amount of Chemical Required	Total Price
116	Sludge-Free Dispersant	$ 38.49/gal	5 gal, 15 gal, 55 gal	13 gallon	$ 500.37
117	Fuel-Save Stabilizer (Anti-bacterial)	$ 87.69/gal	5 gal	1.8 gallon	$ 157.85
		$			$
		$			$
	Contingency Chemicals				
		$			
		$			

4.3 **Resin Analysis and Elution Study and Cleaning Solution** – WLFT shall state a firm, fixed price for the analysis of resin in a water softener or dealkalizer for fractured beads and performing an elution study for the original contract period and a maximum price for each potential renewal period. In addition, WLFT shall state a firm, fixed price per gallon for resin cleaning solution for the original contract period and a maximum price for each potential renewal periods.

		ORIGINAL CONTRACT PERIOD FIRM, FIXED PRICE	FIRST RENEWAL PERIOD MAXIMUM PRICE	SECOND RENEWAL PERIOD MAXIMUM PRICE	THIRD RENEWAL PERIOD MAXIMUM PRICE
159 ~~118~~	Resin Analysis and Elution Study	$ 297.44 (per study)	$309.34 (per study)	$321.72 (per study)	$334.59 (per study)
160 ~~119~~	Resin Cleaning Solution	$23.74 (per gallon)	$24.69 (per gallon)	$25.68 (per gallon)	$26.71 (per gallon)

4.4 **Domestic Water System** – WLFT shall state a firm, fixed unit price for polymerized sodium polyphosphate and sodium hypochlorite bleach for the original contract period and a maximum price for each potential renewal period. In addition, WLFT shall identify the container size (e.g. 55 gallon, 5 gallon, etc).

		CONTAINER SIZE	ORIGINAL CONTRACT PERIOD UNIT PRICE	FIRST RENEWAL PERIOD MAXIMUM PRICE	SECOND RENEWAL PERIOD MAXIMUM PRICE	THIRD RENEWAL PERIOD MAXIMUM PRICE
161 ~~120~~	Polymerized Sodium Polyphosphate (Phosflo)	55 gal	$ 30.95/gal	$ 32.19/gal	$ 33.48/gal	$ 34.82/gal
162 ~~121~~	(IMCA-10) Sodium Hypochlorite Bleach	55 gal or bulk	$ 2.72/gal	$ 2.83/gal	$ 2.95/gal	$ 3.07/gal

4.5 **Waste Water System** – WLFT shall state a firm, fixed unit price for Calcium Nitrate, or approved equal, for control of odor and Hydrogen Sulfide; Aqueous Organic Sulfides for control of Flocculent Precipitant; Ferrous Sulfate for Sludge Conditioning, and Bio-L-220 Grease Digesting Bacteria, or approved equal for the original contract period and a maximum price for each potential renewal period. In addition, WLFT shall identify the container size (e.g. 55 gallon, 5 gallon, etc). If WLFT is proposing to provide a chemical other than Calcium Nitrate or Bio-L-220 Grease Digesting Bacteria, WLFT should identify the proposed chemical.

		CONTAINER SIZE	ORGINAL CONTRACT PERIOD FIRM, FIXED PRICE	FIRST RENEWAL PERIOD MAXIMUM PRICE	SECOND RENEWAL PERIOD MAXIMUM PRICE	THIRD RENEWAL PERIOD MAXIMUM PRICE
~~122~~ 163	Calcium Nitrate, or approved equal, for control of odor, and Hydrogen Sulfide (WLFT 426 Nitraid)	55 gal	$ 11.88/gal	$ 12.36/gal	$ 12.86/gal	$ 13.38/gal
~~123~~ 164	Aqueous Organic Sulfides for control of Flocculent Precipitant (WLFT 1100)	5 gal, 15 gal, 55 gal	$ 35.70/.gal	$ 37.13/gal	$ 38.62/gal	$ 40.17/gal
~~124~~ 165	Ferrous Sulfate for Sludge Conditioning	15 gal, 55 gal, bulk	$ 9.05/gal	$ 9.42/gal	$ 9.80/gal	$ 10.20/gal
~~125~~ 166	Bio-L-220 Grease Digesting Bacteria, or approved equal	55 gal	$ 31.65/gal	$ 32.92/gal	$ 34.24/gal	$ 35.61/gal

4.6 **Test Equipment and Refractometer** - WLFT shall state a firm, fixed price for providing the following pieces of test equipment and refractometer for the original contract period and a maximum price for each potential renewal period.

		ORIGINAL CONTRACT PERIOD FIRM, FIXED PRICE	FIRST RENEWAL PERIOD MAXIMUM PRICE	SECOND RENEWAL PERIOD MAXIMUM PRICE	THIRD RENEWAL PERIOD MAXIMUM PRICE
167 ~~126~~	Bench top PH. Meter/Microcomputer	$ 505.65/ea	$ 525.88/ea	$ 546.92/ea	$ 568.80/ea
168 ~~127~~	Bench top T.D.S. Conductivity Meter	$ 505.65/ea	$ 525.88/ea	$ 546.92/ea	$ 568.80/ea
169 ~~128~~	Propylene Glycol & Ethylene Glycol Refractometer	$ 192.00/ea	$ 199.68/ea	$ 207.67/ea	$ 215.98/ea
170 ~~129~~	TPH1 Combination pH/Conductivity	$ 965.00/ea	$ 1,003.60/ea	$ 1,043.75/ea	$ 1,085.50/ea

4.7 **Chemical Feed Equipment**- WLFT shall state a firm, fixed percentage over actual net cost for chemical feed equipment. WLFT shall agree and understand that the percentage over net cost shall remain firm and unchanged for the entire term of the contract.

171		FIRM, FIXED PERCENTAGE
~~130~~	Percentage Over Actual Net Cost	10%

4.8 **Storage Tank**- WLFT shall state a firm, fixed percentage over actual net cost for storage tanks. WLFT shall agree and understand that the percentage over net cost shall remain firm and unchanged for the entire term of the contract.

172		FIRM, FIXED PERCENTAGE
~~131~~	Percentage Over Actual Net Cost	10%

EXHIBIT A

WLFT INFORMATION

Information about WLFT's organization:

Please reference documents in the Appendix for more details

a. Provide a brief company history, including the founding date and number of years in business as currently constituted.

In Summary the current Walter Louis Fluid Technologies was originated in Quincy in 1968 as "Walter Louis Chemicals" initially supplying water treatment chemicals for local customers. In the following years the company expanded capabilities and coverage area. We currently service chemical treatment programs in Illinois, Iowa and Missouri as well at equipment installations nationwide.
For a complete company history please see the "Experience and Reliability" document included in this proposal.

b. Describe the nature of WLFT's business, type of services performed, etc. Identify WLFT's website address, if any.

Water Treatment Chemicals such as boiler compounds, cooling water treatment, steamline treatment, waste water treatment, etc., as well as providing chemical feed systems, pumps, & custom built equipment such as Reverse Osmosis systems, water softeners, D.I. systems, etc. Our website is as follows: www.walterlouis.com.

c. Provide a list of and a short summary of information regarding WLFT's current contracts/clients.

Currently have the Missouri OA Facilities contract, State of Illinois contract for state institutions, Illinois Universities as well as our regular list of customers.

d. List, identify, and provide reasons for each contract/client gained and lost in the past 2 years.

Clients gained:

ICM Biofuels LLC – St. Joseph, MO
Sunset Homes – Quincy, IL
Quincy Housing Authority – Quincy, IL
Related Management – Chicago, IL
Blue Sun St. Joseph Refining – St. Joseph, MO
Form Systems – Haysville, KS
Kemira – St. Louis, MO
Landmark LLC – Wichita, KS
Wichita Executive Services (W.E.C) – Wichita, KS

Farmers & Bankers LLC – Wichita, KS
Holcim Cement Cape Girardeau Mo
Village Green Management – Chicago, IL

All the above customers chose Walter Louis, because of the cost performance improvements that we provided compared to competitive suppliers.

In the last two years Walter Louis has lost only two customers.
Tama Paper Board was mandated by their corporate office to use their National accounts vendor. We have received a call last week from Tama Paper. They told us that in the 12 months using the National accounts vendor: they had seen a significant increase in the steam required to produce their paper compared to what we had provided. WLFT had provided a unique film forming condensate program that the current vendor could not match. Local management has asked us to present a proposal that they can take to their corporate office to reinstitute our water treatment program.

Quincy Senior Center in Quincy had hired new maintenance personnel. He refused to follow our recommendations to the point of potential damage to their equipment. Walter Louis has worked long and hard to develop our reputation. We felt that we could not produce the results that we expected. We informed management that we could not continue doing business with them, and fired them as a customer

c. Describe the structure of the organization including any board of directors, partners, top departmental management, corporate organization, corporate trade affiliations, any parent/subsidiary affiliations with other firms, etc.

Walter Louis Fluid Technologies is an S-corporation with one owner, Walter L. Giesing. The company was founded in 1968 by Catherine and Walter J. Giesing. The structure of the company is straight forward in regards to its organizational chart.

The President, (Walt Giesing, 42 years of service) sets the course in terms of vision. The Vice President (Diane Giesing, 26 years of service) acts as counsel and aids in the President's decision-making. The Director of Operations (Frank Murphy, 10 years of service) carries out the President's orders with the Director of Administration (Christy Emerick, 37 years of service) and the Director of Process Control (Roger Smith, 35 years of service) joining in the Operations effort. The Operations Manager (Chris Huckstep, 6 years of service) carries out daily operations and maintains supervision over the Operations and Transportation Specialist(J.D Caster, 12 years of service) and the Chemical Production Specialist (David Coultas 4 years of service). The Operations Manager reports directly to both the Director of Process Control and the Director of Operations. Both the Customer Support Specialist Kathy Martin, 4 years of service) and the Quality Control Specialist (Tina Darnell, 3years of service) maintain levels of quality in both the office and in the Laboratory. The Customer Support Specialists maintains client and customer relationships while the Quality Control Specialist maintains qualitative analysis for all incoming and outgoing chemicals. The Customer Support Specialist reports directly to the Director of Administration and the Quality Control Specialist reports directly to the Director of Operations. The Sale Technicians remain in the field at all times and do not typically spend much time in the office. There are four technicians that remain in the field at all times (Don Kueneke, 17 years of service, Carol Douglas, 10 years of service, Dennis Geer 5 years of Service, and David Dreyer 2 years of service). They essentially are the eyes and ears of WLFT and are dedicated to the task of customer service in all aspects.

Walter Louis Fluid Technologies belongs to the Association of Water Technologies (AWT), National Association of Corrosion Engineers (NACE), and the Cooling Tower Institute (CTI). Walter Louis has obtained ISO 9001 certification. WLFT does not have a Board of Directors, nor any partners or affiliations with any parent/subsidiary companies or firms.

EXHIBIT B

CURRENT/PRIOR EXPERIENCE

WLFT should copy and complete this form documenting WLFT and WLFT sub's current/prior experience considered relevant to the services required herein. In addition, WLFT is advised that if the contact person listed for verification of services is unable to be reached during the evaluation, the listed experience may not be considered.

Reference Information (Current/Prior Services Performed For:)	
Name of Reference Company:	Illinois State Water Survey
Address of Reference Company ✓ Street Address ✓ City, State, Zip	2204 Griffith Drive Champaign, IL 61820
Reference Contact Person Information: ✓ Name ✓ Phone # ✓ E-mail Address	Chuck Curtiss Ph. 217-244-7391 curtiss@illinois.edu
Dates of Services:	Approx. start of year of 1980 to present
If service/contract has terminated, specify reason:	n/a
Dollar Value of Services	$75,000- $100,000
Description of Services Performed	Boiler Compound, Water Treatment, Waste Treatment &Testing kits, reagents.

EXHIBIT B

CURRENT/PRIOR EXPERIENCE

WLFT should copy and complete this form documenting WLFT and WLFT sub's current/prior experience considered relevant to the services required herein. In addition, WLFT is advised that if the contact person listed for verification of services is unable to be reached during the evaluation, the listed experience may not be considered.

Reference Information (Current/Prior Services Performed For:)	
Name of Reference Company:	Lifeline Foods, LLC
Address of Reference Company ✓ Street Address ✓ City, State, Zip	2811 S. 11th Street St. Joseph, MO 64503
Reference Contact Person Information: ✓ Name ✓ Phone # ✓ E-mail Address	Fred Maier Ph. 816.901.3135 Cell 816.261.4215 fred.maier@icmbiofuels.com
Dates of Services:	9/14/04 to present
If service/contract has terminated, specify reason:	n/a
Dollar Value of Services	$200,000/year
Description of Services Performed	Boiler Treatment Chemicals, Cooling Tower Chemicals, Chemical Feed System, Reverse Osmosis Maintenance

EXHIBIT B

CURRENT/PRIOR EXPERIENCE

WLFT should copy and complete this form documenting WLFT and WLFT sub's current/prior experience considered relevant to the services required herein. In addition, WLFT is advised that if the contact person listed for verification of services is unable to be reached during the evaluation, the listed experience may not be considered.

Reference Information (Current/Prior Services Performed For:)	
Name of Reference Company:	Titan Wheel Corporation of Illinois
Address of Reference Company ✓ Street Address ✓ City, State, Zip	2701 Spruce Quincy, IL 62301
Reference Contact Person Information: ✓ Name ✓ Phone # ✓ E-mail Address	Alan Moore Ph. 217-221-4337 Ken Allensworth Ph. 217-221-4353
Dates of Services:	1985 to present
If service/contract has terminated, specify reason:	n/a
Dollar Value of Services	$200,000/year
Description of Services Performed	Installed and serviced water softeners and Reverse Osmosis equipment Maintain all boilers, softeners, and associated equipment Establish and maintain chemical water treatment program for facility Installed and maintain process deionizers.

EXHIBIT B

CURRENT/PRIOR EXPERIENCE

WLFT should copy and complete this form documenting WLFT and WLFT sub's current/prior experience considered relevant to the services required herein. In addition, WLFT is advised that if the contact person listed for verification of services is unable to be reached during the evaluation, the listed experience may not be considered.

_____

Reference Information (Current/Prior Services Performed For:)	
Name of Reference Company:	Illinois State University
Address of Reference Company ✓ Street Address ✓ City, State, Zip	100 North University Street, Normal, IL 61761
Reference Contact Person Information: ✓ Name ✓ Phone # ✓ E-mail Address	Julie Stanley Ph. 309-530-4072 Stanley, Julie [jaadcoc@ilstu.edu]
Dates of Services:	1997 to present
If service/contract has terminated, specify reason:	n/a
Dollar Value of Services	$60,000/year
Description of Services Performed	DI bottles, Reverse Osmosis, water treatment chemicals, modernization and support of water systems.

Reference Information (Current/Prior Services Performed For:)	
Name of Reference Company:	ADM (Archer Daniels Midland Corporation
Address of Reference Company ✓ Street Address ✓ City, State, Zip	1900 Gardner Expressway Quincy, IL 62306
Reference Contact Person Information: ✓ Name ✓ Phone # ✓ E-mail Address	Tom Emerick Ph. 217-221-0353 Tom.emerick@adm.com
Dates of Services:	1966 to present
If service/contract has terminated, specify reason:	n/a
Dollar Value of Services	$85,000/year
Description of Services Performed	Pre-treatment plant wastewater effluent for NPDES compliance Lab reagents and equipment for boiler water testing

Reference Information (Current/Prior Services Performed For:)	
Name of Reference Company:	Kingsford Manufacturing Company
Address of Reference Company ✓ Street Address ✓ City, State, Zip	Highway 28 Belle, MO 65013
Reference Contact Person Information: ✓ Name ✓ Phone # ✓ E-mail Address	Justin Dent Ph. 573-859-5514 Justin.dent@clorox.com
Dates of Services:	2008 to present
If service/contract has terminated, specify reason:	n/a
Dollar Value of Services	$13,500
Description of Services Performed	Provide a full service comprehensive water treatment program for equipment and systems including a 400 HP steam boiler and condensate lines.

EXHIBIT C

EXPERTISE OF FIELD REPRESENTATIVE
(Copy and complete this table for each key person proposed)

Title of Position: Field Representative	
Name of Person:	Dennis Gier
Educational Degree (s): include college or university, major, and dates	University of Missouri-St. Louis, 1974. BA, Psychology, minor in Business Administration
License(s)/Certification(s), #(s), expiration date(s), if applicable:	n/a
Specialized Training Completed. Include dates and documentation of completion:	AWT Trained water treatment
# of years experience in area of service proposed to provide:	37 years
Describe person's relationship to WLFT. If employee, # of years. If WLFT sub, describe other/past working relationships	5 years with WLFT, Regional Manager
Describe this person's responsibilities over the past 12 months.	Dennis has remained one of our best service reps in the St. Louis region.
Previous employer(s), positions, and dates	25 years with Calgon, 7 years with Nalco. Sales Manager.
Identify specific information about experience in:	Clearly identify the experience, provide dates, describe the person's role and extent of involvement in the experience
✓ Institutional Water Treatment	
✓ Chemical Analysis	
✓ Chemical Safety	

EXHIBIT C

EXPERTISE OF FIELD REPRESENTATIVE

(Copy and complete this table for each key person proposed)

Title of Position: Field Representative	
Name of Person:	Roger Smith
Educational Degree (s): include college or university, major, and dates	Some college
License(s)/Certification(s), #(s), expiration date(s), if applicable:	AWT CWT (Certified Water Technologist)
Specialized Training Completed. Include dates and documentation of completion:	Trained in electrical, plumbing, all areas of water treatment
# of years experience in area of service proposed to provide:	34 years
Describe person's relationship to WLFT. If employee, # of years. If WLFT sub, describe other/past working relationships	Roger has been with the company all 34 years and has been the backbone of all operations in his tenure.
Describe this person's responsibilities over the past 12 months.	Roger services and supervises nearly every client that WLFT has.
Previous employer(s), positions, and dates	none
Identify specific information about experience in:	Clearly identify the experience, provide dates, describe the person's role and extent of involvement in the experience
✓ Institutional Water Treatment	AWT CWT
✓ Chemical Analysis	
✓ Chemical Safety	

Title of Position: Field Representative	
Name of Person:	Walter Louis Giesing
Educational Degree (s): include college or university, major, and dates	BS, Chemistry. Saint Louis University, 1972.
License(s)/Certification(s), #(s), expiration date(s), if applicable:	n/a
Specialized Training Completed. Include dates and documentation of completion:	Consummate Water Treatment Professional. Knowledge in every area of water treatment including boilers, cooling towers, and all energy systems.
# of years experience in area of service proposed to provide:	40 years
Describe person's relationship to WLFT. If employee, # of years. If WLFT sub, describe other/past working relationships	President of company, 40 years
Describe this person's responsibilities over the past 12 months.	President of company
Previous employer(s), positions, and dates	n/a
Identify specific information about experience in:	Clearly identify the experience, provide dates, describe the person's role and extent of involvement in the experience
✓ Institutional Water Treatment	
✓ Chemical Analysis	
✓ Chemical Safety	

EXHIBIT C

EXPERTISE OF FIELD REPRESENTATIVE

(Copy and complete this table for each key person proposed)

Title of Position: Field Representative	
Name of Person:	David Dreyer
Educational Degree (s): include college or university, major, and dates	Some college
License(s)/Certification(s), #(s), expiration date(s), if applicable:	Garrett-Callahan Water Treatment Certification
Specialized Training Completed. Include dates and documentation of completion:	General Microprocessor Training
# of years experience in area of service proposed to provide:	15
Describe person's relationship to WLFT. If employee, # of years. If WLFT sub, describe other/past working relationships	Regional Service Manager, 2 years with WLFT.
Describe this person's responsibilities over the past 12 months.	David has been the consummate professional taking care of the entire western portion of MO, and parts of IA and KS. Full Service Water treatment.
Previous employer(s), positions, and dates	Chem Aqua - 9 years, Garrett Callahan - 2 years, American Water Treatment -2 years.
Identify specific information about experience in:	Clearly identify the experience, provide dates, describe the person's role and extent of involvement in the experience
✓ Institutional Water Treatment	Expert Troubleshooter, proficient in technology overall
✓ Chemical Analysis	
✓ Chemical Safety	

EXHIBIT C

EXPERTISE OF FIELD REPRESENTATIVE
(Copy and complete this table for each key person proposed)

Title of Position: Field Representative	
Name of Person:	Don Kueneke
Educational Degree (s): include college or university, major, and dates	BS, Environmental Systems, Southern Illinois University, 1981. MS, Environmental Science, Southern Illinois University, 1985.
License(s)/Certification(s), #(s), expiration date(s), if applicable:	n/a
Specialized Training Completed. Include dates and documentation of completion:	AWT training completion
# of years experience in area of service proposed to provide:	27 years
Describe person's relationship to WLFT. If employee, # of years. If WLFT sub, describe other/past working relationships	Don has been working with WLFT for 18 years approx. as Regional Manager. He is one the most talented service reps in the industry.
Describe this person's responsibilities over the past 12 months.	Don's responsibilities include all service visits, equipment openings, liaison with assigned customers, seminar trainer, and all aspects of communications, both written and oral.
Previous employer(s), positions, and dates	Calgon, 1986. Service Manager
Identify specific information about experience in:	Clearly identify the experience, provide dates, describe the person's role and extent of involvement in the experience
✓ Institutional Water Treatment	Comprehensive knowledge in all areas of water treatment.
✓ Chemical Analysis	
✓ Chemical Safety	

EXHIBIT C

EXPERTISE OF FIELD REPRESENTATIVE

(Copy and complete this table for each key person proposed)

Title of Position: Field Representative	
Name of Person:	Carole Douglas
Educational Degree (s): include college or university, major, and dates	Business Degree, Meramec Community College, 1970.
License(s)/Certification(s), #(s), expiration date(s), if applicable:	n/a
Specialized Training Completed. Include dates and documentation of completion:	AWT Training Certs, Boiler Water, Cooling Tower certified
# of years experience in area of service proposed to provide:	25 years experience in water treatment
Describe person's relationship to WLFT. If employee, # of years. If WLFT sub, describe other/past working relationships	Carole has been an employee of WLFT for 14 years. She has excelled as one of our best Regional Managers ever. Her customer service skills are unparalled.
Describe this person's responsibilities over the past 12 months.	Maintains, services, and operates much of the current OA-MO contract. In addition, she has dozens of her own accounts that she services as well.
Previous employer(s), positions, and dates	Calgon, American Water, Garrett Callahan, service technician's at all companies
Identify specific information about experience in:	Clearly identify the experience, provide dates, describe the person's role and extent of involvement in the experience
✓ Institutional Water Treatment	25 years experience in all facets of water treatment.
✓ Chemical Analysis	
✓ Chemical Safety	

EXHIBIT D

PERSONNEL EXPERTISE SUMMARY

(Complete this Exhibit for any additional personnel not included on previous Exhibit. Resumes may also be provided)

Personnel	Background and Expertise of Personnel and Planned Duties
1. Frank Murphy (Name) Director of Operations (Title) Contact for OA-MO (Proposed Role/Function)	Mr. Murphy comes to WLFT from a background of IT and industrial management. His duties involve quality control of products and services and customer liaison, ensuring safe and expeditious delivery of all products, maintaining positive relationships between WLFT and our customers and overseeing all areas of communication between our company and the State of Missouri.
2. Dave Coultas (Name) Plant Manager (Title) Chemical Production (Proposed Role/Function)	Mr. Coultas oversees all chemical production in the Plant. He has been trained in the ISO process and the Quality process. He is responsible for all liquid and dry assemblies.
3. Christy Emerick (Name) Director of Administration (Title) Manages all administrative duties (Proposed Role/Function)	Mrs. Emerick has been with the company for 35 years. She is the backbone of the administrative structure that WLFT has in place. Her duties include everything from organizing orders, human resources, buyer, accounts receivable/payable, and managing customer feedback.
4. Chris Huckstep (Name) Operations Manger (Title) Manages all deliveries and service (Proposed Role/Function)	Mr. Huckstep has been with the company for 7 years. He's the jack of all trades guy in the company. There is no limit on his functionality. He is the liaison between the Director of Operations and the rest of the staff.
5. Tina Darnell (Name) Quality Assurance (Title) Manages all issues of quality (Proposed Role/Function)	Ms. Darnell has a degree in laboratory science and has been in the quality business for 20 years. She is a recent acquisition of WLFT and is currently managing all issues of quality including chemical production and the ISO process.
6. Kathy Martin (Name) Customer Support Specialist (Title) Front line management of all customers (Proposed Role/Function)	Mrs. Martin takes the brunt of incoming phone calls no matter what. It's a tough job. She has access to every client we have and communicates with them every day. When calling into the office, you will most likely be reaching her first.

Water Treatment Program State of Missouri Office of Administration

Walter Louis fluid Technology is uniquely prepared to provide the most complete water treatment program for the Facilities of the State of Missouri. Walter Louis a major regional supplier of full service water products and services possess a unique skill set that can be invaluable in the implementation of this contract. All of the individual site recommendations are found in Exhibit E that follows. I have prepared a brief overview of some of the specific capabilities that will be applied to this contract.

Chemical Field Service: Walter Louis field service personnel, bring years of individual experience to our customers. In addition, WLFT has developed an ongoing training program to continue to improve their ability to serve our customers. Walter Louis field reps have achieved the prestigious CWT Certified Water Technologist from the Association of Water Technology, or are in the final stages of the process. All future Walter Louis Reps no matter their previous experience will begin the CWT process.

Regulatory Training: As a basic manufacturer of water treatment chemicals WLFT is regulated by OSHA the EPA Department of Home Security and the DEA. You, the end user has less oversight but is still affected by many of the same regulations. Walter Louis is engaged in Packaging these internal training programs and modifying them to use in our customers technical training programs.
Cooling Tower Hygiene programs to limit biofilm problems and health liabilities are a regular portion of every water treatment program.

Product Distribution: Walter Louis owns and operates its own delivery trucks. All Drivers carry a CDL with Hazmat Certification. Over 18 Years ago Walter Louis began *Mini Bulk* service to the Missouri Department of corrections. This has allowed DOC personnel to avoid any contact with chemicals. WLFT delivery specialists pump directly from our trucks to the double wall storage tanks. In areas that are not close enough for truck access the chemicals are wheeled in stainless steel containers to the tank for off loading... Our site surveys show that there are numerous facilities covered by this contract that could be converted to this type of program. Unlike some companies there is no additional charge for this program. In facilities that will continue to use Drums our ISO 9000 driven quality program will track all drum deliveries as well as assure that empty containers are picked up cleaned and disposed of.

ISO 9001 Certification: There are many reasons why WLFT has been so successful in exceeding the expectations of the State of Missouri's Office of Administration the past few years. One reason is the fact that we have fully implemented the ISO 9001:2008 certification. We have manipulated all of our internal operations to reflect a high level of quality management. From the time we receive an order to the time the product or service is delivered, we engage in a detailed order of operations. This international standard of quality has helped to achieve a level of proficiency in the assembling of goods, the quality control environment, and the safety of both our employees and our customers. We measure our success daily and this is done through customer surveys and feedback opportunities. This certification has helped us diligently pursue a level of achievement that many companies have tried to copy. Whether it be a sales call, new research endeavors, picking new vendors, appropriating staff to projects, and making decisions, the ISO 9001:2008 standard has been instrumental in allowing WLFT to execute it's job beyond the expectations of the State of Missouri.

Remote Water Quality Monitoring: The current solicitation has specifications for new and upgraded microprocessor control systems. One of the options for these controllers offers direct communications to off-site locations. The Microprocessors that are used in the water treatment industry today are used to maintain water, chemical, and control ranges. The microprocessor enables users to monitor the water usage, chemical usage, conductivity variances, as well as any problems that may arise on a daily, even hourly basis by **continually monitoring the controller on a secure, (one way traffic) web site.**

Rather than relying only on testing that is run monthly by WLFT representatives, or even daily by facility staff ,These new Micro Processor is capable of providing minute by minute, hour by hour monitoring of water towers or boilers. Chemical is added when needed as it is needed as opposed to someone testing and trying to determine the necessary amount of chemical to add to a system after testing. If the conductivity drifts up or down beyond the set points, the controller will send out an **e-mail, or text alerting the engineer, and or your water treatment professional** of a potential problem. This is done through a CAT-5 connection or via wireless connection.

Many times an engineer has gone into his or her work place to find the system has drained because the blow down didn't shut off. A chemical drum has emptied because the water usage was too high. A line was turned off which caused the system conductivity to go beyond the set point and caused scaling issues. All these issues can be dealt with as the incident occurs to avoid a crisis by using a Micro-Processor and connecting it to our web page for 24 hour monitoring. This allows for better control, fewer problems, fewer chemical losses, and better all-around control. Saving Money and reducing Down Time.

Mechanical Field Services: Walter Louis does not just sell chemical water treatment programs. We are a basic manufacturer of Pretreatment equipment, including Water softeners, Dealkalizers, and Reverse Osmosis systems. In addition we have the mechanical service representatives to trouble shoot, repair and upgrade existing systems. Our first response is how we can utilize the facilities existing systems, to reduce capital expense in a tight economic environment. For example , the Reverse osmosis system installed at WRDCC had excess capacity that was not needed to provide boiler feed water for the facility. Fulton State Hospital is a large facility with extensive steam and condensate distributions. WLFT offered a proposal to remove the excess capacity at St. Joe. Walter Louis built a new control package, moved and installed the RO systems excess capacity to Fulton State Hospital, as a turnkey project.

Energy Efficiency: All Water Treatment Companies preach the importance of clean heat transfer surfaces. Walter Louis has a proven track record of achievement in this area. However there is more that Walter Louis can bring to the table to increase efficiency. Sometimes the best interests of the customer are at odds with chemical sales. Walter Louis Installed and maintained responsibility for the operation of a Reverse Osmosis system at the Western Reception Center in St. Joe. By improving the water quality, boiler chemical usage was reduced to the point that the RO was more then paid for by chemical saving alone. In addition the reduction in blow down and the inherent heat loss produced an additional $80,000 yearly fuel savings. As an additional benefit Steamline Treatment distribution was improved over the sprawling facility greatly reducing corrosion and iron return. In addition WLFT has extended the RO program to Fulton State Hospital. The results have been equally impressive. Boiler chemical consumption as well as fuel usage have dropped considerably. Corrosion rates throughout the condensate return system have improved considerably WLFT has done preliminary cost benefit analysis and determined the JCCC and Farmington Correctional Center would be prime candidates for improved efficiency and rapid payback by installing RO systems

Mechanical Testing and Inspection Equipment:

Boroscopes: Which are used for visual inspection and recording conditions of boiler tubes and condenser tube bundles.
Acoustic Analyzer: Used for Steam trap, tests analyze bearing wear as well as checking for steam and air leaks.
Ultrasonic micrometer: Used to measure tube sheets, pipe and pressure vessel wall thickness.
Corrators: Portable Corrators with probes installed in Cooling Water can be used for instantaneous corrosion rate determinations.
Ultra Sonic Flow Meters; One of the most useful tools we have available is an external clamp-on Ultra Sonic Flow meter. This equipment is a non invasive way to quickly determine flow rates inside any size pipe. A real world problem is erosion corrosion of Domestic hot water lines. This is often due to excessive flow rates in the hot water returns. The flow meter can quickly determine if the velocity limits are being exceeded.

Real World Solutions: Domestic Hot Water Systems even though not specifically covered by the current RFP has been a problem for many facilities. Soft water is usually used to prevent scale and energy loss. Erosion corrosion in copper pipe is often a problem. At WRDCC flows were reduced to proper velocities using the Ultrasonic flow meter. However corrosion while reduced was still a problem. Walter Louis used our computer water modeling software to determine the level of Hardness that could be blended into the soft water to eliminate the corrosion without forming scale. WLFT then designed a flow based blending system to maintain the optimum ratio. Corrosion in the piping was completely eliminated Recently JCCC installed a similar system to address significant corrosion in their domestic hot water distribution piping. Reports from a recent quarterly meeting have indicated that virtually all pipe corrosion issues has stopped. In addition dry wall damage repair costs have also been eliminated. ERDCC has also purchased a new blending system, that will be installed soon.

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment Division

Technical Data Bulletion

TEST KIT COMPONENTS

GLYCOL

REFRACTO-1 Refractometer

CLOSED LOOP SYSTEM

437 Nitrite Test Kit

COOLING TOWER

EP10 Myron L Conductivity Meter and Benchtop pH/MV Meter
Or
Myron L TPH1 Meter

5055	10 ml Autoburet (2)
5001	Hardness Titrating Solution
5002	Hardness Buffer
5003	Hardness Indicator Powder
5054	Squeeze Bottle
727	Scoop for Hardness Indicator Powder
5052	Casserole
5053-A	Stirring Rod
5050	Graduated Cylinder, 25 ml
5005	Sulfuric Acid
5031	Mixed Indicator
5054	Bottle with 1 oz Pipette (2)
942-505	Mini Analyst
PAHA-1	
PAHY-2	

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Technical Data Bulletion

STEAM SYSTEM

EP10 Myron L Conductivity Meter or Benchtop pH/MV Meter
Or
Myron L TPH1 Meter

5055	10 ml Autoburet (3)
5052	Casserole
5053-A	Stirring Rod
5050	Graduated Cylinder, 50 ml
5018	Dual Purpose Sulfite Indicator Powder
5016	Potassium Iodide-Iodate Solution
5005	Sulfuric Acid
5007	Phenolphthalein
5031	Mixed Indicator
5002	Hardness Buffer
5003	Hardness Indicator Powder
5001	Hardness Titrating Solution
6057	Neutralizing Solution
IR-18	Iron Test Kit
224800	Ortho Phosphate Kit
Or	
942-505	Mini Analyst
5054	Bottle with 1 oz Pipette (2)
PAHA-1	
PAHY-2	

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Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

ALGOA CORRECTIONAL CENTER

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	50	ppm/CaCO3	0	50
M-ALK	1000	ppm\CaCO3	400	900
POLYMER	6	ppm	4	8

*SystemName:*RAW WATER SUPPLY

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	182	ppm/CaCO3	N/A	N/A
CHLORIDES	5	ppm	N/A	N/A
CONDUCTIVITY	470	uS	N/A	N/A
HARDNESS	272	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.125	ppm	N/A	N/A
Magnesium(Mg)	90	ppm/CaCO3	N/A	N/A
M-ALK	288	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.75	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.7	unit	N/A	N/A
PHOSPHATE	0.175	ppm	N/A	N/A
SILICA(SiO2)	4	ppm	N/A	N/A
SULFATE(SO4)	15	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Future cooling water treatment endeavors should include a methodology designed with enhancement of cycles of concentration and water optimization in mind.

System I.D.: Cooling Tower/Ice Machine

Make-Up Water: Soft Water (0 - 50 ppm)

Recommendations:

(1) Recent Inconsistencies associated with erratic soft water supply

(2) If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: Algoa Correctional Center		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351 CWT	0.4 gallons	30 gallons
WLFT 2225 microbiocide	0.8 gallons	10 gallons
WLFT 714	1.5 gallons	10 gallons
Equipment (include make, model, and quantity)		
1- WLFT PCS cooling water controller w/ conductivity and/or ORP/pH monitoring capabilities.		
2- LMI A-151-92 chemical pumps		
_____ Drumless, Bulk Storage	__ __x__ _Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

BOONVILLE CORRECTIONAL CTR.

SystemName: BOILER 1

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	800	ppm\CaCO3	400	800
OH-ALK	680	ppm\CaCO3	200	400
P-ALK	740	ppm\CaCO3	400	800
PHOSPHATE	30	ppm	20	40
SULFITE(SO3)	40	ppm	30	60
CONDUCTIVITY	2500	uS	2000	3000

SystemName: CONDENSATE

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0.5
M-ALK	50	ppm\CaCO3	30	50
pH	8.3	unit	8.2	9.5
CONDUCTIVITY	60	uS	20	80

SystemName: CLOSED LOOPS (Note: Cooling Tower Offline)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
15 HOUSE NITRITE	900	ppm	900	2000
CHAPEL NITRITE	900	ppm	900	2000

SystemName: FEEDWATER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0.5
M-ALK	50	ppm\CaCO3	5	100
Softener Hardness	0	ppm\CaCO3	0	0
CONDUCTIVITY	150	uS	100	200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	178	ppm/CaCO3	N/A	N/A
CHLORIDE	6.1	ppm	N/A	N/A
CONDUCTIVITY	811	uS	N/A	N/A
HARDNESS	285	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.208	ppm	N/A	N/A
Magnesium(Mg)	170	ppm/CaCO3	N/A	N/A
M-ALK	260	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.65	unit	N/A	N/A
PHOSPHATE	0.4	ppm	N/A	N/A
SILICA(SiO2)	4.9	ppm	N/A	N/A
SULFATE(SO4)	198	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Boonville Correctional Center (BCC)
System I.D.: Steam Boilers (3 Cleaver Brooks)
Make-Up Water: 100% Softened

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Recommendations:

(1) Maintain existing chemical treatment parameters. BCC chemical program demonstrates consistent program management, record-keeping, follow-up and equipment maintenance.

System I.D.: Cooling Tower (15 House)

Make-Up Water: 100% softened water

Recommendations:

(3) Recommend a partially blended hard/softened make-up water supply to the cooling tower. Ideal make-up to be in the range of 40-60 ppm total hardness. Purpose: reduce potential for corrosivity.

(4) If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility:BCC Boonville		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	0.18 gallons	4.32 gallons
		(2 tanks @ 12,000 each)
Equipment N/A		
_____ Drumless, Bulk Storage		____x_____ Conventional Drum

BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1450	0.3 gallons	125 gallons
Equipment:		
LMI Chemical Pump P141-352SI		
Drumless, bulk storage __x___		

Facility: BCC Boonville		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067	30 gallons
Equipment (include make, model, and quantity)		
LMI Chemical Pump P141-352SI		
_____x_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: BCC Boonville		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	150 gallons
Equipment (include make, model, and quantity)		
LMI Chemical Pump P141-352SI		
__ __x____ Drumless, Bulk Storage	___ ___ Conventional Drum	

Facility: BCC Boonville		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351	0.6 gallons	30 gallons
WLFT Verox-8	.5 gal	5 gallons
WLFT 206	.5 Gal	5 gallons
Equipment (include make, model, and quantity)		
N/A		
_ __ ___ Drumless, Bulk Storage	____x___ __ Conventional Drum	

Facility: BCC Boonville		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
Chemical is fed manually, through existing 2 Gallon Bypass feeder.		
__ __ ___ Drumless, Bulk Storage	____x____ _ Conventional Drum	

Facility: BCC Boonville		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT #839	40 gallons	
Equipment (include make, model, and quantity)		
*This system is fed by same equipment that feeds the hot loop, as this is a 2-pipe system.		
____ ____ Drumless, Bulk Storage	_____x___ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Central Missouri Correctional Center

This facility excluded from contract

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

CHILLICOTHE CORRECTIONAL CENTER

SystemName: Hot Water Boiler

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2900	uS	2200	3000
NITRITE	700	ppm	600	1200
pH	11.0	unit	10.0	11.0

SystemName: Chilled Water

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2741	uS	2200	3000
NITRITE	700	ppm	600	1200
pH	10.9	unit	10.0	11.0

SystemName: Domestic Softener

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	0	ppm/CaCO3	N/A	N/A
CONDUCTIVITY	383	uS	N/A	N/A
pH	8.5	unit	N/A	N/A

SystemName: Domestic Hot water Loop Softener
Off Line

SystemName: Cooling Tower Water

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	273	ppm/CaCO3	40	300
CONDUCTIVITY	1377	uS	1000	1400
pH	8.3	unit	N/A	N/A
M-ALK	450	ppm\CaCO3	350	400
Polymer	6	ppm	4	8

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	42	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	380	uS	N/A	N/A
HARDNESS	100	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A
Magnesium(Mg)	63	ppm/CaCO3	N/A	N/A
M-ALK	112	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.5	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	8.1	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	24.25	ppm	N/A	N/A
SULFATE(SO4)	80	ppm	N/A	N/A

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Facility: Chillicothe Correctional Center (CCC)
Proposed Water Treatment Program(s)

System I.D.: Nine Aerco gas fired Modular Boilers for Hot water heating
Make-Up Water: 100% Softened
Recommendations: System is within current chemical limits and has a history of being well maintained

System I.D.: Closed systems Chilled Water)
Make-Up Water: 100% Softened
Recommendations: System is within current chemical limits and has a history of being well maintained

System I.D.: Cooling tower Water: three Carrier XRV Chillers. Cooling water treatment control consists of Mdl LCF B-2 Advantage Controller. A contacting Head water meter feeds CTT proportionally to the Make up water. With an Advantage 1.25gph pump. A Biocide and Biodispersant is fed alternately on time.

Recommendations: Hardness and Alkalinity are currently at their upper limits. History indicates that we can maintain at these limits with very little to no scale buildup in the chillers. These levels while very good at reducing chemical costs require due diligence in operation to avoid spikes. The operators at CCC have shown that they can *maintain* tight control .

Corrosion and scale control will be achieved using 4707 CTT. This blend of polymers and organic corrosion inhibitors will provide excellent results *in Chillicothe's water. Microbiological control will use* Verox 8 stabilized Chlorine Dioxide for primary bacterial control. This will be supplemented with 206 Biodispersant. The combination will achieve very clean towers with low levels of biological activity.

If tower use *is seasonal* , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists *in drained or* partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

System I.D. Domestic Hot Water
We are currently in the considering the viability of a Soft water blending system to reduce corrosion.

WATER TREATMENT PROGRAM

Facility: Chillicothe Correctional Center		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Antibacterial/	0.18 gallons	0.5 gallons
Stabilizer		(20000 gallon contained volume in one tank)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_ _ _ _ _ Drumless, Bulk Storage		_ _ x _ _ Conventional Drum

Facility: Chillicothe Correctional Center		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
4704	0.4gallons	200 gallons
206 Biodispersant	0.5 gallons	20 gallons
Verox 8	.5 gallons	30 gallons
Equipment (include make, model, and quantity)		
Advantage Mdl LCF B-2 Cooling Tower Controler 3 Advantage 1.25 gph @ 110psi Chemical pumps Contacting Head Water Meter on Cooling Water Make up		
		_X_____ Conventional Drum

Facility: Chillicothe Correctional Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
5 gallon Neptune Bypass Feeder		
_____ ____ Drumless, Bulk Storage		_____X_____ Conventional Drum

Facility: Chillicothe Correctional Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839		
Equipment (include make, model, and quantity)		
Neptune 5 gallon By pass feeder		
_ _____ _ Drumless, Bulk Storage		_ __X___ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

CROSSROADS CORRECTIONAL CENTER

SystemName: Chilled Water

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3000	uS	2800	3800
Iron (Fe)	0.0	ppm	0	0.5
M-ALK	880	ppm\CaCO3	500	800
NITRITE	1100	ppm	600	1000
pH	10.5	unit	9	11

SystemName: Cooling Tower

CaHardness(Ca)	225	ppm/CaCO3	40	300
CONDUCTIVITY	990	uS	1000	1400
pH	8.9	unit	N/A	N/A
M-ALK	450	ppm\CaCO3	350	400
Polymer	6	ppm	4	8

SystemName: Hot Water Boiler

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2800	uS	2800	3800
Iron (Fe)	0.0	ppm	0	0.5
M-ALK	800	ppm\CaCO3	500	800
NITRITE	900	ppm	600	1000
Softener Conductivity	370	uS	280	400
Softener Hardness	0	ppm\CaCO3	0	10

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	109	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	288	uS	N/A	N/A
HARDNESS	144	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	33.5	ppm/CaCO3	N/A	N/A
M-ALK	131	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.025	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.47	unit	N/A	N/A
PHOSPHATE	0.170	ppm	N/A	N/A
SILICA(SiO2)	0.5	ppm	N/A	N/A
SULFATE(SO4)	20	ppm	N/A	N/A

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Facility: Crossroads Correctional Center (CCC)

System I.D.: Cooling Tower
Make-Up Water: 100% Hard water
Recommendations:
Corrosion and scale control will be achieved using 4707 CTT. This blend of polymers and organic corrosion inhibitors will provide excellent results in Cameron's water. Microbiological control will use Verox 8 stabilized Chlorine Dioxide for primary bacterial control. This will be supplemented with 206 Biodispersant. The combination will achieve very clean towers with low levels of biological activity.
Note: New towers installed. Very good level of control by on-site personel.

If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

System I.D.: Closed system (Non-Potable Hot)
Recommendations:
Maintain existing chemical treatment parameters, 800-1200 mg/l as NO_2, to provide maximum corrosion inhibition and protection against metal loss. System has operated without any major incidents during last contract period.
Crossroads and Western Missouri's Hot loop are connected and Maintained by Crossroads

System I.D.: Closed system (Non-Potable Chilled water)
Recommendations:
Maintain existing chemical treatment parameters, 800-1200 mg/l as NO_2, to provide maximum corrosion inhibition and protection against metal loss. System has operated without any major incidents during last contract period.

WATER TREATMENT PROGRAM

Facility: Crossroads Correctional Center		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Antibacterial/	0.18 gallons	0.36 gallons
Stabilizer		(20000 gallons contained volume in one tank)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_____ Drumless, Bulk Storage	_____x_____ Conventional Drum	

Facility: Crossroads Correctional Center		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallons	200 gallons
WLFT AM-2225 Biocide	0.8 gallons	20 gallons
WLFT Verox Biocide	0.4 gallons	30 gallons
Equipment (include make, model, and quantity)		
3 LMI Chemical Pumps, P141-352SI and WLFT PCS Control		
150 Gallon_____ Drumless, Bulk Storage		_____x_____ Conventional Drum

Facility: Crossroads Correctional Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
LMI P051-352SI Chemical Pump		
_____150 Gal_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Crossroads Correctional Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
LMI P051-352SI Chemical Pump		
___ x___ ___ Drumless, Bulk Storage		_____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

EASTERN RECEPTION DIAGNOSTIC CENTER

SystemName: BOILER 4

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	410	ppm\CaCO3	250	500
OH-ALK	350	ppm\CaCO3	200	400
P-ALK	380	ppm\CaCO3	250	400
POLYMER	0.40	ABS	0.3	0.6
SULFITE(SO3)	48	ppm	30	60
CONDUCTIVITY	2300	uS	2000	3000

SystemName: CLOSED LOOPS

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CHILLED LOOP NITRITE	1200	ppm	900	3000

SystemName: CONDENSATE

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0.5
M-ALK	20	ppm\CaCO3	30	50
pH	8.4	unit	8.2	9.5

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	10	40
M-ALK	1200	ppm\CaCO3	1100	1600
POLYMER	9.75	ppm	4	10
CONDUCTIVITY	2100	uS	1800	2200

SystemName: FEEDWATER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0
M-ALK	28	ppm\CaCO3	20	60

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	168	ppm/CaCO3	N/A	N/A
CHLORIDES	6	ppm	N/A	N/A
CONDUCTIVITY	772	uS	N/A	N/A
HARDNESS	347	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A
Magnesium(Mg)	178	ppm/CaCO3	N/A	N/A
M-ALK	260	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.48	unit	N/A	N/A
PHOSPHATE	0.125	ppm	N/A	N/A
SILICA(SiO2)	7.48	ppm	N/A	N/A
SULFATE(SO4)	55.6	ppm	N/A	N/A

Proposed Water Treatment Program(s)

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Facility: Eastern Reception, Diagnostic and Correctional Center (ERDCC)

System I.D.: Steam Boilers
Make-Up Water: 100% Softened
Recommendations:

(2) Maintain existing chemical treatment parameters. ERDCCC chemical program demonstrates consistent program management, record-keeping, follow-up and equipment maintenance.
(3) Train all ERDCC power plant personnel on WLFT computer based software (E-Service).

System I.D.: Cooling Tower
Make-Up Water: 100% Softened water
Recommendations:

(5) Fully softened cooling tower make-up water requires excessive chemical treatment in order to compensate for natural corrosivity. Reductions in chemical requirements can be achieved by utilizing a soft/hard water blend as make-up. Ideal make-up to be in the range of 40-60 ppm total hardness. Blending a small amount of hard water into the current fully softened make-up water supply will provide an added level of corrosion protection, reduced chemical consumption, and no significant increase in water usage.
(6) If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

Soft water Blending is in the installation phase

WATER TREATMENT PROGRAM

Facility ERDCC Bonne Terre		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	***Annual Quantity***
Fuel-Save Anti-bacterial/Stabilizer	0.18 gallons	0.36 gallons
		(20000 gallons contained volume total in tank)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_____ Drumless, Bulk Storage		____x_____ Conventional Drum

Facility: ERDCC Bonne Terre		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1495	0.3 gallons	200 gallons
Equipment (include make, model, and quantity)		
4 each Neptune Model 515 Chemical Feed Pumps		
1 each Snyder Industries Model 200 Dual Containment Tank System (200 gal cap)		
_____x___ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: ERDCC Bonne Terre		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	110 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series A151 Chemical Feed Pump (caustic)		
1 each LMI Series A151 Chemical Feed Pump (sulfite)		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

Facility: ERDCC Bonne Terre		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	150 gallons
Equipment (include make, model, and quantity)		
1 each "Advantage" Model SLT (amine feed/direct from drum)		
_ _ _ _ Drumless, Bulk Storage	_ _ _ x_ _ Conventional Drum	

Facility: ERDCC Bonne Terre		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351	0.4 gallons	400 gallons
Verox-8	0.5 gallons	100 gallons
WLFT AM-66 Biocide	1.0 lbs	300 lbs
Equipment (include make, model, and quantity)		
1 each LMI Series A171 Chemical Feed Pump [Inhibitor] 2 each Snyder Industries Series 65 Dual Containment System (65 gal cap) [Inhibitor] 1each LMI Series A171 Chemical Feed Pump [Biocide] 1 each Snyder Industries Model 65 Dual Containment System (65 gal cap) [Biocide] 1 each LMI Series A171 Chemical Feed Pump [Biocide] 1 each Snyder Industries Model 65 Dual Containment System (65 gal cap) [Biocide] 1 each "Brominator", 50 lb. capacity 1 each Great Lakes/WLFT Conductivity Controller 1 each WLFT Model "PLC-ORP" Controller [Bromine Feed Control System]		
_ _ x _ _ Drumless, Bulk Storage		_ _ _ _ _ Conventional Drum

Facility: ERDCC Bonne Terre		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
1 each LMI Series A171 Chemical Feed Pump 1 each Snyder Industries Model 200 Dual Containment System (200 gal cap) [Note: 200 gallon tank will serve to supply both closed loops, hot/chilled]		
_ _ x _ _ Drumless, Bulk Storage		_ _ _ _ _ Conventional Drum

Facility: ERDCC Bonne Terre		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
1 each LMI Model A171 Series Chemical Feed Pump [Reference note under "Closed Loop Heat", Equipment: 200 gallon tank will serve to supply both closed loops, hot/chilled]		
_ _ _ _ x _ Drumless, Bulk Storage		_ _ _ _ _ Conventional Drum

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Farmington Community Supervision Center (OA-FMDC-DOC)

1430 Doubet RoadFarmington, MO 63640

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3050	uS	500	1000
NITRITE	1600	ppm	800	1200
HARDNESS	0	ppm\CaCO3	N/A	N/A
M-ALK	1080	ppm\CaCO3	N/A	N/A
pH	10.8	unit	6.5	8.5

*SystemName:*Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	130	ppm\CaCO3	N/A	N/A
CHLORIDES	14	ppm	N/A	N/A
CONDUCTIVITY	590	uS	N/A	N/A
HARDNESS	280	ppm\CaCO3	N/A	N/A
Iron (Fe)	0.20	ppm	N/A	N/A
Magnesium(Mg)	168	ppm\CaCO3	N/A	N/A
M-ALK	270	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	10.5	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.1	unit	N/A	N/A
PHOSPHATE	0.10	ppm	N/A	N/A
SILICA(SiO2)	10	ppm	N/A	N/A
SULFATE(SO4)	7.4	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Farmington Community Supervision Center, 1430 Doubet Rd., Farmington, MO 63640
System I.D: Three Lochinvar Hot Water Boilers rated at 399,900 BTU each
Make-Up Water: Soft
Recommendations: WLFT Closed System Treatment #893 is currently in place. Nitrite residual is well within range. Newer system well maintained; five gallon by-pass feeder functional.

WATER TREATMENT PROGRAM

Facility: Farmington Community Supervision Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) *per 10,000 Gallons Treated*	**Annual Quantity**
WLFT 893	40 gal	5 gallons
Equipment (include make, model, and quantity)		
5 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	_____X_____ Conventional Drum	

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

FARMINGTON CORRECTIONAL CENTER

SystemName: BOILER 2

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	560	ppm\CaCO3	250	400
OH-ALK	136	ppm\CaCO3	200	400
P-ALK	348	ppm\CaCO3	250	400
PHOSPHATE	45	ppm	20	40
SULFITE(SO3)	48	ppm	30	60
CONDUCTIVITY	4500	uS	4000	5000

SystemName: FEEDWATER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
M-ALK	24	ppm\CaCO3	5	25
CONDUCTIVITY	285	uS	100	200

SystemName: CONDENSATE North/South

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0/0	ppm/CaCO3	0	0
Iron (Fe)	0.1/0.15	ppm	0	0.5
M-ALK	28/36	ppm\CaCO3	30	50
pH	9.1/9.0	unit	8.2	9.5
CONDUCTIVITY	45/57	uS	20	80

SystemName: COOLING TOWER

HARDNESS	300	ppm/CaCO3	200	500
Iron (Fe)	0.1/0.15	ppm	0	0.5
M-ALK	360	ppm\CaCO3	300	500
pH	9.1/9.0	unit	8.2	9.5
CONDUCTIVITY	1300	uS	1000	1600

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	130	ppm/CaCO3	N/A	N/A
CHLORIDES	14	ppm	N/A	N/A
CONDUCTIVITY	590	uS	N/A	N/A
HARDNESS	280	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.20	ppm	N/A	N/A
Magnesium(Mg)	168	ppm/CaCO3	N/A	N/A
M-ALK	270	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	10.5	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.1	unit	N/A	N/A
PHOSPHATE	0.10	ppm	N/A	N/A
SILICA(SiO2)	10	ppm	N/A	N/A
SULFATE(SO4)	7.4	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Farmington Correctional Center (FCC)

System I.D.: Steam Boilers
Make-Up Water: 100% Softened/Dealkalized
Recommendations:
(1) Maintain existing chemical treatment parameters. FCC chemical program demonstrates consistent program management, recordkeeping, follow-up and equipment maintenance.

Installation of a Reverse Osmosis unit to supply boiler feedwater will dramatically reduce fuel and chemical consumption while improving steam quality.

System I.D.: Cooling Tower (25 House)
Make-Up Water: 100% hard water
Recommendations:
(1) Maintain existing chemical treatment parameters. FCC chemical program demonstrates consistent program management, recordkeeping, follow-up and equipment maintenance.
(2) If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: FCC Farmington		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Antibacterial/	0.18 gallons	0.81 gallons
Stabilizer		(45000 gallons contained volume in three tanks)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_ _ _ _ Drumless, Bulk Storage		____x____ Conventional Drum

Facility:FCC Farmington		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT LC25	0.45 gallons	3500 gallons
WLFT 1450	0.3 gallons	650 gallons
Equipment (include make, model, and quantity)		
Qty 2 LMI Chemical Pumps P141-352SI		
_____x____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: FCC Farmington		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	200 gallons
Equipment		
LMI P131-392SI Chemical Feed Pump, Qty = 1		
_____x___ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: FCC Farmington		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	150 gallons
Equipment		
LMI P131-392SI Chemical Feed Pump, Qty = 1		
_____x____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: FCC Farmington		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallons	400 gallons
WLFT Verox-8	0.8 gallons	50 gallons
WLFT-206	1.5 gallons	20 gallons
Equipment (include make, model, and quantity)		
Pulsatrol MVS1PF-XXX Control 3- PulsaFeeder 1 GPH pumps		
_ _ _ _ _ Drumless, Bulk Storage	_____x___ Conventional Drum	

Facility: FCC Farmington		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839		
Equipment: Wingert Model 2HD By Pass Feeder		
___ ___ ___ Drumless, Bulk Storage	___ ___x_____ Conventional Drum	

Facility: FCC Farmington		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839		
Equipment		
Wingert Model 2HD By Pass Feeder		
___ ___ ___ Drumless, Bulk Storage	____x_____ Conventional Drum	

Facility: FCC Farmington		
DEALKALIZER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT LC25	0.45 gallons	500 gallons
Equipment		
LMI P131 Chemical Feed Pump, Qty = 1		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

FULTON RECEPTION DIAGNOSTIC CENTER – FRDC

SystemName: Hot Water Boiler

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1232	uS	2200	3000
Iron (Fe)	0.0	ppm	0	0.5
NITRITE	1000	ppm	800	1200
pH	10.7	unit	10.0	11.0
P-ALK	600	ppm\CaCO3	200	500
M-ALK	1000	ppm\CaCO3	500	1000

SystemName: Chilled Water – 20 house

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2800	uS	2200	3000
Iron (Fe)	0.0	ppm	0	0.5
NITRITE	1150	ppm	800	1200
pH	10.9	unit	10.0	11.0
P-ALK	350	ppm\CaCO3	200	500
M-ALK	890	ppm\CaCO3	500	1000

SystemName: Softener System

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
#1 Hardness	0	ppm/CaCO3	N/A	N/A
#2 Hardness	0	ppm/CaCO3		
#3 Hardness	0	ppm/CaCO3		
#4 Hardness	0	ppm/CaCO3		

SystemName: Cooling Tower Water – *chillers offline during site visit.*

SystemName: Chilled Water

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2000	uS	2800	3800
Iron (Fe)	0.0	ppm	0	0.5
M-ALK	880	ppm\CaCO3	500	800
NITRITE	1800	ppm	600	1200
pH	11	unit	9	11

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SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SIO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Section 3.7.3 Proposed Water Treatment Program(s)

Facility: Fulton Receiving & Diagnostic Center (FRDC)

System I.D.: Cooling Tower
Make-Up Water: Soft/Hard water blend (100-130 ppm range)

(1) Recommendations: Cooling tower/chiller/closed loop – all well maintained by FRDC personnel. Recommend maintaining existing parameters for chemical protection. Frequent cleaning (power-washing) of exterior Delta Cooling tower recommended as per influx of airborne contaminants.

(2) If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

System I. D.: Hot Water Boilers

1.Hot water boilers are well maintained by FRDC personnel. Recommend maintaining existing parameters for chemical protection (nitrite program).

2. Maintain frequent (scheduled) dosage of AM-50 microbiocide to closed loops to offset periodic biological growth.

WATER TREATMENT PROGRAM

Facility: FRDC Fulton		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Antibacterial/	1.8 gallons	3.6 gallons
Stabilizer		(20000 gallons contained volume in three tanks)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_____ Drumless, Bulk Storage		____x_____ Conventional Drum

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Facility: FRDC Fulton		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallons	50 gallons
WLFT AM-66	1.0 lb	100 lbs
WLFT AM-714	1.5 gallons	25 gallons
Equipment *(include make, model, and quantity)*		
1 each WLFT PCS Cooling Tower Controller 3 each LMI Series A151 Chemical Feed Pumps 1 each "Brominator", 50 lb. capacity		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

Facility: FRDC Fulton		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
AM50 Microbiocide	Periodic as scheduled	30 gallons
	Typical: 1 pint/3 weeks	
Equipment (include make, model, and quantity)		
1 each Snyder Model 200 Dual Containment System (200 gal cap) 1 each LMI Series A171 Chemical Feed pump		
X Drumless, Bulk Storage	_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

HANNIBAL COMMUNITY SUPERVISORY CENTER

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2700	uS	2200	3000
Iron (Fe)	0.1	ppm	0	0.5
NITRITE	1000	ppm	800	1200
HARDNESS	90	ppm/CaCO3	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
M-ALK	160	ppm\CaCO3	N/A	N/A
pH	8.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
Ca Hardness(Ca)	192	ppm/CaCO3	N/A	N/A
CHLORIDES	24	ppm	N/A	N/A
CONDUCTIVITY	585	uS	N/A	N/A
HARDNESS	278	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A
Magnesium(Mg)	82	ppm/CaCO3	N/A	N/A
M-ALK	176	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.5	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.8	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	24.25	ppm	N/A	N/A
SULFATE(SO4)	97.2	ppm	N/A	N/A
SODIUM	10	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Hannibal Community supervisory Center
System I.D:Three RayPak 300,000BTU Hot Water Boilers. Boiler are tied together and staged as load requires. Hot water temperature is approximately 150 degrees F
Make-Up Water: 100% Softened. Twin Marlow Parallel operation
Recommendations:

(1) Nitrite residual of 1000 ppm is adequately maintained via WLFT #839.

WATER TREATMENT PROGRAM

Facility: Hannibal Community Supervisory Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gallons	
Equipment (include make, model, and quantity)		
5 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	__ __X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water

JEFFERSON CITY CORRECTIONAL CENTER

SystemName: BOILER 4

PROCEDURE	Result:		LoLimit:	HiLimit:
M-ALK	740	ppm\CaCO3	500	700
OH-ALK	660 ppm\CaCO3	300	700	
P-ALK	700	ppm\CaCO3	400	600
ABS	.287	ppm	.180	.350
SULFITE(SO3)	38	ppm	20	40
CONDUCTIVITY	2800	uS	1800	3000

SystemName: CLOSED LOOPS

PROCEDURE	Result:		LoLimit:	HiLimit:
CHILLED LOOP NITRITE	900	ppm	800	1200

SystemName: CONDENSATE

PROCEDURE	Result:		LoLimit:	HiLimit:
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0.5
M-ALK	20	ppm\CaCO3	30	50
pH	8.8	unit	8.2	9.5

SystemName: COOLING TOWER

PROCEDURE	Result:		LoLimit:	HiLimit:
HARDNESS	900	ppm/CaCO3	900	1050
M-ALK	280	ppm\CaCO3	200	300
POLYMER	0.30	abs	0.26	0.55
CONDUCTIVITY	1760	uS	1700	2000

SystemName: FEEDWATER

PROCEDURE	Result:		LoLimit:	HiLimit:
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0
M-ALK	28	ppm\CaCO3	20	60

SystemName: Raw Water Supply

PROCEDURE	Result:		LoLimit	HiLimit:
CaHardness(Ca)	67	ppm/CaCO3	N/A	N/A
CHLORIDES	28.8	ppm	N/A	N/A
CONDUCTIVITY	610	uS	N/A	N/A
HARDNESS	116	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	49	ppm/CaCO3	N/A	N/A
M-ALK	49	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	1.4	ppm	N/A	N/A
P-ALK	14	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.7	ppm	N/A	N/A
SILICA(SIO2)	0	ppm	N/A	N/A
SULFATE(SO4)	203	ppm	N/A	N/A

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Proposed Water Treatment Program(s)
Facility: Jefferson City Correctional Center (JCCC)
System I.D.: Steam Boilers
Make-Up Water: 100% Softened
Recommendations:

(2) Maintain existing chemical treatment parameters, as per instructions by DOC staff. JCCC chemical program will be developed by DOC, by original startup requirements.
(3) Train all JCCC power plant personnel on WLFT computer based software.

Considering the size and length of runs encompassed in this steam system (Algoa and Ameresco) removal of the carbonates from the feed water would be a big step in reducing corrosion in the steam system. Installation of a Reverse Osmosis unit to supply boiler feedwater will dramatically reduce fuel and chemical consumption while eliminating carbonates thus improving steam quality. WLFT representatives will be happy to discuss the specifics of this option at the facility's convenience.

System I.D.: Cooling Tower
Make-Up Water: In the process of converting the make up water to 50% hard, 50% soft
Recommendations:

Maintain original chemical treatment parameters, as per instructions by DOC staff. Tower water program will be developed by DOC staff during original start-up. 50/50 hard/soft cooling tower make-up water requires excessive chemical treatment in order to compensate for natural corrosiveness. Reduction in chemical requirements will be achieved by utilizing the soft/hard water blend as make-up. Blencing a small amount of hard water into the current fully softened make-up water supply will provide an added level of corrosion protection, reduced chemical consumption, and no significant increase in water usage.

If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

System I.D.: Water Softeners: Domestic, Boiler, Kitchen/Laundry
Make-Up Water: Raw water from city
Recommendations:

(1) Establish softener runs and monitor for maximum gallons before leak-through.

WATER TREATMENT PROGRAM

Facility: JCCC		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	0.18 gallons	0.63 gallons
(35000 gallons contained	volume total in two tanks)	
Equipment No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		

Facility: JCCC	
BOILER	
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated / **Annual Quantity**
WLFT 1495	0.3 gallons / 300 gallons
Equipment (include make, model, and quantity)	
1 each – Snyder polyethylene 200 gallon dual containment bulk tank	
1 each – Neptune #515 chemical feed system	
_____x___ Drumless, Bulk Storage	_____ Conventional Drum

Facility: JCCC	
DEAERATOR	
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated / **Annual Quantity**
WLFT 595	0.067 gallons / 150 gallons
Equipment (include make, model, and quantity)	
1 each Snyder polyethylene 200 gallon dual containment bulk tank	
1 each Neptune #515 chemical feed system	

Facility: JCCC	
STEAM SYSTEMS	
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated / **Annual Quantity**
WLFT 1535	0.4 gallons / 500 gallons
Equipment (include make, model, and quantity)	
1 each Snyder polyethylene 200 gallon dual containment bulk tank 1 each Neptune #515 chemical feed system	
_ ___ ___ ___ Drumless, Bulk Storage	_ __ __x __ Conventional Drum

Facility: JCCC		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351	0.4 gallons	400 gallons
WLFT 206	0.5 gallons	30 gallons
WLFT AM-66 Biocide	1.0 lbs	200 lbs
Equipment *(include make, model, and quantity)*		
1 each Advantage Nano Conductivity Controllers 3 each LMI A-151-192-T chemical pump for inhibitor & biocide feeds (from drum due to space limitations) 1 each "Brominator", 50 lb. capacity		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: JCCC		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
1 each LMI chemical feed pump A171		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
1 each LMI Model A171 Series Chemical Feed Pump [Reference note under "Closed Loop Heat", Equipment: 200 gallon tank will serve to supply both closed loops, hot/chilled]		
_____x__ Drumless, Bulk Storage	_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Kansas City Community Release Center

No systems to treat

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

CSC – Kennett Community Supervision Center

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1800	uS	500	6000
NITRITE	950	ppm	900	3000
M-ALK	920	ppm\CaCO3	N/A	N/A
pH	10.5	unit	6.5	8.5

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2500	uS	2200	3000
NITRITE	1000	ppm	900	3000
M-ALK	720	ppm\CaCO3	N/A	N/A
pH	9.2	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	280	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	550	uS	N/A	N/A
HARDNESS	200	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.2	ppm	N/A	N/A
Magnesium(Mg)	40	ppm/CaCO3	N/A	N/A
M-ALK	288	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	26	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.3	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	9	ppm	N/A	N/A
SULFATE(SO4)	0	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: CSC, Community Supervision Center, Kennett

System I.D: 3 – Knight hot water heaters, 20 hp each.

Make-Up Water: City water Make up Soft

Recommendations: Maintain chemical treatment parameters at 900+ ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System I.D.: Chilled Water Closed Loop

Make-up Water: City water, make-up is soft

Recommendations:

Chilled water currently within proper nitrite range .

WATER TREATMENT PROGRAM

Facility: CSC – Kennett Community Supervision Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
By-Pass feeder		
_ _ _ _ _ _ Drumless, Bulk Storage	_____X_____ Conventional Drum	

Facility: CSC – Kennett Community Supervision Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment A by-pass feeder		
_____ _____ Drumless, Bulk Storage	_ _ X _ _ _ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MARYVILLE TREATMENT CENTER

SystemName: Bldg 2 Closed Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2700	uS	2500	3600
NITRITE	1350	ppm	900	1000
Glycol	14	%		

SystemName: Building 4 Boiler

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
Buffered Conductivity	2600	uS	2000	3000
East Condensate Conductivity	50	uS	8	100
East Condensate pH	8.2	unit	8.2	9
Feedwater Conductivity	72	uS	10	100
Feedwater Iron	0.1	mg/l	0	0.5
Feedwater pH	8.64	unit	8	9
Iron (Fe)	0.2	ppm	0	1.5
M-ALK	600	ppm\CaCO3	500	800
P-ALK	450	ppm\CaCO3	500	700
OH-ALK	300	ppm\CaCO3	500	700
Phosphate	44	ppm	20	60
Sulfite	42	ppm	20	60

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	80	ppm/CaCO3	N/A	N/A
CHLORIDES	1	ppm	N/A	N/A
CONDUCTIVITY	330	uS	N/A	N/A
HARDNESS	110	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.20	ppm	N/A	N/A
Magnesium(Mg)	46	ppm/CaCO3	N/A	N/A
M-ALK	125	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	20.25	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	8.3	unit	N/A	N/A
PHOSPHATE	0.10	ppm	N/A	N/A
SILICA(SiO2)	1.6	ppm	N/A	N/A
SULFATE(SO4)	20.2	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Maryville Treatment Center (MTC)
System I.D.: Steam Boilers
Make-Up Water: 100% Softened
Recommendations:

1. Maintain existing chemical treatment parameters. MTC chemical program demonstrates consistent program management, record-keeping, follow-up and equipment maintenance.

System I.D.: Closed systems (Non-Potable Hot)
Make-Up Water: 100% Softened
Recommendations:

(1) Maintain existing chemical treatment parameters, 800-1000 mg/l as nitrite (NO_3) to provide maximum corrosion inhibition and protection against metal loss.

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WATER TREATMENT PROGRAM

Facility: Maryville Treatment Center

FUEL OIL TREATMENT

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
Fuel-Save Anti-bacterial/Stabilizer	0.18 gallons	0.52 gallons
		(2860 gallons contained volume total in five tanks)

Equipment (include make, model, and quantity)

No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.

_____ Drumless, Bulk Storage	___x_____ Conventional Drum

Facility: Maryville Treatment Center (Building 4)

BOILER

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
WLFT 592L	0.033 gallon	200 gallons
WLFT 1460	0.4 gallon	15
WLFT 1535	0.4 gallon	15
WLFT LC-25	0.4 gallon	5

Equipment (include make, model, and quantity)

3 LMI P141-352SI Chemical Pumps /Manual Control

_____ Drumless, Bulk Storage	____x___ Conventional Drum

Facility: Maryville Treatment Center (Building #2)

CLOSED LOOP HEAT

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
WLFT # 839	40 gallons	

Equipment (include make, model, and quantity) None—Fed by 2 Gallon Generic Bypass feeders

_____ Drumless, Bulk Storage	____x_____ Conventional Drum

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MISSOURI EASTERN CORRECTIONAL CENTER

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	264	ppm/CaCO3	N/A	N/A
CHLORIDES	18	ppm	N/A	N/A
CONDUCTIVITY	580	uS	N/A	N/A
HARDNESS	296	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	32	ppm/CaCO3	N/A	N/A
M-ALK	300	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	14.25	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	6.9	unit	N/A	N/A
PHOSPHATE	0.15	ppm	N/A	N/A
SILICA(SiO2)	8.25	ppm	N/A	N/A
SULFATE(SO4)	10	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Missouri Eastern Correctional Center (MECC)

System I.D.: *Domestic Water Supply - Chlorination*
Recommendations:

1. Maintain existing chemical treatment parameters. Sodium hypochlorite chemical injection in place; chorine residual 1-2 ppm.

WATER TREATMENT PROGRAM

Facility: MECC Pacific

DOMESTIC WATER SYSTEM

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
IMCA-10		
_____ Drumless, Bulk Storage		_____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MOBERLY CORRECTIONAL CENTER

SystemName: COOLING TOWER-ADMIN BLDG

HARDNESS	360	ppm\CaCO3	300	600
M-ALK	300	ppm\CaCO3	300	600
POLYMER	6	ppm	4	8
CONDUCTIVITY	1430	uS	1000	1200

SystemName: COOLING TOWER "POWERPLANT"

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	240	ppm\CaCO3	300	600
M-ALK	320	ppm\CaCO3	300	600
POLYMER	7	ppm	4	8
CONDUCTIVITY	1380	uS	1000	1200

SystemName: COOLING TOWER "ICE MACHINE"

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	300	ppm\CaCO3	300	600
M-ALK	320	ppm\CaCO3	300	600
POLYMER	4	ppm	4	8
CONDUCTIVITY	1100	uS	1000	1200

SystemName: HWB SYSTEM

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm\CaCO3	0	0
HWS NITRITE	920	ppm	900	3000
M-ALK	800	ppm\CaCO3	500	1000
Softener Hardness	0	ppm\CaCO3	0	0
STORAGE NITRITE	850	ppm	750	1000

SystemName: LAUNDRY BOILER 1

Note: Boiler 2 in "standby" (sulfite 300 ppm, M alk900 ppm)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	720	ppm\CaCO3	500	800
OH-ALK	280	ppm\CaCO3	200	400
P-ALK	500	ppm\CaCO3	400	800
PHOSPHATE	40	ppm	20	40
SULFITE(SO3)	48	ppm	30	60
CONDUCTIVITY	2250	uS	2000	2500

CONDENSATE
HARDNESS = 0.00 PPM
CONDUCTIVITY = 40 MICROMHOS
M-ALKALINITY = 30 PPM
PH = 8.6
FE = 0.00 PPM

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SystemName: **FEEDWATER – LAUNDRY**

PROCEDURE	*Result:*	*LoLimit:*	*HiLimit:*
HARDNESS	0 ppm/CaCO3	0	0
CONDUCTIVITY	140 ppm	50	200
M-ALK	50 ppm\CaCO3	20	200
IRON	0 ppm\CaCO3	0	0

SystemName: **CLOSED LOOPS – MISC**

LOCATION	*NITRITE*	*TDS*	*H*
HOUSING #1	950	2120	0
HOUSING #2	980	2440	0
HOUSING #3	1100	2080	0
HOUSING #4	980	2100	0
SCHOOL	1000	2208	0
ACTIVITIES	900	2050	0
SIGN SHOP	11000	2140	0
METAL PLANT	1050	2020	0

SystemName: Raw Water Supply

PROCEDURE	*Result:*	*LoLimit:*	*HiLimit:*
CaHardness(Ca)	122 ppm/CaCO3	N/A	N/A
CHLORIDES	42 ppm	N/A	N/A
CONDUCTIVITY	410 uS	N/A	N/A
HARDNESS	148 ppm/CaCO3	N/A	N/A
Iron (Fe)	0.020 ppm	N/A	N/A
Magnesium(Mg)	25 ppm/CaCO3	N/A	N/A
M-ALK	124 ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.5 ppm	N/A	N/A
P-ALK	0 ppm\CaCO3	N/A	N/A
pH	7.5 unit	N/A	N/A
PHOSPHATE	0.05 ppm	N/A	N/A
SILICA(SIO2)	3 ppm	N/A	N/A
SULFATE(SO4)	10 ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Moberly Correctional Center (MCC)

System I.D.: Steam Boiler/Laundry
Make-Up Water: 100% Softened
Recommendations:

1. Maintain existing chemical treatment parameters. MCC chemical program demonstrates consistent program management, recordkeeping, follow-up and equipment maintenance.

System I.D.: Cooling Towers (Power Plant/Administration Bldg/Ice Production)
Make-Up Water: Power plant (Hard/Soft Blend); All others - 100% hard water.
Recommendations:

1.Recommend duplicating the Power Plant hard/soft blended make-up water supply for Administration and Ice Production cooling towers. Ideal make-up to be in the range of 40-60 ppm total hardness as make-up. Reduction in make-up water total hardness will allow for significant water savings, reduced chemical consumption, and adequate scale/corrosion protection.

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If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.
System I.D.: Power Plant Hot Water Boilers
Make-Up Water: 100% Softened
Recommendations:

(1) Maintain existing treatment parameters. MCC chemical program demonstrates consistent program management, recordkeeping, follow-up, and equipment maintenance.

WATER TREATMENT PROGRAM

Facility: MCC Moberly

FUEL OIL TREATMENT

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	0.18 gallons	0.72 gallons
		(40000 gallons contained volume total in two tanks)

Equipment (include make, model, and quantity)

No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.

_____ Drumless, Bulk Storage	____x_____ Conventional Drum

Facility: MCC Moberly

BOILER

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1450	0.3 gallons	110 gallons

Equipment

LMI P131 Series Chemical Feed Pump, Qty = 1

__ __ __ Drumless, Bulk Storage	__ __x__ __ Conventional Drum

Facility: MCC Moberly

DEAERATOR

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	***Annual Quantity***
WLFT 595	0.067 gallons	110 gallons

Equipment

LMI P131 Chemical Feed Pump, Qty = 1

_____ Drumless, Bulk Storage	____x_____ Conventional Drum

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Facility: MCC Moberly		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	110 gallons
Equipment		
LMI P131 Chemical Feed Pump, Qty = 1		
___ Drumless, Bulk Storage	___x___ Conventional Drum	

Facility: MCC Moberly Powerplant		
COOLING TOWERS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4714	0.6 gallons	100 gallons
WLFT Verox-8	0.8 gallons	15 gallons
WLFT 206	1.5 gallons	10 gallons
Equipment		
WLFT PLC Series Controller Advantage Microton B130 Chemical Feed Pump, Qty = 3		
___ Drumless, Bulk Storage	___x___ Conventional Drum	

Facility: MCC Moberly		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
LMI P131 Chemical Feed Pump, Qty = 1		
___x___ Drumless, Bulk Storage	___ Conventional Drum	

Facility: MCC Moberly – Administration Building		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment Wingert Model 21HD By Pass Feeder		
___ Drumless, Bulk Storage	___x___ Conventional Drum	

NORTH EAST CORRECTIONAL CENTER

SystemName: DOMESTIC SOFTENER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0

SystemName: HOT WATER BOILER (before suspension of treatment)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	550	ppm	500	600
M-ALK	650	ppm\CaCO3	500	2000
TDS	1500	uS	1000	2000

SystemName: HOT WATER BOILER (after suspension of treatment)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	0	ppm	500	600
M-ALK	350	ppm\CaCO3	500	2000
TDS	900	uS	1000	2000

SystemName: HWB SOFTENER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	92	ppm/CaCO3	N/A	N/A
CHLORIDES	10	ppm	N/A	N/A
CONDUCTIVITY	300	uS	N/A	N/A
HARDNESS	120	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.025	ppm	N/A	N/A
Magnesium(Mg)	28	ppm/CaCO3	N/A	N/A
M-ALK	90	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	14.8	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.4	unit	N/A	N/A
PHOSPHATE	0.4	ppm	N/A	N/A
SILICA(SiO2)	7	ppm	N/A	N/A
SULFATE(SO4)	27.5	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

System I.D.: Hot Water Boilers
Make-Up Water: 100% Softened
Recommendations:

(1) Water losses occurring in this system have resulted in the state deeming that chemical treatment for the system is cost prohibitive at this point
(2) Published results above are from an earlier service report when treatment program was active

WATER TREATMENT PROGRAM

Facility: NECC Bowling Green		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gallons	
Equipment (include make, model, and quantity)		
1 each LMI Series A171 Chemical Feed Pump 1 each Snyder Industries Model 200 Dual Containment System (200 gal cap)		
___ _x_ __ _ Drumless, Bulk Storage		___ _____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

OZARK CORRECTIONAL CENTER

SystemName: BOILER 1

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	800	ppm\CaCO3	400	800
OH-ALK	340	ppm\CaCO3	200	400
P-ALK	660	ppm\CaCO3	400	800
PHOSPHATE	32	ppm	20	40
SULFITE(SO3)	36	ppm	30	60
TDS	2100	uS	2000	3000

SystemName: CONDENSATE

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0.1	ppm	0	0.5
M-ALK	60	ppm\CaCO3	30	50
pH	8.8	unit	8.2	9.5
TDS	180	uS	20	80

SystemName: FEEDWATER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
M-ALK	60	ppm\CaCO3	5	25
TDS	120	uS	100	200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	110	ppm/CaCO3	N/A	N/A
CHLORIDES	3.73	ppm	N/A	N/A
CONDUCTIVITY	420	uS	N/A	N/A
HARDNESS	194	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.0025	ppm	N/A	N/A
Magnesium(Mg)	31.2	ppm/CaCO3	N/A	N/A
M-ALK	220	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.85	ppm	N/A	N/A
pH	7.62	unit	N/A	N/A
PHOSPHATE	0.125	ppm	N/A	N/A
SILICA(SiO2)	7.75	ppm	N/A	N/A
SULFATE(SO4)	11.2	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Ozark Correctional Center (OCC)

System I.D.: Steam Boilers
Make-Up Water: 100% Softened
Recommendations:

1. Maintain existing treatment parameters. OCC chemical program demonstrates consistent program management, recordkeeping, follow-up, and equipment maintenance .This facility has had significant condensate loss in the past. However staff has made great strides in identifying and addressing the problem areas.

2. Replacing underground steam system with above ground one will improve system efficiency and reduce chemical costs

WATER TREATMENT PROGRAM

Facility: OCC Fordland		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	1.8 gallons	0.36 gallons
		(20000 gallons contained volume total in two tanks)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_____ Drumless, Bulk Storage		_ _ _x _ ___ Conventional Drum

Facility:OCC Fordland		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1460	0.4 gallons	110 gallons
Equipment (include make, model, and quantity)		
1 each Snyder Model 165 Dual Containment System (165 gal cap ea) [Inhibitor] 1 each LMI Series A151 Chemical Feed Pump		
___ _x_ _ Drumless, Bulk Storage		_____ _ Conventional Drum

Facility: OCC Fordland		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	110 gallons
Equipment (include make, model, and quantity)		
1 each Snyder Model 165 Dual Containment System (165 gal cap) [sulfite] 1 each LMI Series A171 Chemical Feed Pump		
_____x___ Drumless, Bulk Storage		_____ Conventional Drum

Facility: OCC Fordland		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	110 gallons
Equipment (include make, model, and quantity)		
1 each Snyder Model 165 Dual Containment System (165 gal cap ea) 1 each LMI Series A171 Chemical Feed Pump		
_____x____ Drumless, Bulk Storage	_ _ _ _ _ _Conventional Drum	

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

CSC – Poplar Bluff Community Supervision Center

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1930	uS	500	6000
NITRITE	900	ppm	800	1200
HARDNESS	100	ppm/CaCO3	N/A	N/A
M-ALK	650	ppm\CaCO3	N/A	N/A
pH	10.5	unit	6.5	8.5

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2300	uS	2200	3000
NITRITE	1200	ppm	800	1200
M-ALK	600	ppm\CaCO3	N/A	N/A
pH	9.9	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	280	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	550	uS	N/A	N/A
HARDNESS	290	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.2	ppm	N/A	N/A
Magnesium(Mg)	40	ppm/CaCO3	N/A	N/A
M-ALK	288	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	26	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.3	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	9	ppm	N/A	N/A
SULFATE(SO4)	0	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: CSC, Community Supervision Center, Poplar Bluff

System I.D: 3 Knight hot water heaters, 20 hp each.

Make-Up Water: City water Make up Soft

Recommendations: Maintain chemical treatment parameters at 900+ ppm of Nitrite.

System I.D.: Chilled Water Closed Loop

Make-Up Water: City water Make up Soft

Recommendations:

Chilled water is well maintained using nitrite corrosion inhibitor WLFT #839.

WATER TREATMENT PROGRAM

Facility: CSC – Poplar Bluff Community Supervision Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 gal Generic by-pass feeder		
___ ___ ___ ___ Drumless, Bulk Storage	____X____ Conventional Drum	

Facility: CSC – Poplar Bluff Community Supervision Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 gal Generic by-pass feeder		
_____ _____ Drumless, Bulk Storage	____X____ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

POTOSI CORRECTIONAL CENTER

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	20	ppm\CaCO3	50	100
M-ALK	320	ppm\CaCO3	300	600
POLYMER	5	ppm	4	8
CONDUCTIVITY	1600	uS	1200	1800

SystemName: CLOSED CHILLED LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	1050	ppm\CaCO3	60	2000
NITRITE	1200	ppm\CaCO3	800	1200
CONDUCTIVITY	1000	u mhos	500	

SystemName: FEEDWATER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm\CaCO3	0	0
Iron (Fe)	0	ppm	0	0.05
M-ALK	76	ppm\CaCO3	40	80
CONDUCTIVITY	120	uS	50	150

SystemName: STEAM BOILER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	780	ppm\CaCO3	400	800
OH-ALK	500	ppm\CaCO3	200	400
P-ALK	640	ppm\CaCO3	400	800
PHOSPHATE	32	ppm	20	40
SULFITE(SO3)	40	ppm	30	60
CONDUCTIVITY	2200	uS	2000	2500

SystemName: CONDENSATE

PROCEDURE	*Result:*	*LoLimit:*	*HiLimit:*		
HARDNESS	0		ppm\CaCO3	0	0
CONDUCTIVITY	60		ppm	50	200
M-ALK	50		ppm\CaCO3	20	200
IRON	0		ppm\CaCO3	0	0
Ph	8.6		pH	8.0	9.2

SystemName: CLOSED HEATING LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	900	ppm\CaCO3	60	2000
NITRITE	1050	ppm\CaCO3	900	1500
CONDUCTIVITY	980	u mhos	500	

SystemName: RAW WATER SUPPLY

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	104	ppm/CaCO3	N/A	N/A
CHLORIDES	10	ppm	N/A	N/A
CONDUCTIVITY	440	uS	N/A	N/A
HARDNESS	220	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.075	ppm	N/A	N/A
Magnesium(Mg)	116	ppm/CaCO3	N/A	N/A
M-ALK	202	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	16.75	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.3	unit	N/A	N/A
PHOSPHATE	0.175	ppm	N/A	N/A
SILICA(SiO2)	80	ppm	N/A	N/A
SULFATE(SO4)	15	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Potosi Correctional Center (PCC)

System I.D.: Steam Boiler
Make-Up Water: 100% Softened
Recommendations:

1. Maintain existing chemical treatment parameters. PCC chemical program demonstrates consistent program management, recordkeeping, follow-up and equipment maintenance.

System I.D.: Cooling Tower
Make-Up Water: 100% Softened water
Recommendations:

1. *Long term: introduce a hard/soft water blend as cooling tower make-up. Ideal make-up to be in the range of 40-60 ppm total hardness. Blending a small amount of hard water into the current fully softened make-up water supply will provide an added level of corrosion protection, reduced chemical consumption, and no significant increase in water usage.*
2. If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used *right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.*

WATER TREATMENT PROGRAM

Facility: PCC Potosi

FUEL OIL TREATMENT

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	1.8 gallons	0.54 gallons
		(30000 gallons contained volume total in two tanks)

Equipment (include make, model, and quantity)

No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.

___ ___ ___ ___ Drumless, Bulk Storage	____x_____ Conventional Drum

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Facility:PCC Potosi		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1460	0.4 gallons	100 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series A151 Chemical Feed Pump		
1 each Snyder Industries Model 125 Dual Containment Tank System (125 gal cap)		
_____x___ Drumless, Bulk Storage		____ ___ __ Conventional Drum

Facility: PCC Potosi		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	50 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series A151 Chemical Feed Pump		
1 each Snyder Industries Model 125 Dual Tank Containment System (125 gal cap)		
_____x_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: PCC Potosi		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1565	0.4 gallons	150 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series A151 Chemical Feed Pump 1each Snyder Industries Model 125 Dual Containment System (125 gal cap).		
____ ___x__ Drumless, Bulk Storage		__ _____ Conventional Drum

Facility: PCC Potosi		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351	0.4 gallons	125 gallons
AM-66	1.0 lbs	150 lbs
WLFT 206	.5 gallon	15 gallon
Equipment (include make, model, and quantity)		
1each LMI Series A171 Chemical Feed Pump (Inhibitor) 1each LMI Series A171 Chemical Feed Pump (Biocide) 1each LMI Series DC4500 Conductivity Controller		
1 each Snyder Model 165 Dual Containment System (165 gal cap) 1 each Bromine feed system, 50 lb capacity		
__ X __ __ Drumless, Bulk Storage		_ __ __ __ Conventional Drum

Facility: PCC Potosi		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
5 gallon Generic Bypass Feeder		
__ __ __ __ Drumless, Bulk Storage		_ __x __ __ Conventional Drum

Facility: PCC Potosi		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 5 gallon Generic Bypass Feeder		
_____ Drumless, Bulk Storage		__ __ __x __ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

SOUTH CENTRAL CORRECTIONAL CENTER

SystemName: CONDENSATE

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
Iron (Fe)	0	ppm	0	0
M-ALK	200	ppm\CaCO3	50	100
pH	8.8	unit	8.2	9.5
CONDUCTIVITY	200	uS	50	100

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
BROMINE	5	mg/l	1	2
CHILLED LOOP NITRITE	1200	ppm	800	1200
HARDNESS	10	ppm/CaCO3	20	50
HWB NITRITE	1200	ppm	800	1200
M-ALK	1200	ppm\CaCO3	500	1200
POLYMER	10	ppm	4	8
CONDUCTIVITY	2200	uS	2100	2300

SystemName: FEEDWATER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0
M-ALK	240	ppm\CaCO3	100	250
SOFTENER HARDNESS	0	ppm/CaCO3	0	0
CONDUCTIVITY	265	uS	200	300

SystemName: LAUNDRY BOILER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	950	ppm\CaCO3	500	900
OH-ALK	550	ppm\CaCO3	200	400
P-ALK	750	ppm\CaCO3	400	800
PHOSPHATE	26	ppm	20	40
SULFITE(SO3)	60	ppm	30	60
CONDUCTIVITY	1250	uS	1400	1600

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	127	ppm/CaCO3	N/A	N/A
CHLORIDES	2	ppm	N/A	N/A
CONDUCTIVITY	409	uS	N/A	N/A
HARDNESS	242	ppm/CaCO3	N/A	N/A
Iron (Fe)	16	ppm	N/A	N/A
Magnesium(Mg)	115	ppm/CaCO3	N/A	N/A
M-ALK	237	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.56	ppm	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.15	ppm	N/A	N/A
SILICA(SIO2)	7.1	ppm	N/A	N/A
SULFATE(SO4)	0	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: South Central Correctional Center (SCCC)

System I.D.: Steam Boiler (Laundry)
Make-Up Water: 100% Softened
Recommendations:

(1) Maintain existing chemical treatment parameters. SCCC chemical program demonstrates consistent program management, record-keeping, follow-up and equipment maintenance.
(2) Investigate steam /condensate system for potential contamination. Possible heat exchanger and/or steam trap failure producing contaminants in condensate water.
(3) Train all SCCC power plant personnel on WLFT computer based software (WLFT E-Service).
(4) Bulk tank application not recommended for this system due to accessibility and space issues.

System I.D.: Cooling Tower
Make-Up Water: 100% Softened water
Recommendations:

(5) Provide a partial blend of hard/softened water as cooling tower make-up. Ideal make-up to be in the range of 40-60 ppm total hardness. Blending a small amount of hard water into the current fully softened make-up water supply will provide an added level of corrosion protection, reduced chemical consumption, and no significant increase in water usage.
(6) If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: SCCC Licking		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Antibacterial/	0.18 gallons	0.4 gallons
Stabilizer		(20500 gallons contained volume in two tanks)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_ _ _ _ _ Drumless, Bulk Storage		_____x_____ Conventional Drum

Facility: SCCC Licking		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	***Annual Quantity***
WLFT 1450	0.3 gallons	15 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series A151 Chemical Feed Pump		
_____ Drumless, Bulk Storage	___x___ Conventional Drum	

Facility: SCCC Licking		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	***Annual Quantity***
WLFT 595	0.067 gallons	30 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series A151 Chemical Feed Pump		
_____ Drumless, Bulk Storage	_____x_____ Conventional Drum	

Facility: SCCC Licking		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	30 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series A151 Chemical Feed Pump.		
_____ Drumless, Bulk Storage	_____x_____ Conventional Drum	

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Facility: SCCC Licking		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351	0.4 gallons	250 gallons
WLFT AM-66 biocide	1.0 lb	200 lbs
WLFT 206	.5 Gallon	15 gsllon
Equipment (include make, model, and quantity)		
1each LMI Series A171 Chemical Feed Pump (Inhibitor) 1each LMI Series A171 Chemical Feed Pump (Biocide/direct from drum) 1each WLFT PCS Conductivity Controller 1 each "Brominator", 50 lb. capacity		
1 each Snyder Model 200 Dual Containment System (200 gal cap)		
__ __x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: SCCC Lickinig	
CLOSED LOOP HEAT	
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 5 Gallon Generic By-pass feeder	
_____ Drumless, Bulk Storage	____x_____ Conventional Drum

Facility: SCCC Licking		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 5 Gallon Generic By-pass feeder		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

SOUTH EAST CORRECTIONAL

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
BROMINE	1.5	mg/l	1	2
CHILLED LOOP NITRITE	1100	ppm	900	3000
HARDNESS	5	ppm/CaCO3	10	50
M-ALK	850	ppm\CaCO3	400	1000
POLYMER	8	ppm	4	8
CONDUCTIVITY	1500	uS	1400	1600

SystemName: CLOSED CHILLED LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	850	ppm\CaCO3	60	2000
NITRITE	1300	ppm\CaCO3	800	1200
CONDUCTIVITY	1000	u mhos	500	

SystemName: CLOSED HEATING LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	800	ppm\CaCO3	60	2000
NITRITE	950	ppm\CaCO3	800	1200
CONDUCTIVITY	1080	u mhos	500	

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	64	ppm/CaCO3	N/A	N/A
CHLORIDES	8	ppm	N/A	N/A
CONDUCTIVITY	210	uS	N/A	N/A
HARDNESS	100	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A
Magnesium(Mg)	36	ppm/CaCO3	N/A	N/A
M-ALK	106	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	9.25	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.2	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	15.25	ppm	N/A	N/A
SULFATE(SO4)	0	ppm	N/A	N/A

Proposed Water Treatment Program (s)

Facility: South East Correctional Center (SECC)
System I.D.: Cooling Tower/Condenser Water
Make-up Water: 100% Softened.
Major Recommendations:
Provide a "blended" hard/softened make-up water supply. Maintain a total hardness (H) concentration of no less than 30ppm and no greater than 100 ppm in the cooling tower water. Existing make-up water (softened) requires an increase in chemical treatment to compensate for the corrosive nature of fully softened make-up water.

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If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

System I.D. Closed Water Systems
Make-up Water: 100% Softened
Major Recommendations:

(1) Chilled & hot water loops: No recommended changes in service, maintenance procedures, or chemical program.

WATER TREATMENT PROGRAM

Facility: SECC Charleston		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Antibacterial/	1.8 gallons	0.5 gallons
Stabilizer		(20000 gallon contained volume in one tank)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_____ Drumless, Bulk Storage		_____x_____ Conventional Drum

Facility: SECC Charleston		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351 Cooling Trtmt.	0.4 gallons	200 gallons
WLFT AM-66 Biocide	1.0 lbs	300 lbs
WLFT 206 Biodispersant	0.125	15 gallons
Equipment (include make, model, and quantity)		
1 each Snyder Model 200 Dual Containment System (200 gal cap) 1 each LMI Series A171 Chemical Feed Pump (inhibitor) 1 each LMI Series A171 Chemical Feed Pump (biocide/direct from drum)		
_____x_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: SECC Charleston		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
1 each LMI Series A171 Chemical Feed Pump 1 each Snyder Industries Model 125 Dual Containment System (125 gal cap) [Note: 125 gallon bulk tank to be used for hot and chilled loop chemical storage]		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: SECC Charleston		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
* See note below		
Equipment (include make, model, and quantity)		
1 each LMI Series A171 Chemical Feed Pump [Note: See note under "Closed Loop Heat" – Equipment: 1each Snyder Industries Model 125 Dual Containment System (125 gal cap) – utilized for both hot and chilled closed loops]		
____x____ _ Drumless, Bulk Storage	_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

ST. LOUIS COMMUNITY SUPERVISION CENTER

SystemName: CLOSED LOOPS

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CHILLED LOOP NITRITE	1200	ppm	800	1200
HWS NITRITE	1000	ppm	800	1200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

Water Analysis, Systems & Make-up (raw water).
Proposed Water Treatment Program(s)
System I. D.: Hot Water Boilers/Closed Loops
Make-Up Water: City of St. Louis
Recommendations:

(1) All closed loops are well maintained by SLCRC personnel. Recommend maintaining existing parameters for chemical protection (nitrite program).

WATER TREATMENT PROGRAM

Facility: SLCRC St. Louis		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT #839	10 gallons	
Equipment (include make, model, and quantity)		
2 gallon Generic Bypass Feeder		
_____ Drumless, Bulk Storage	___x_____ Conventional Drum	

Facility: SLCRC St. Louis		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	10 gallons	
Equipment (include make, model, and quantity)		
2 gallon Generic Bypass Feeder		
__ _____ Drumless, Bulk Storage	_ x ____ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

St. Joseph Community Supervision Center

System Name: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3400	uS	2200	3000
NITRITE	960	ppm	800	1000
M-ALK	490	ppm\CaCO3	N/A	N/A
pH	10.6	unit	N/A	N/A

System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm/CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SIO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

Proposed Water Treatment Program(s)
System I.D: Two Hot Water Boilers. Boiler are tied together and staged as load requires. Hot water temperature is approximately 150 degrees F
Make-Up Water: City Water
Recommendations: The chemical levels in the system are within range. Continue Current Levels of treatment

WATER TREATMENT PROGRAM

Facility: St. Joseph Community Supervision Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gallons	
Equipment (include make, model, and quantity)		
5 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	____X____ Conventional Drum	

Walter Louis
FLUID TECHNOLOGIES

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

TIPTON CORRECTIONAL CENTER

SystemName: BOILER #2

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	600	ppm\CaCO3	500	900
P-ALK	450		400	800
OH ALK	450	ppm\CaCO3	400	800
PHOSPHATE	34	ppm	20	40
Softener Hardness	0	ppm\CaCO3	0	0
SULFITE(SO3)	60	ppm	30	60
CONDUCTIVITY	2000	uS	1800	2200

SystemName: BOILER #3

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	800	ppm\CaCO3	500	900
OH-ALK	320	ppm\CaCO3	200	400
P-ALK	560	ppm\CaCO3	400	800
PHOSPHATE	28	ppm	20	40
SOFTENER HARDNESS	0	ppm/CaCO3	0	0
SULFITE(SO3)	55	ppm	30	60
CONDUCTIVITY	2145	uS	1800	2200

SystemName: Condensate

COND IRON	0	ppm	0	0
COND M ALKALINITY	36	ppm\CaCO3	20	100
COND PH	9	unit	8.2	9.5
COND CONDUCTIVITY	68	uS	30	100

SystemName: Feedwater

FEED HARDNESS	0	ppm/CaCO3	0	0
FEED IRON	0.2	ppm	0	0
FEED CONDUCTIVITY	120	uS	100	250

System Name: Closed Loop - Cold

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2600	uS	2800	3800
pH	8.91	ppm\CaCO3	500	800
NITRITE	1300	ppm	800	1200
M_ALK	900	ppm	800	2000

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	58.3	ppm/CaCO3	N/A	N/A
CHLORIDES	2	ppm	N/A	N/A
CONDUCTIVITY	534	uS	N/A	N/A
HARDNESS	274	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	31.2	ppm/CaCO3	N/A	N/A
M-ALK	279	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.01	ppm	N/A	N/A
pH	7.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.5	ppm	N/A	N/A
SULFATE(SO4)	15.6	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Tipton Correctional Center (TCC)

System I.D.: Steam Boilers
Make-Up Water: 100% Softened
Recommendations:

1. Maintain existing chemical treatment parameters. TTC chemical program demonstrates consistent program management, recordkeeping, follow-up and equipment maintenance.

WATER TREATMENT PROGRAM

Facility: TTC Tipton		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	0.18 gallons	0.3 gallons
		(16000 gallons contained volume total in one tank)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
____ ____ Drumless, Bulk Storage	____x____ Conventional Drum	

Facility: TTC Tipton		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1450	0.3 gallons	100 gallons
Equipment (include make, model, and quantity)		
2 each- Neptune "Day Tank" (poly tank system). 2 each- Neptune Chemical Feed Pump/Mixer. Model # A-515-N-1		
____ Drumless, Bulk Storage	____x____ Conventional Drum	

Facility: TTC Tipton		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	100 gallons
Equipment (include make, model, and quantity)		
2 each- Neptune "Day Tank" (poly tank system). 2 each- Neptune Chemical Feed Pump/Mixer. Model # A-515-N-1		
_____ Drumless, Bulk Storage		____x_____ Conventional Drum

Facility: TTC Tipton		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	125 gallons
Equipment (include make, model, and quantity)		
2 each- Neptune "Day Tank" (poly tank system). 2 each- Neptune Chemical Feed Pump/Mixer. Model # A-515-N-1		
_____ Drumless, Bulk Storage		____x_____ Conventional Drum

Facility: TTC Tipton		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
N/A (Pot feeder installed)		
_____ Drumless, Bulk Storage		___ x____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

WESTERN MISSOURI CORRECTIONAL CENTER

SystemName: Hot Water Softener

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
Softener Conductivity	370	uS	300	400
Softener Hardness	0	ppm\CaCO3	0	8

SystemName: Laundry Boiler System

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
Feedwater Hardness	0	mg/l	0	10
M-ALK	600	ppm\CaCO3	400	600
OH-ALK	136	ppm\CaCO3	200	400
P-ALK	368	ppm\CaCO3	300	500
PHOSPHATE	9	ppm	20	40
SULFITE(SO3)	120	ppm	20	40
Softener	0	ppm		

SystemName: Laundry Condensate

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	48	uS	20	80
pH	9.5	unit	8.5	9.5

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	109	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	288	uS	N/A	N/A
HARDNESS	144	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	33.5	ppm/CaCO3	N/A	N/A
M-ALK	131	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.025	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.47	unit	N/A	N/A
PHOSPHATE	0.170	ppm	N/A	N/A
SILICA(SiO2)	0.5	ppm	N/A	N/A
SULFATE(SO4)	20	ppm	N/A	N/A

Proposed Water Treatment Program(s)
System I.D.: Steam Boilers
Make-Up Water: 100% Softened
Recommendations:

1. Maintain existing chemical treatment parameters. WMCC chemical program demonstrates consistent program management, record keeping, follow-up and equipment maintenance. Current operation of this boiler includes shutting it off at night. WLFT would recommend that this policy be changed.

System I.D.: Closed systems (Non-Potable Hot)
Make-Up Water: 100% Softened

Recommendations: Refer to Crossroads Correctional Center

WATER TREATMENT PROGRAM

Facility: Western Missouri Correctional Center		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Antibacterial/Stabilizer	0.18 gallons	12 gallons
		(66000 gallons contained volume total in four tanks)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_____ __ Drumless, Bulk Storage	_____ x ___ Conventional Drum	

Facility: Western Missouri Correctional Center		
LAUNDRY BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1460 Boiler Treatment	0.4 gallons	30 gallons
WLFT 595 Oxygen Scav.	0.067 gallons	40 gallons
Equipment (include make, model, and quantity)		
1 each- Snyder Model 50 Polyethylene Make-down Tank		
1 each- LMI Model A151-92SI chemical pump		
_____ __ Drumless, Bulk Storage	_____ x ___ Conventional Drum	

Facility: Western Missouri Correctional Center		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	40 gallons
Equipment (include make, model, and quantity)		
*Fed with boiler treatment into batch tank		
_____ Drumless, Bulk Storage	__x__ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

WESTERN RECEPTION DIAGNOSTIC CENTER

System Name: Boiler #1 (Not Running)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
Buffered Conductivity		uS	2000	2500
M-ALK		ppm\CaCO3	500	700
OH-ALK		ppm\CaCO3	200	400
P-ALK		ppm\CaCO3	400	600
PHOSPHATE		ppm	20	40
SULFITE(SO3)		ppm	20	50

System Name: Boiler #4

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
Buffered Conductivity	1522	uS	2000	2500
M-ALK		ppm\CaCO3	500	700
OH-ALK	204	ppm\CaCO3	200	400
P-ALK		ppm\CaCO3	400	600
PHOSPHATE	68	ppm	20	40
SULFITE (SO3)	23	ppm	20	50

RFP B3Z14153

Section 3.7.2 Water Analysis, Systems & Make-up(raw water)

WESTERN RECEPTION DIAGNOSTIC CENTER

System Name: Condensate & Feedwater Systems

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
Boiler Room Condensate	9	uS	0	120
Boiler Room Condensate Hardness	0	mg/l	0	0.2
Boiler Room Condensate Iron	0.0	mg/l	0	0.5
Boiler Room Condensate pH	7.74	unit	8.2	9
East Condensate Conductivity	9.6	uS	5	120
East Condensate Hardness	0	mg/l	0	0.2
East Condensate Iron	0.0	mg/l	0	0.5
East Condensate Ph	8.67	unit	8.2	9
Feedwater Conductivity	12.39	uS	15	120
Feedwater Hardness	0	mg/l	0	2
Feedwater Iron	0.1	mg/l	0	0.5
Feedwater pH	8.19	unit	8.2	9
Makeup Conductivity	24.64	uS	15	120
Makeup Hardness	0	mg/l	0	2
South Condensate Conductivity	9.28	uS	15	120
South Condensate Hardness	0	mg/l	0	0.2
South Condensate Iron	0.03	mg/l	0	0.5
South Condensate Ph	8.06	unit	8.2	9
West Condensate Conductivity	~	uS	15	120
West Condensate Hardness	~	mg/l	0	0.2
West Condensate Iron	~	m/gl	0	0.5
West Condensate Ph	~	unit	8.2	9

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System Name: Tower Power House #1 Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	92	ppm/CaCO3	50	100
CHLORIDES	28	ppm	N/A	<600
CONDUCTIVITY	2059	uS	1500	1800
HARDNESS	113	ppm/CaCO3	30	100
M-ALK	134	ppm\CaCO3	100	600
pH	8.86	unit	N/A	N/A
POLYMER	7	ppm	4	8

System Name: Tower Power House #2 Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	12	ppm/CaCO3	50	100
CHLORIDES	33	ppm	N/A	<600
CONDUCTIVITY	2070	uS	1500	1800
HARDNESS	22	ppm/CaCO3	30	100
M-ALK	187	ppm\CaCO3	100	600
pH	8.86	unit	N/A	N/A
POLYMER	6	ppm	4	8

System Name: Tower Power House #3 Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	27	ppm/CaCO3	50	100
CHLORIDES	53	ppm	N/A	<600
CONDUCTIVITY	2737	uS	1500	1800
HARDNESS	54	ppm/CaCO3	30	100
M-ALK	257	ppm\CaCO3	100	600
pH	8.93	unit	N/A	N/A
POLYMER	8	ppm	4	8

System Name: Tower 11 Power House #1 Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	86	ppm/CaCO3	50	100
CHLORIDES	36	ppm	N/A	<600
CONDUCTIVITY	2369	uS	1500	1800
HARDNESS	241	ppm/CaCO3	300	600
M-ALK	209	ppm\CaCO3	100	600
pH	8.72	unit	N/A	N/A
POLYMER	8	ppm	4	8

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System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm/CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

Facility: Western Reception, Diagnostic and Correctional Center (WRDCC)
Proposed Water Treatment Program(s)

System I.D.: Steam Boilers
Make-Up Water: 100% Softened/R.O.
Recommendations:

a. Maintain existing chemical treatment parameters. The addition of the RO system has shown significant reduction in chemical usage as well as energy savings. The reduction of bicarbonate alkalinity has reduced steam line treatment usage as well as improved the performance of the condensate corrosion control program. This program should be continued. WRDCC chemical program demonstrates consistent program management, record keeping, follow-up and equipment maintenance.

System I.D.: Cooling Towers

Make-Up Water: 100% Softened water, Power House #1 ,#2 & #3
100% Hard Water H House

Recommendations:

b. Fully maintain existing chemical treatment parameters. WRDCC chemical program demonstrates consistent program management, record keeping, follow-up and equipment maintenance.

If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

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WATER TREATMENT PROGRAM

Facility: Western Reception Diagnostic Correctional Center		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	0.18 gallons	0.36 gallons
		(20000 gallons contained volume total in one tank)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_____ Drumless, Bulk Storage		_____x____ Conventional Drum

Facility: Western Reception Diagnostic Correctional Center		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1460	0.4 gallons	70 gallons
Equipment (include make, model, and quantity)		
1 each- Snyder Model 150 Polyethylene Dual Containment Bulk Tank (150 gal. capacity)		
(3) - LMI # P141 - (2) Pulsa Feed Chemical pump LB02SA		
_____x____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Western Reception Diagnostic Correctional Center		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 592-L	0.124 gallons	100 gallons
Equipment (include make, model, and quantity)		
1 each- Snyder Model 150 Polyethylene Dual Containment Bulk Tank (150 gal. capacity)		
1 each- LMI # 171-C101-297 chemical pump		
_____x_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Western Reception Diagnostic Correctional Center		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	100 gallons
Equipment (include make, model, and quantity)		
1 each- Snyder Model 150 Polyethylene Dual Containment Bulk Tank (150 gal. capacity)		
1 each- LMI # 171-C101-297 chemical pump		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Western Reception Diagnostic Correctional Center		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallons	240 gallons
WLFT #206	.5	50 Gallon
WLFT Verox	0.4 gallons	90 gallons
WLFT 7221	.5 gallons	150 gallons
Equipment (include make, model, and quantity)		
1 each- WLFT PCS Triplex Tower Control		
2 each- LMI # P121-3562ST chemical pump (2) LMI #A141-812		
(3) Water Meters		
1 each- WLFT PLC conductivity controllers (11 House)		
2 each- LMI # P051-392SI chemical pumps for inhibitor and biocide feed (11 House)*		
*Fed from drum due to space and accessibility limitations		
_____ Drumless, Bulk Storage	_____ x ___ Conventional Drum	

Facility: Western Reception Diagnostic Correctional Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
Small generic pump to inject		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

Facility: Western Reception Diagnostic Correctional Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
Small generic pump to inject		
_____ Drumless, Bulk Storage	__ x_____ Conventional Drum	

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Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

WOMENS EASTERN RECEPTION DIAGNOSTIC CENTER

SystemName: CONDENSATE

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	**0**	ppm/CaCO3	0	0
Iron (Fe)	**0**	ppm	0	0
M-ALK	**36**	ppm\CaCO3	30	100
pH	**8.4**	unit	8.2	9.5
CONDUCTIVITY	**40**	uS	30	100

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
BROMINE	**2**	mg/l	1	2
HARDNESS	**520**	ppm/CaCO3	300	600
M-ALK	**600**	ppm\CaCO3	300	600
POLYMER	**8**	ppm	4	8
CONDUCTIVITY	**1200**	uS	1000	1200

SystemName: FEEDWATER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	**0**	ppm/CaCO3	0	0
M-ALK	**180**	ppm\CaCO3	50	250

SystemName: STEAM BOILER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HWB NITRITE	**1100**	ppm	900	3000
HWB SOFTENER	**0**		0	0
M-ALK	**720**	ppm\CaCO3	500	900
OH-ALK	**400**	ppm\CaCO3	200	400
P-ALK	**560**	ppm\CaCO3	400	800
PHOSPHATE	**40**	ppm	20	40
SULFITE(SO3)	**40**	ppm	30	60

SystemName: CLOSED CHILLED LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	**820**	ppm\CaCO3	60	2000
NITRITE	**1000**	ppm\CaCO3	800	1200
CONDUCTIVITY	**900**	u mhos	500	

SystemName: CLOSED HEATING LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	**780**	ppm\CaCO3	60	2000
NITRITE	**1150**	ppm\CaCO3	800	1200
CONDUCTIVITY	**1280**	u mhos	500	

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SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	128	ppm/CaCO3	N/A	N/A
CHLORIDES	96	ppm	N/A	N/A
CONDUCTIVITY	430	uS	N/A	N/A
HARDNESS	172	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.025	ppm	N/A	N/A
Magnesium(Mg)	44	ppm/CaCO3	N/A	N/A
M-ALK	116	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	11.5	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.3	unit	N/A	N/A
PHOSPHATE	0.175	ppm	N/A	N/A
SILICA(SiO2)	3.5	ppm	N/A	N/A
SULFATE(SO4)	2.5	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Women's Eastern Reception & Diagnostic Correctional Center (WERDCC)

System I.D.: Steam Boilers/Closed Loops
Make-Up Water: 100% Softened
Recommendations:

(1) Maintain existing chemical treatment parameters. WERDCC chemical program demonstrates consistent program management, recordkeeping, follow-up and equipment maintenance.
(2) Train all WERDCC power plant personnel on WLFT web based software

System I.D.: Cooling Tower
Make-Up Water: 100% hard water
Recommendations:

(3) Existing bleed-off controller has been inconsistent in controlling cooling water conductivity .New conductiviity controller and chemical feed pump installation will alleviate future problems.
(4) Train WERDCC maintenance personnel on WLFT computer web software .Bulk tank installation not practical for this application per limited space.

If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

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WATER TREATMENT PROGRAM

Facility: WERDCC Vandalia		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	0.18 gallons	0.2 gallons
		(11000 gallons contained volume total in one tank)
Equipment (include make, model, and quantity)		
No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_____ Drumless, Bulk Storage		____x____ Conventional Drum

Facility: WERDCC Vandalia		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1460	0.4 gallons	120 gallons
Equipment (include make, model, and quantity)		
1 each- Neptune "Day Tank" (poly tank system). 1 each- Neptune Chemical Feed Pump/Mixer. Model # A-515-N-1		
___ ___ _ Drumless, Bulk Storage		____x____ Conventional Drum

Facility: WERDCC Vandalia		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	60 gallons
Equipment		

1 each Neptune "Day Tank" (poly tank system).	
1 each Neptune Chemical Feed Pump/Mixer Model # A-515-N-1	
_____ Drumless, Bulk Storage	__ _x_ ___ Conventional Drum

Facility: WERDCC Vandalia		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	100 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series A151 Chemical Feed Pump/Direct from Drum.		
_____ Drumless, Bulk Storage	____x_____ Conventional Drum	

Facility: WERDCC Vandalia		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallons	150 gallons
WLFT 206	0.5 gallons	20 gallons
WLFT AM-66	1.0 lbs	300 lbs
Equipment (include make, model, and quantity)		
1each LMI Series A171 Chemical Feed Pump (Inhibitor) 2 each LMI Series A171 Chemical Feed Pump (Biocides) 1each WLFT PLC Conductivity Controller		
_____ Drumless, Bulk Storage	__ _x_ ___ Conventional Drum	

Facility: WERDCC Vandalia		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
1 each Snyder Model 200 Dual Containment System (200 gal cap) 1 each LMI Series A171 Chemical Feed Pump		
__ _x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: WERDCC Vandalia		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
1 each LMI Series A171 Chemical Feed Pump Note: Cold loop to share bulk tank with "Closed Loop Heat ' system as defined above.		
_ _x_ _ _ Drumless, Bulk Storage	_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MVE PLANT MAINTENANCE

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CHILLED LOOP NITRITE	3000	ppm	900	3000
HARDNESS	390	ppm\CaCO3	300	600
HWS NITRITE	900	ppm	800	1200
M-ALK	360	ppm\CaCO3	300	600
POLYMER	5	ppm	4	8
TDS	1100	uS	1000	1200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	67	ppm\CaCO3	N/A	N/A
CHLORIDES	28.8	ppm	N/A	N/A
CONDUCTIVITY	610	uS	N/A	N/A
HARDNESS	116	ppm\CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	49	ppm\CaCO3	N/A	N/A
M-ALK	49	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	1.4	ppm	N/A	N/A
P-ALK	14	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.7	ppm	N/A	N/A
SILICA(SiO2)	0	ppm	N/A	N/A
SULFATE(SO4)	203	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Missouri Vocational Enterprises (MVE)

System I.D.: Cooling Tower
Make-Up Water: 100% Hard water
Recommendations:

(1) Maintain existing chemical treatment parameters. MVE chemical program demonstrates consistent program management, recordkeeping, follow-up and equipment maintenance.
(2) Train all MVE maintenance personnel on WLFT computer based software (WLFT E -Service).
(3) Bulk tank system not feasible for MVE per space initiations.

System I.D.: Hot Water Boiler & Chilled Loops
Make-Up Water: 100% Softened water
Recommendations:

(5) All chemical parameters are within recommended range. No major changes required for these systems.
(6) If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used *right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent* corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

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WATER TREATMENT PROGRAM

Facility: MVE		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) Per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallons	30 gallons
WLFT Verox-8	0.5 gallons	10 gallons
WLFT 206	0.8 gallons	5 gallons
Equipment (include make, model, and quantity)		
1 each WLFT PLC Conductivity Controller 2 each LMI Series A151 Chemical Feed Pumps		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

Facility: MVE		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) Per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 5 Gallon Bypass Feeder		
_____ Drumless, Bulk Storage	_____x____ Conventional Drum	

Facility: MVE		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) Per 10,000 Gallons Treated	***Annual Quantity***
WLFT 839	40 gallons	
Equipment 5 Gallon Bypass Feeder		
_____ Drumless, Bulk Storage	___x_ ___ ___ Conventional Drum	

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

RFP B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

FLETCHER DANIELS Bld.

SystemName: Tower Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	88	ppm/CaCO3	N/A	N/A
CHLORIDES	24	ppm	N/A	N/A
CONDUCTIVITY	572	uS	N/A	N/A
HARDNESS	107	ppm/CaCO3	N/A	N/A
Iron (Fe)	.01	ppm	N/A	N/A
Magnesium(Mg)	19.27	ppm/CaCO3	N/A	N/A
M-ALK	30	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.99	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	.65	ppm	N/A	N/A
SILICA(SiO2)	3.69	ppm	N/A	N/A
SULFATE(SO4)	192	ppm	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm/CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Fletcher Daniels Bld.

System I.D.: Closed system (Non-Potable Chilled)

Recommendations:

System is running, the chillers were replaced this past winter. There is a high amount of free Iron in the closed loop. A filtration system should be added to the closed loop system to help clean the water and maintain the system integrity. Addition of biocide will reduce the possibility of bio-fouling.

System I.D.: Condensate System

Recommendations:

Steam is purchased from an outside source. Condensate has a pH monitor and treatment is fed as needed.

System I.D.: Cooling Tower

Make-Up Water: 100% Hard water

Recommendations:

Estimated Contained Volume 3500 Gallon

Reported as 500 ton max summer load

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System is currently Operating.
Conductivity Control and chemical pumps reported as functional

Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: Fletcher Daniels Bld.

STEAM LINE/CONDENSATE SYSTEMS

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
1535	0.4 gallons	60 gallons

Existing Equipment (include make, model, and quantity)

Pulsafeeder pH Control and chemical pump

Facility Fletcher Daniels Bld.

COOLING TOWER

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
#4707	0.4 gallons	200 gallons
Verox-8	0.5 gallons	20 gallons
#206	1.0 gallons	20 gallons

Existing Equipment (include make, model, and quantity)

New Advantage Control w/Makeup Meter (SSCF3E)

(2) 30gpd chemical pumps LB64SA1 LMI and 1 Advantage

(1) 100GPH LMI P151

_____ Drumless, Bulk Storage ___X___ Conventional Drum

Facility: Fletcher Daniels Bld.

CLOSED LOOP HEATING

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
#839	40 Gallons	

Existing Equipment

5 gallon pot feeder

_____ Drumless, Bulk Storage ___X_____ Conventional Drum

Facility: Fletcher Daniels Bld.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide		
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
5 gallon (Non-filter) pot feeder.		
____ ____ Drumless, Bulk Storage	X____ _ Conventional Drum	

RFP B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Kansas City DOLIR

SystemName: Closed Loop (Glycol, Chilled)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1104	uS	2800	3800
M-ALK	424	ppm\CaCO3	500	800
NITRITE	840	ppm	800	1200
GLYCOL	15	%	40	45

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm/CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Kansas City DOLIR

System I.D.: Closed system (Non-Potable Chilled, Glycol)

Recommendations:

Glycol levels AT 15% this is below the set point to maintain freeze protection to 10°F.(reported as propylene) Glycol levels should be boosted to at least 26%. NO_3 chemical treatment parameters, 800-1200 mg/l as NO_3, to provide maximum corrosion inhibition and protection against metal loss. The level is at 840 currently. The automatic feed is not keeping up with water usage. Addition of biocide will reduce the possibility of bio-fouling.

WATER TREATMENT PROGRAM

Facility: Kansas City DOLIR		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.25 Gallons	
#839	40 Gallons	
HT1-P	4500 Gallons	
Existing Equipment Advantage Microtron chemical controller DAGF-1		
55 Gallon Mix tank, Baldor 1.3 GPM CHEMICAL PUMP		
__ _____ __ Drumless, Bulk Storage	___X_____ Conventional Drum	

RFP B3Z09010
Section 3.7.2 Water Analysis, Systems & Make-up(raw water)

Prince Hall State Office Building

4411 N. Newstead Ave. St. Louis Mo.

SystemName: Chilled Water Hot Water Combined Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2306	uS	2200	3000
NITRITE	1000	ppm	800	1000
HARDNESS	0	ppm/CaCO3	0	500
M-ALK	360	ppm\CaCO3	200	500
pH	10.4	unit	8.5	11.0

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

SystemName: Cooling Tower

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2500	uS	2000	2500
HARDNESS	172	ppm/CaCO3	200	800
M-ALK	260	ppm\CaCO3	200	500
Polymer	5	ppm	4	8

SystemName: Steam Boilers

Offline , drained at time of Visit

Proposed Water Treatment Program(s)

Facility: Prince Hall State Office Building

System I.D: Combined Hot and Chilled water Loop. Hot water for heating is generated by steam heat exchangers.

Make-Up Water: City Water
Recommendations: Chemical levels are in line in the closed loops and the tower.

System I.D: COOLING TOWER: 500 ton Marley tower. The estimated system volume is 3000 gallons. Chemical treatment uses an Advantage Control. Chemical feed is based

on percent of time of bleed. A 1gpd Neptune chemical injection pump was available for scale and corrosion inhibitor feed.
Make-Up Water: Untreated St. Louis City water

System I.D. Two 250 HP Cleaver Brooks low pressure steam boilers. The burners have been de-rated to approximately 80 HP. The boilers operate on an alternating basis. Steam is fed to heat exchangers to provide a heat source for the Hot water heating system. At the time of inspection the boilers were drained.. Chemical is being fed by a 1 gpd Neptune chemical pump. The boiler feed water pump initiates a timer which runs the chemical pump. Make-up water is provided by a twin alternating Fleck water softener.

Recommendations: WLFT 157-L is a multifunctional blend of Scale inhibitors, oxygen scavengers, steamline treatment and antifoam. This product is designed to provide complete control of all Boiler water treatment requirements in a single drum product.

WATER TREATMENT PROGRAM

Facility: Prince Hall State Office Building		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
157-L	3 gallons	60 gallons
Equipment)		
Twin Fleck 300,000 grain twin water softener. 1 Neptune 1 gallon per hour Pumps with Timer		
_____ _____ Drumless, Bulk Storage		_____X_____ Conventional Drum

Facility: Prince Hall State Office Building		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Treatment by Boiler Compound		

Facility: Prince Hall State Office Building		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
#4707 Verox 8 AM714	0.4 gallons 0. 5 gallons 0.5 gallons	45gallons 10 gallons 10 gallons
Equipment (include make, model, and quantity)		
LMI Conductivity based Cooling Tower Controller 3 Neptune 1 gallon per hour Pumps		
___ Drumless, Bulk Storage		___ X___ ___ Conventional Drum

Facility: Prince Hall State Office Building		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	30 gallons	
Equipment (include make, model, and quantity)		
5 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage		___X _____ Conventional Drum

Facility: Prince Hall State Office Building		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	30 gallons	
Equipment Gallon Neptune By Pass Feeder		

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

St. Joseph Career Center St. Joseph Mo.

System Name: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	6161	uS	2200	3000
Iron (Fe)	.36	ppm	0	0.5
NITRITE	960	ppm	800	1000
HARDNESS	0	ppm\CaCO3	N/A	N/A
P-ALK	60	ppm\CaCO3	N/A	N/A
M-ALK	490	ppm\CaCO3	N/A	N/A
pH	10.6	unit	N/A	N/A
Nitrite	960	ppm	600	100

System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm\CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm\CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm\CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: St. Joseph Career Center
System I.D: Two H.B Smith 450,00 BTU Water Boilers. Boiler are tied together and staged as load requires. Hot water temperature is approximately 150 degrees F
Make-Up Water: City Water
Recommendations: The chemical levels in the system are within range. There appears to be a lot of entrained air in the system. This should be investigated and resolved to maintain the integrity of the system. Pressure release valves may not be working.
This loop has a bypass feeder that will facilitate chemical addition.
This facility has a Nitrite test kit to monitor and maintain the Hot Water Heating system. Maintenance personnel from the St. Joseph Office Building are responsible for this facility

WATER TREATMENT PROGRAM

Facility: St. Joseph Career Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gallons	
Equipment (include make, model, and quantity)		
5 Gallon Neptune By Pass Feeder		
_____ _____ Drumless, Bulk Storage		____X_____ Conventional Drum

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RFP NO: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

St. Joseph Office Bldg.

System Name: Closed Loop - Hot

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2624	uS	2800	3800
pH	10.6	ppm\CaCO3	500	800
NITRITE	1160	ppm	800	1200

System Name: Closed Loop - Cold

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4448	uS	2800	3800
pH	10.0	ppm\CaCO3	500	800
NITRITE	1190	ppm	800	1200

System Name: Raw Water Supply - City

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm/CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

System Name: Tower Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	80	ppm	N/A	N/A
CHLORIDES	22	ppm	N/A	N/A
Conductivity	1171	uS	N/A	N/A
HARDNESS	165	ppm/CaCO3	N/A	N/A
Iron (Fe)	N/A	ppm	N/A	N/A
M-ALK	164	ppm\CaCO3	N/A	N/A
pH	8.5	unit	N/A	N/A
PHOSPHATE	4	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: St. Joseph Office Bldg.
System I.D.: Closed system - Hot
Recommendations:
The Hot loop has the proper chemical treatment parameters at 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.
System I.D.: Closed system - Cold
Recommendations:

The Cold loop has the proper chemical treatment parameters at 800-1200 mg/l as NO_2, to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.

System I.D.: Tower
Recommendations:
The Tower has chemical to protect against corrosion, Algae, and Sludge. The water softener is not on line to avoid additional corrosion. The tower did not receive proper pacification treatment to avoid white rust. The tower has white rust and has corrosion issues that will require repair. We changed the chemical program to help deal with the lack of softened water until the tower repairs are completed.

WATER TREATMENT PROGRAM

Facility: St. Joseph Office Bldg.

COOLING TOWER

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707		55 Gallon
Verox-8	0.5 Gallons	25 Gallon
WLFT 206	0.5 gallons	10 Gallon

Existing Equipment (1)Advantage controller-Model-SSF3E, (1)PulsaFeeder Chemical Pump Model LBO3SA, (1)LMI Chemical Pump Model A171-155, (1)Advantage Pump Model B130X1, Water Softener (Not on line)

_____ Drumless, Bulk Storage | _____ Conventional Drum

Facility: St. Joseph Office Bldg.

CLOSED LOOP HEATING

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Same as Closed Loop Cooling		

Existing Equipment (include make, model, and quantity)

_____ Drumless, Bulk Storage | _____ Conventional Drum

Facility: St. Joseph Office Bldg.

CLOSED LOOP COOLING

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.8 Gallons	
#839	40 Gallons	

Existing Equipment (include make, model, and quantity)

2 gallon pot feeder

_____ Drumless, Bulk Storage | __X__ Conventional Drum

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RFP NO.: B3Z14153 Exbibit E
Water Analysis, Systems & Make-up(raw water)

WAINWRIGHT OFFICE BUILDING
111 N 7TH ST. LOUIS, MO

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2306	uS	2200	5000
NITRITE	950	ppm	800	1000
M-ALK	360	ppm\CaCO3	200	500
pH	10.4	unit	8.5	11.0

SystemName: Hot Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2200	uS	2200	5000
NITRITE	450	ppm	800	1000
M-ALK	360	ppm\CaCO3	200	500
pH	9.5	unit	8.5	11.0

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

SystemName: Cooling Tower

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2500	uS	2000	2500
HARDNESS	172	ppm/CaCO3	200	800
M-ALK	280	ppm\CaCO3	200	500
Polymer	3.5	ppm	4	8

Proposed Water Treatment Program(s)
System I.D: Hot and Chilled water Loop.
Make-Up Water: City Water
Recommendations: Add 6 gallons of 839 to the hot loop.
System I.D: COOLING TOWER: 3 300 ton chiller2
Make-Up Water: Untreated St. Louis City water

1. Recommendations: System well maintained and controlled. LMI Controller with percentage timers/auto feed and bleed system. Alternating biocidal program in addition to corrosion/scale inhibitor. Inhibitor Feed needs a 20% Increase

WATER TREATMENT PROGRAM

Facility: Wainwright State Office Bld.		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
#4707 Verox 8 #206	0.4 gallons 0. 5 gallons .5 gallons	90 gallons 40 gallons 20 gallons
Equipment (include make, model, and quantity)		
LMI Conductivity based Cooling Tower Controller 3 pulsatron 1 gallon per hour Pumps		
___ ___ ___ Drumless, Bulk Storage		____X____ Conventional Drum

Facility: Wainwright State Office Bld.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	45 gallons	
Equipment (include make, model, and quantity)		
5 Gallon Neptune By Pass Feeder		
___ ___ _Drumless, Bulk Storage		____X____ Conventional Drum

Facility: Wainwright State Office Bld.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	45 gallons	
Equipment 5 Gallon Neptune By Pass Feeder		

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE B.W. Robinson State School - Rolla

SystemName: Recirculating Closed Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3030	uS	500	6000
Glycol	0.5	%	25	40
NITRITE	860	ppm	800	1200
pH	8.9	unit	6.5	8.5

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	158	ppm/CaCO3	N/A	N/A
CHLORIDES	6	ppm	N/A	N/A
CONDUCTIVITY	550	uS	N/A	N/A
HARDNESS	328	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.2	ppm	N/A	N/A
Magnesium(Mg)	169	ppm/CaCO3	N/A	N/A
M-ALK	260	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.7	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	4	ppm	N/A	N/A
SULFATE(SO4)	59.3	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE B. W. Robinson State School – Rolla, Mo.

System I.D: 10 – Underground Heat Pumps / 10 – Wells
Make-Up Water: *City water Make up Hard*
Recommendations: Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WLFT will provide a Nitrite Test Kit & refractometer and train on-site personnel in their use.

WATER TREATMENT PROGRAM

Facility: DESE – B.W. Robinson State School - Rolla		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
Has a 30 gal. mixing tank		
_____ Drumless, Bulk Storage		_____X_____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Boonslick State School

321 Knaust Rd., St. Peters MO

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2100	uS	2200	3000
NITRITE	900	ppm	800	1200
M-ALK	800	ppm\CaCO3	N/A	N/A
pH	10.8	unit	N/A	N/A

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2100	uS	2200	3000
NITRITE	1050	ppm	800	1200
M-ALK	600	ppm\CaCO3	N/A	N/A
pH	11.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	42	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	380	uS	N/A	N/A
HARDNESS	100	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A
Magnesium(Mg)	63	ppm/CaCO3	N/A	N/A
M-ALK	112	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.5	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	8.1	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	9.00	ppm	N/A	N/A
SULFATE(SO4)	80	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: DESE Boonslick State School

System I.D: Bryan (2) Boilers, 90 hp each, by-pass feeder.

System ID: Chilled Water Closed Loop (McQuay Chiller, 100T)

Make-Up Water: City water Make up no softening
Recommendations:
Both Loops, *Maintain chemical treatment parameters* at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WLFT will provide a Nitrite Test Kit & refractometer and train on-site personnel in their use.

WATER TREATMENT PROGRAM

Facility: DESE Boonslick State School		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gal	5 gallons
Equipment (include make, model, and quantity)		
2 Gallon Wingert By Pass Feeder		
_____ Drumless, Bulk Storage		_____X_____ Conventional Drum

Facility: DESE Boonslick State School		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gal	5 gallons
Equipment 2 Gallon Wingert By Pass Feeder		

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE – Cedar Ridge State School, Nevada

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3800	uS	500	6000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	800	ppm	900	3000
HARDNESS	520	ppm\CaCO3	N/A	N/A
P-ALK	240	ppm\CaCO3	N/A	N/A
M-ALK	310	ppm\CaCO3	N/A	N/A
pH	8.7	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3800	uS	2200	3000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	600	ppm	900	3000
HARDNESS	520	ppm\CaCO3	N/A	N/A
P-ALK	240	ppm\CaCO3	N/A	N/A
M-ALK	310	ppm\CaCO3	N/A	N/A
pH	9.0	unit	N/A	N/A

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SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	55	ppm/CaCO3	N/A	N/A
CHLORIDES	161	ppm	N/A	N/A
CONDUCTIVITY	725	uS	N/A	N/A
HARDNESS	96	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.11	ppm	N/A	N/A
Magnesium(Mg)	40.8	ppm/CaCO3	N/A	N/A
M-ALK	270	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.012	ppm	N/A	N/A
pH	8.22	unit	N/A	N/A
PHOSPHATE	0.10	ppm	N/A	N/A
SILICA(SiO2)	2.2	ppm	N/A	N/A
SULFATE(SO4)	72.8	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Cedar Ridge State School, Nevada

System I.D: 1 Power Fin Hot Water Boiler, 40 hp.
Make-Up Water: City water Make up Hard
Recommendations: Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop,

Make-Up Water: City water Make up Hard Water
Recommendations

Chilled water is using a typical Nitrite based inhibitor, this is to prevent corrosion. WLFT 839 should be added to obtain a Nitrite level between 800-1200 ppm.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: DESE – Cedar Ridge State School, Nevada		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 Gallons	5 Gallon
Equipment (include make, model, and quantity)		
Generic Bypass Feeder		

___ ___ ___ Drumless, Bulk Storage	___ X ___ ___ Conventional Drum

Facility: DESE – Cedar Ridge State School, Nevada		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	***Annual Quantity***
WLFT 839	40 gallons	5 Gallon
Generic Bypass Feeder		
___ ___ ___ ___ Drumless, Bulk Storage	____X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE – College View State School, Joplin

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4568	uS	2200	3000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	1000	ppm	900	3000
HARDNESS	310	ppm\CaCO3	N/A	N/A
P-ALK	140	ppm\CaCO3	N/A	N/A
M-ALK	220	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	58	ppm\CaCO3	N/A	N/A
CHLORIDES	161	ppm	N/A	N/A
CONDUCTIVITY	438	uS	N/A	N/A
HARDNESS	150	ppm\CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	92	ppm\CaCO3	N/A	N/A
M-ALK	140	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.4	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.8	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	4	ppm	N/A	N/A
SULFATE(SO4)	25.1	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Recommendations: System ID Chilled Water Closed Loop,
Make-Up Water: City water Make up Hard Water
Recommendations
Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are within range, this will prevent corrosion. WLFT 839 should be added to maintain a Nitrite level between 800 and 1200 ppm.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: DESE -- College View State School, Joplin		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	5 Gallons
Equipment Generic by-pass feeder		
_____ Drumless, Bulk Storage	____X____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Delmar Cobble State School – Columbia, Mo.

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4885	uS	500	6000
NITRITE	1000	ppm	800	1200
HARDNESS	200	ppm/CaCO3	N/A	N/A
pH	8.2	unit	6.5	8.5

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2000	uS	2200	3000
NITRITE	900	ppm	800	1200
HARDNESS	180	ppm/CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	84	ppm/CaCO3	N/A	N/A
CHLORIDES	43.3	ppm	N/A	N/A
CONDUCTIVITY	504	uS	N/A	N/A
HARDNESS	158	ppm/CaCO3	N/A	N/A
Iron (Fe)	.07	ppm	N/A	N/A
Magnesium(Mg)	74	ppm/CaCO3	N/A	N/A
M-ALK	120	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.7	ppm	N/A	N/A
P-ALK	20	ppm\CaCO3	N/A	N/A
pH	8.79	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	21.4	ppm	N/A	N/A
SULFATE(SO4)	66.4	ppm	N/A	N/A

Facility: DESE Delmar Cobble State School -- Columbia, Mo.

System I.D: Hot Water Boiler, Thermal Solutions, 25 hp

Make-Up Water: City water Make up Hard
Recommendations: Maintain chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop, Trane air cooled unit

Make-Up Water: City water Make up Hard
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are within range, this will prevent corrosion. WLFT 839 should be added to maintain a Nitrite level between 800 and 1200 ppm.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: DESE Cobble State School – Columbia		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) *per 10,000 Gallons Treated*	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
___ Drumless, Bulk Storage	____X____ Conventional Drum	

Facility: DESE Cobble State School – Columbia		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
___ Drumless, Bulk Storage	____X____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Gateway/Hubert Wheeler State School – St. Louis

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1500	uS	2200	3000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	650	ppm	800	1000
HARDNESS	120	ppm/CaCO3	N/A	N/A
P-ALK	450	ppm\CaCO3	N/A	N/A
M-ALK	850	ppm\CaCO3	N/A	N/A
pH	10.4	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: DESE Gateway/Hubert Wheeler State School – St. Louis
System I.D: Fulton (2) Boilers, 80 hp each
Make-Up Water: City water Make-up, no softening
Recommendations: Gateway/Hubert Wheeler State School – St. Louis
Maintain proper nitrite levels (800+ ppm NO2) within closed water systems.
WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: DESE **Gateway/Hubert Wheeler State School – St. Louis**		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gal	5 gallons
Equipment (include make, model, and quantity)		
2 Gallon Wingert By Pass Feeder		

____ ____ Drumless, Bulk Storage	__ _X __ _Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE – Greene Valley State School - Springfield

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1590	uS	2200	3000
GLYCOL	25	%	18	35
NITRITE	800	ppm	800	1200
pH	8.8	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	137	ppm/CaCO3	N/A	N/A
CHLORIDES	17.2	ppm	N/A	N/A
CONDUCTIVITY	377	uS	N/A	N/A
HARDNESS	168	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.2	ppm	N/A	N/A
Magnesium(Mg)	31	ppm/CaCO3	N/A	N/A
M-ALK	144	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	1.2	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.7	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	3.1	ppm	N/A	N/A
SULFATE(SO4)	6.33	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: DESE – Greene Valley State School - Springfield
System ID Chilled Water Closed Loop,
Make-Up Water: City water Make up Hard Water
Recommendations
Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WLFT will provide a Nitrite Test Kit & refractometer and train on-site personnel in their use.

WATER TREATMENT PROGRAM

Facility: DESE - Greene Valley State School - Springfield		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment No by-pass feeder		

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_____ Drumless, Bulk Storage	____X____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Lakeview Woods State School

System Name: Closed Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3299	uS	2800	3800
pH	11.6	unit	9.5	10.5
M-ALK	990	ppm\CaCO3	500	800
NITRITE	880	ppm	800	1200

System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	38	ppm/CaCO3	N/A	N/A
CHLORIDES	N/A	ppm	N/A	N/A
CONDUCTIVITY	461	uS	N/A	N/A
HARDNESS	100	ppm/CaCO3	N/A	N/A
Iron (Fe)	.03	ppm	N/A	N/A
Magnesium(Mg)	62	ppm/CaCO3	N/A	N/A
M-ALK	48	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	N/A	ppm	N/A	N/A
P-ALK	40	ppm\CaCO3	N/A	N/A
pH	9.5	unit	N/A	N/A
PHOSPHATE	N/A	ppm	N/A	N/A
SILICA(SiO2)	10.3	ppm	N/A	N/A
SULFATE(SO4)	80	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Lakeview Woods State School
System I.D.: Closed system (Non-Potable Chilled)
Recommendations:
System not circulating at time of sample
The closed loop system has the proper amount of WLFT chemical to control corrosion.
The water in the loop is dirty and in need of cleaning. Filtration would help clean the water in this system.
It is recommended that the system be drained and cleaned with a closed loop cleaner and then filtration be added.

WLFT will provide a Nitrite Test Kit train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Lakeview Woods State School		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15Biocide	1.5 Gallons	
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		

Generic 2 gallon Bypass Feeder	
_____ Drumless, Bulk Storage	___X_____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Maple Valley State School

SystemName: Closed Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2200	uS	2800	3800
pH	11	unit	9.5	10.5
NITRITE	2100	ppm	800	1200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	N/A	ppm/CaCO3	N/A	N/A
CHLORIDES	N/A	ppm	N/A	N/A
CONDUCTIVITY	461	uS	N/A	N/A
HARDNESS	100	ppm/CaCO3	N/A	N/A
Iron (Fe)	N/A	ppm	N/A	N/A
Magnesium(Mg)	N/A	ppm/CaCO3	N/A	N/A
M-ALK	80	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	N/A	ppm	N/A	N/A
P-ALK	40	ppm\CaCO3	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	N/A	ppm	N/A	N/A
SILICA(SiO2)	N/A	ppm	N/A	N/A
SULFATE(SO4)	N/A	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Maple Valley State School

System I.D.: Closed system (Non-Potable Chilled)
Recommendations:
Facility recently had a New Chiller Installed WLFT cleaned and flushed system. 839 was then added to restore Chemical treatment levels. Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WLFT will provide a Nitrite Test Kit train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Maple Valley State School		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.25 Gallons	
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		

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5 gallon pot feeder	
_____ Drumless, Bulk Storage	___X_____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE MISSOURI SCHOOL FOR THE BLIND – St. Louis

SystemName: COOLING TOWER- MAIN BLDG

HARDNESS	**300**	ppm/CaCO3	200	500
M-ALK	**360**	ppm\CaCO3	300	500
Polymer	**6**	ppm	**4**	**8**
TDS	**1300**	uS	1000	1600

SystemName: COOLING TOWER - WEST ANNEX

HARDNESS	**360**	ppm/CaCO3	200	500
M-ALK	**400**	ppm\CaCO3	300	500
Polymer	**6**	ppm	**4**	**8**
TDS	**1300**	uS	1000	1600

SystemName: HEAT PUMP – CLOSED LOOPS

PROCEDURE	***Result:***		***LoLimit:***	***HiLimit:***
HARDNESS	**150**	ppm/CaCO3	n/a	n/a
NITRITE	**300**	ppm	800	1200
M-ALK	**600**	ppm\CaCO3	500	1000

SystemName: MAIN BOILER

PROCEDURE	***Result:***		***LoLimit:***	***HiLimit:***
M-ALK	**500**	ppm\CaCO3	500	600
OH-ALK	**200**	ppm\CaCO3	200	400
P-ALK	**350**	ppm\CaCO3	400	800
PHOSPHATE	**18**	ppm	20	40
SULFITE(SO3)	**12**	ppm	30	60
TDS	**1560**	uS	2000	2500
CONDENSATE				
HARDNESS	**0**	ppm\CaCO3	0	1
M-ALK	**50**	ppm\CaCO3	10	100
TDS	**76**	uS	5	100
pH	**7.8**	unit	8.2	9.2
Iron (Fe)	**0.9**	ppm	0	0.5
FEEDWATER				
HARDNESS	**0**	ppm\CaCO3	0	1
M-ALK	**90**	ppm\CaCO3	50	200
TDS	**140**	uS	20	200
Iron (Fe)	**0.5**	ppm	0	0.5

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SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	58	ppm/CaCO3	N/A	N/A
CHLORIDES	28	ppm	N/A	N/A
CONDUCTIVITY	530	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	72	ppm/CaCO3	N/A	N/A
M-ALK	70	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	17.5	ppm	N/A	N/A
P-ALK	20	ppm\CaCO3	N/A	N/A
pH	8.6	unit	N/A	N/A
PHOSPHATE	0.225	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	150	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Missouri School for the Blind – St. Louis

System I.D.: Steam Boiler
Make-Up Water: 100% Softened
Recommendations:

1. Significant improvements in boiler program, injection techniques, and record keeping have resulted in excellent water quality.
2.

System I.D.: Cooling Towers

Recommendations:

1. Well maintained and managed.
2. Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

System I.D.: Heat Pump Closed Loop
Make-Up Water: 100% Softened
Recommendations:

(1) Maintain existing treatment parameters. Owner purchases an inhibited propylene glycol. Current freeze point set at -45 degrees F.

WATER TREATMENT PROGRAM

Facility: Missouri School for the Blind – St. Louis		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 157-L	0.3 gallons	120 gallons
Equipment (include make, model, and quantity)		
LMI Model PO51 Chemical Feed Pump, Qty = 1		
_____ Drumless, Bulk Storage	___x_____ Conventional Drum	

Facility: Missouri School for the Blind – St. Louis		
BOILER STEAM SYSTEM		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1565	0.4 gallons	15 gallons
Equipment (include make, model, and quantity)		
LMI Model PO51 Chemical Feed Pump, Qty = 1		
___ _____ Drumless, Bulk Storage	_____x____ Conventional Drum	

Facility: Missouri School for the Blind – St. Louis		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	40 gallons
Equipment (include make, model, and quantity)		
LMI Model PO51 Chemical Feed Pump, Qty = 1		
_____ Drumless, Bulk Storage	____x_____ Conventional Drum	

Facility: Missouri School for the Blind – St. Louis		
COOLING TOWERS (2)		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.6 gallons	65 gallons
WLFT Verox-8	0.5 gallons	20 gallons
WLFT 206	0.5 gallons	10 gallons
Advantage Controller, Model Nanotron; Qty = 1		
Pulsafeeder Chemical Feed Pump(s); Model LC54, Qty = 3		

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_____ Drumless, Bulk Storage	___x___ Conventional Drum

Facility: Missouri School for the Blind - St. Louis		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gal	
Pot Feeder – Wingert 2.5 gallon cap		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Missouri School for the Blind – St. Louis		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gal	
Equipment (Pot Feeder – Wingert 2.5 gallon cap		
_____ Drumless, Bulk Storage	_____x_ _ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Missouri School for the Deaf – (Kerr)

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*	*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2600 uS	500	6000
NITRITE	1000 ppm	800	1200
pH	8.3 unit	6.5	8.5

SystemName: Chilled Water Loop

PROCEDURE	*Result:*	*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1550 uS	500	6000
NITRITE	750 ppm	800	1200
pH	8.3 unit	6.5	8.5

SystemName: Raw Water Supply

PROCEDURE	*Result:*	*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66 ppm/CaCO3	N/A	N/A
CHLORIDES	20 ppm	N/A	N/A
CONDUCTIVITY	693 uS	N/A	N/A
HARDNESS	269 ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02 ppm	N/A	N/A
Magnesium(Mg)	30 ppm/CaCO3	N/A	N/A
M-ALK	325 ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01 ppm	N/A	N/A

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P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SIO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: *DESE Mo. School for the Deaf Kerr*
System I.D: Closed Loops
No hot water boiler, has a steam bundle, steam comes from the Fulton State Hospital.
Make-Up Water: City water Make up is soft.
Recommendations: *Maintain chemical treatment parameters.* The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.
This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

WATER TREATMENT PROGRAM

Facility: DESE Mo. School for the Deaf – Kerr		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_____ _____ Drumless, Bulk Storage	____X_____ Conventional Drum	

Facility: DESE Mo. School for the Deaf – Kerr		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
_____ _____ Drumless, Bulk Storage	____X_____ Conventional Drum	

RFP NO.: *B3Z14153 Exhibit E*
Water Analysis, Systems & Make-up(raw water)

DESE Missouri School for the Deaf – Resource Bldg.

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3660	uS	500	6000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	900	ppm	800	1200
HARDNESS	0	ppm\CaCO3	N/A	N/A
P-ALK	400	ppm\CaCO3	N/A	N/A
M-ALK	480	ppm\CaCO3	N/A	N/A
pH	9.6	unit	6.5	8.5

MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3600	uS	2200	3000
Iron (Fe)	0.7	ppm	0	0.5
NITRITE	900	ppm	800	1200
HARDNESS	0	ppm/CaCO3	N/A	N/A
P-ALK	380	ppm\CaCO3	N/A	N/A
M-ALK	420	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Mo. School for the Deaf – Resource Bldg.

System I.D: No hot water boiler, has a steam bundle, steam comes from the Fulton State Hospital.

Make-Up Water: City water Make up is soft.
Recommendations: Maintain chemical treatment parameters, Nitrite levels are within the parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up is soft.
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Nitrite WLFT 839 is added to obtain a Nitrite level between 800 and 1200 ppm.
This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

WATER TREATMENT PROGRAM

Facility: DESE Missouri School for the Deaf – Resource Bldg.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_ _ _ _ _ _ Drumless, Bulk Storage	____X____ Conventional Drum	

Facility: DESE Missouri School for the Deaf -- Resource Bldg.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
_ _ _ _ _ _ _ Drumless, Bulk Storage	_ _ _X_ _ _ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Missouri School for the Deaf – Rice Bldg.

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2200	uS	500	6000
Iron (Fe)	0.9	ppm	0	0.5
NITRITE	900	ppm	800	1200
HARDNESS	190	ppm/CaCO3	N/A	N/A
P-ALK	740	ppm\CaCO3	N/A	N/A
M-ALK	880	ppm\CaCO3	N/A	N/A
pH	9.6	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*	*LoLimit:*	*HiLimit:*
CONDUCTIVIT		2000	

Iron (Fe)	ppm	0	0.5
NITRITE	ppm	800	1200
HARDNESS	ppm\CaCO3	N/A	N/A
P-ALK	ppm\CaCO3	N/A	N/A
M-ALK	ppm\CaCO3	N/A	N/A
pH	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Mo. School for the Deaf – Rice Bldg.

System I.D: Closed Loops
American Standard Hot Water Boiler – 40 hp

Make-Up Water: City water Make up is soft.
Recommendations: Maintain chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WATER TREATMENT PROGRAM

Facility: DESE Missouri School for the Deaf – Rice Bldg.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_ _ _ _ _ _ Drumless, Bulk Storage	_ _ _ X _ _ Conventional Drum	

Facility: DESE Missouri School for the Deaf – Rice Bldg.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.)	**Annual Quantity**

	per 10,000 Gallons Treated	
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage		____X____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Missouri School for the Deaf – Stark Bldg.

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4300	uS	500	6000
Iron (Fe)	0.3	ppm	0	0.5
NITRITE	1000	ppm	800	1200
HARDNESS	0	ppm/CaCO3	N/A	N/A
P-ALK	490	ppm\CaCO3	N/A	N/A
M-ALK	580	ppm\CaCO3	N/A	N/A
pH	9.5	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4000	uS	2200	3000
Iron (Fe)	0.7	ppm	0	0.5
NITRITE	1000	ppm 00	800	1200
HARDNESS	0	ppm/CaCO3	N/A	N/A
P-ALK	380	ppm\CaCO3	N/A	N/A
M-ALK	420	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Cooling Tower
Offline at time of visit

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	68	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Mo. School for the Deaf – Stark Bldg.

System I.D: No hot water boiler, has a steam bundle, steam comes from the Fulton State Hospital.

Make-Up Water: City water Make up is soft.
Recommendations: Maintain chemical treatment parameters, Nitrite levels are within the proper range. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up is soft.
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are within the proper range and will prevent corrosion. WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.
This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

System ID Cooling Tower - 80 Ton Aaon – Operates 8 months.

Make-Up Water: soft water
Recommendations:

Maintain a chemical program which demonstrates consistent program management, record keeping, follow-up and equipment maintenance.
Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: DESE - Missouri School for the Deaf – Stark Bldg.		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351 WLFT Verox-8 WLFT 206	0.4 gal. 0.5 gal. 0.5 gal.	15 gallons 5 gallons 5 gallons
Equipment (include make, model, and quantity)		
Qty 3 LMI P121-352SI Chemical Pumps LMI DC4500 Controller		
_____ Drumless, Bulk Storage		____X___ Conventional Drum

Facility: DESE Missouri School for the Deaf – Stark Bldg.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	____X____ Conventional Drum	

Facility: DESE Missouri School for the Deaf – Stark Bldg.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	____X____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Missouri School for the Deaf – Tate Bldg.

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	**6270**	uS	500	6000
Iron (Fe)	**0.5**	ppm	0	0.5
NITRITE	**1000**	ppm	800	1200
HARDNESS	**0**	ppm/CaCO3	N/A	N/A
P-ALK	**600**	ppm\CaCO3	N/A	N/A
M-ALK	**920**	ppm\CaCO3	N/A	N/A
pH	**10.5**	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	**15**		**30**	**60**

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	**2950**	uS	2200	3000
Iron (Fe)	**0.7**	ppm	0	0.5
NITRITE	**450**	ppm	800	1200
HARDNESS	**0**	ppm/CaCO3	N/A	N/A
P-ALK	**530**	ppm\CaCO3	N/A	N/A
M-ALK	**580**	ppm\CaCO3	N/A	N/A
pH	**10.0**	unit	N/A	N/A

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SystemName: Cooling Tower
Offline at time of visit

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Mo. School for the Deaf – Tate Bldg.

System I.D: No hot water boiler, has a steam bundle, steam comes from the Fulton State Hospital.

Make-Up Water: City water Make up softening
Recommendations: Maintain chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up softening
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are too low to prevent corrosion and will actually increase the corrosion rate. WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.

This facility should obtain a Nitrite test kit to monitor and maintain the Chilled Water system.

System ID: BAC Cooling Tower – 30 Ton – Operates 8 months.

Make-Up Water: City water, soft water
Recommendations:

Maintain a chemical program which demonstrates consistent program management, record keeping, follow-up and equipment maintenance.
This tower is located on the ground, which needs thorough cleaning before start-up.
Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent

corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: DESE – Missouri School for the Deaf – Tate

COOLING TOWER

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gal.	30 gallons
WLFT 545	0.5 gal.	15 gallons
WLFT 206	0.5 gal.	15 gallons

Equipment (include make, model, and quantity)

Qty 3 LD03SA-PTC1-500 Pulsatron Pump
Pulsafeeder Vision Controller

_____ _____ Drumless, Bulk Storage	____X_____ Conventional Drum

Facility: DESE Missouri School for the Deaf – Tate Bldg.

CLOSED LOOP HEAT

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	

Equipment (include make, model, and quantity)

2 Gallon Neptune By Pass Feeder

_____ _____ Drumless, Bulk Storage	____X_____ Conventional Drum

Facility: DESE Missouri School for the Deaf – Tate Bldg.

CLOSED LOOP COOLING

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	

Equipment 2 Gallon Neptune By Pass Feeder

_____ _____ Drumless, Bulk Storage	____X_____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Missouri School for the Deaf – Vocational Bldg.

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3000	uS	500	6000
Iron (Fe)	0.9	ppm	0	0.5
NITRITE	900	ppm	800	1200
HARDNESS	0	ppm/CaCO3	N/A	N/A
P-ALK	780	ppm\CaCO3	N/A	N/A
M-ALK	880	ppm\CaCO3	N/A	N/A
pH	10.5	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2950	uS	2200	3000
Iron (Fe)	0.7	ppm	0	0.5
NITRITE	900	ppm	800	1200
HARDNESS	0	ppm/CaCO3	N/A	N/A
P-ALK	530	ppm\CaCO3	N/A	N/A
M-ALK	580	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Mo. School for the Deaf – Vocational Bldg.

System I.D: No hot water boiler, has a steam bundle, steam comes from the Fulton State Hospital.

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Make-Up Water: City water Make up is soft.
Recommendations: Maintain chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up is soft.
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are within the proper control range to prevent corrosion and will actually increase the corrosion rate. WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.

This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

WATER TREATMENT PROGRAM

Facility: DESE Missouri School for the Deaf - Vocational Bldg.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	_____X_____ Conventional Drum	

Facility: DESE Missouri School for the Deaf - Vocational Bldg.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	_____X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Missouri School for the Deaf – Wheeler Bldg.

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4700	uS	500	6000
Iron (Fe)	0.3	ppm	0	0.5
NITRITE	1000	ppm	800	1200
HARDNESS	0	ppm/CaCO3	N/A	N/A

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pH	9.5	unit	6.5	8.5

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2000	uS	2200	3000
Iron (Fe)	0.7	ppm	0	0.5
NITRITE	1000	ppm	800	1200
HARDNESS	0	ppm/CaCO3	N/A	N/A
P-ALK	380	ppm\CaCO3	N/A	N/A
M-ALK	420	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Cooling Tower
Offline at time of visit

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Mo. School for the Deaf - Wheeler Bldg.

System I.D: No hot water boiler, has a steam bundle, steam comes from the Fulton State Hospital.

Make-Up Water: City water Make up is soft.
Recommendations: Maintain chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.
System ID Chilled Water Closed Loop

Make-Up Water: City water Make up is soft.
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are within the parameters, this will prevent corrosion and will actually increase the corrosion rate. WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.
This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

System ID: Imeco Cooling Tower – 200 Ton – Operates 8 months.
Make-Up Water: City water, soft water

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Recommendations:

Maintain a chemical program which demonstrates consistent program management, record keeping, follow-up and equipment maintenance.
This tower is located on the ground, which needs thorough cleaning before start-up.
Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: DESE – Missouri School for the Deaf – Wheeler Bldg.		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 7351 WLFT Verox-8 WLFT 206	0.4 gal. 0.5 gal. 0.5 gal.	30 gallons 10 gallons 10 gallons
Equipment (include make, model, and quantity)		
Qty 3 LMI P121-352SI Chemical Pumps LMI DC4500 Controller		
___ _ _ ___ Drumless, Bulk Storage	____X____ Conventional Drum	

Facility: DESE Missouri School for the Deaf – Wheeler Bldg.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
___ _ _ ___ Drumless, Bulk Storage	____X____ Conventional Drum	

Facility: DESE Missouri School for the Deaf – Wheeler Bldg.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		

____ Drumless, Bulk Storage	____X__ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE – Oakview State School, Monett

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3800	uS	500	6000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	800	ppm	900	3000
HARDNESS	520	ppm/CaCO3	N/A	N/A
P-ALK	240	ppm\CaCO3	N/A	N/A
M-ALK	310	ppm\CaCO3	N/A	N/A
pH	8.7	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3800	uS	2200	3000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	800	ppm	900	3000
HARDNESS	520	ppm/CaCO3	N/A	N/A
P-ALK	240	ppm\CaCO3	N/A	N/A
M-ALK	310	ppm\CaCO3	N/A	N/A
pH	9.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	176	ppm/CaCO3	N/A	N/A
CHLORIDES	12.6	ppm	N/A	N/A
CONDUCTIVITY	407	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	1.93	ppm	N/A	N/A
Magnesium(Mg)	96	ppm/CaCO3	N/A	N/A
M-ALK	188	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.79	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.92	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	2.2	ppm	N/A	N/A
SULFATE(SO4)	72.8	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

System I.D: 1 Power Fin Hot Water Boiler, 40 hp.
Make-Up Water: City water Make up Hard
Recommendations: Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance. Bypass feeder was installed with PVC piping This needs to be carbon steel

System ID Chilled Water Closed Loop,

Make-Up Water: City water Make up Hard Water
Recommendations

Chilled water is using a typical Nitrite based inhibitor, this is to prevent corrosion. WLFT 839 should be added to obtain a Nitrite level between 800-1200 ppm.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: DESE – Cedar Ridge State School, Nevada		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment Generic 2 Gallon by-pass feeder		
_____ Drumless, Bulk Storage	_ _ _X _ _ _ Conventional Drum	

Facility: DESE – Cedar Ridge State School, Nevada		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment Generic 2 Gallon By-pass feeder		
_ _ _ _ _ _ Drumless, Bulk Storage	_____X_____ Conventional Drum	

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Water Analysis, Systems & Make-up(raw water)

Prairie View State School

SystemName: Closed Loop (Hot and Chilled)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2436	uS	2800	3800
M-ALK	46	ppm\CaCO3	500	800
NITRITE	960	ppm	800	1200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	63.5	ppm/CaCO3	N/A	N/A
CHLORIDES	79	ppm	N/A	N/A
CONDUCTIVITY	481	uS	N/A	N/A
HARDNESS	136	ppm/CaCO3	N/A	N/A
Iron	0	ppm	N/A	N/A
MAGNESIUM	72	ppm\CaCO3	N/A	N/A
M-ALK	172	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
pH	7.64	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	23.6	ppm	N/A	N/A
SULFATE(SO4)	5	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Prairie View State School
System I.D.: Closed system (Non-Potable Hot & Chilled)
Recommendations:
Maintain chemical treatment parameters, 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.

WLFT will provide a Nitrite Test Kit train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Prairie View State School		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
#839	40 Gallons	
Existing Equipment 2 Generic Gallon Pot Feeder		
_____ ___ Drumless, Bulk Storage	_____ Conventional Drum	
Facility: Prairie View State School		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.8 Gallons	
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
Generic 2 gallon pot feeder		

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_____ ___ Drumless, Bulk Storage	__ X___ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Rolling Meadows State School

SystemName: Closed Loop (Hot and Chilled)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3095	uS	2800	3800
M-ALK	710	ppm\CaCO3	500	800
NITRITE	600	ppm	800	1200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	36.6	ppm	N/A	N/A
CHLORIDES	21.9	ppm	N/A	N/A
TDS	223	ppm	N/A	N/A
HARDNESS	136	ppm/CaCO3	N/A	N/A
Iron (Fe)	N/A	ppm	N/A	N/A
Magnesium(Mg)	10.8	ppm/CaCO3	N/A	N/A
M-ALK	N/A	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	10	ppm	N/A	N/A
P-ALK	N/A	ppm\CaCO3	N/A	N/A
pH	7.44	unit	N/A	N/A
PHOSPHATE	N/A	ppm	N/A	N/A
SILICA(SiO2)	N/A	ppm	N/A	N/A
SULFATE(SO4)	47.1	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Rolling Meadows State School

System I.D.: Closed system (Non-Potable Hot & Chilled)
Recommendations:
Maintain chemical treatment parameters, 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.

WLFT will provide a Nitrite Test Kit train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Rolling Meadows State School		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Same as Closed Loop Cooling		
Existing Equipment Generic 2 gallon pot feeder		
_____ Drumless, Bulk Storage	___X_____ Conventional Drum	

Facility: Rolling Meadows State School		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.8 Gallons	
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
Generic 2 gallon pot feeder		
_____ Drumless, Bulk Storage	___X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE – Shady Grove State School, Poplar Bluff

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	360	ppm\CaCO3	300	600
M-ALK	320	ppm\CaCO3	300	600
POLYMER	5	ppm	4	8
TDS	1600	uS	1200	1800

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3200	uS	500	6000
NITRITE	1100	ppm	800	1200
HARDNESS	440	ppm\CaCO3	N/A	N/A
M-ALK	500	ppm\CaCO3	N/A	N/A
pH	8.6	unit	6.5	8.5

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2800	uS	2200	3000
NITRITE	1000	ppm	800	1200
M-ALK	510	ppm\CaCO3	N/A	N/A
pH	9.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	180	ppm\CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	475	uS	N/A	N/A
HARDNESS	260	ppm\CaCO3	N/A	N/A
Iron (Fe)	0.2	ppm	N/A	N/A
Magnesium(Mg)	40	ppm\CaCO3	N/A	N/A
M-ALK	288	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.7	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.7	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	4	ppm	N/A	N/A

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SULFATE(SO4)	15 ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Shady Grove State School, Poplar Bluff

System I.D: 1 Thermal Solutions Hot Water Boiler, 20 hp.
Make-Up Water: City water Make up - Hard Water
Recommendations: Maintain chemical treatment parameters at 900 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.
WLFT will provide a Nitrite Test Kit train on-site personnel in its use.

System ID Chilled Water Closed Loop,

Make-Up Water: City water Make up - Hard Water
Recommendations

Chilled water is using WLFT 839 Nitrite based corrosion inhibitor.

System ID Cooling Tower: Thermal Pak, 70 Ton

Make-Up Water: City water, make-up hard

Recommendations:

1. Replace recirculation pump used for providing condenser water to the conductivity control (i.e conductivity probe).
2. Recommend that the system be maintained with a scale removing treatment. Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: DESE – Shady Grove State School, Poplar Bluff		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4714	0.6 gallons	75 gallons
Verox 8	0.5 gallons	20 gallons
AM 714	0.5 gallons	20 gallons
Equipment American Analog Conductivity Controller, QTY = 1		

Pulsafeeder Model LC54 Chemical Feed Pump, Qty = 3

Facility: DESE – Shady Grove State School, Poplar Bluff		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839		
Equipment (include make, model, and quantity)		
By-Pass Feeder, Wingert Model 2HD		
_____ _____ Drumless, Bulk Storage	_____X_ ____ Conventional Drum	

Facility: DESE Shady Grove State School, Poplar Bluff		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839		
Equipment A by-pass feeder; Wingert Model 2HD		
_____ _____ Drumless, Bulk Storage	____X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Trails West State School

SystemName: Cooling Tower

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	720	uS	1000	1200
HARDNESS	77	ppm\CaCO3	400	600
M-ALK	25	ppm\CaCO3	400	600
pH	8.57	unit	8.8	9.2
POLYMER	4	ppm	4	8

SystemName: Closed Loop Hot/Cold

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3704	uS	2800	3800
pH	11.29	ppm	0	0.5
M-ALK	N/A	ppm\CaCO3	500	800
NITRITE	880	ppm	800	1200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	51	ppm\CaCO3	N/A	N/A
CHLORIDES	21	ppm	N/A	N/A
CONDUCTIVITY	644	uS	N/A	N/A

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HARDNESS	**71**	ppm/CaCO3	N/A	N/A
Iron (Fe)		ppm	N/A	N/A
Magnesium(Mg)		ppm/CaCO3	N/A	N/A
M-ALK	**21**	ppm	N/A	N/A
P-ALK		ppm\CaCO3	N/A	N/A
pH	**8.5**	unit	N/A	N/A
PHOSPHATE		ppm	N/A	N/A
SILICA(SiO2)		ppm	N/A	N/A
SULFATE(SO4)		ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Trails West State School

System I.D.: Closed system (Non-Potable Hot and Chilled)

Recommendations:
Closed system should be filtered to help clean and maintain treatment.

1) Systems have functional pump and 200-gallon bulk tank in place.

System I.D.: Cooling Tower
Make-Up Water: 100% Hard water
Recommendations:
The water tower is scheduled to be replaced. If this is done a pacification program will need to be run for 60 to 90 days. The tower has not cycled up to date.

Recommend that the system be maintained with a scale removing treatment. Installing a Contacting head water meter is most efficient way to feed the treatment. Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: Trails West State School		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 Gallons	30 Gallon
Verox-8	0.5 Gallons	5 Gallon
AM-714 Biocide	1.5 Gallons	5 Gallon
Existing Equipment (include make, model, and quantity)		
Advantage Cooling Tower Control SSCPOF3E-H1		
(1) LMI J021 Chemical Pump		
(1) Pulsafeed CB03SA Chemical Pump		
(1) Belimo Motorized Ball Valve		

_____ Drumless, Bulk Storage	_____X_____ Conventional Drum

Facility: Trails West State School		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
5 gallon pot feeder		
_____ Drumless, Bulk Storage	__ __X __ __ Conventional Drum	

Facility: Trails West State School		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Same as Closed Loop, Hot		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

DESE Verelle Peniston State School

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	5500	uS	2200	3000
NITRITE	1600	ppm	800	1000
pH	11.7	unit	N/A	N/A

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1900	uS	2200	3000
NITRITE	500	ppm	800	1000
HARDNESS	10	ppm/CaCO3	N/A	N/A
pH	11.8	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	42	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	380	uS	N/A	N/A
HARDNESS	100	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A

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Magnesium(Mg)	**63**	ppm/CaCO3	N/A	N/A
M-ALK	**112**	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	**7.5**	ppm	N/A	N/A
P-ALK	**10**	ppm\CaCO3	N/A	N/A
pH	**8.1**	unit	N/A	N/A
PHOSPHATE	**0.3**	ppm	N/A	N/A
SILICA(SiO2)	**24.25**	ppm	N/A	N/A
SULFATE(SO4)	**80**	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: DESE Verelle Peniston State School

System I.D:Power Fin Lockinvar 220,000 BTU Hot Water Boiler

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up no softening
Recommendations: Both Loops have high suspended solids. Arrangements have been made with Nick Kern to Drain and Flush both systems this summer (2014)
WLFT will provide a Nitrite Test Kit train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: DESE Verelle Peniston State School		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
____ ____ Drumless, Bulk Storage	__ __X__ __ Conventional Drum	

Facility: DESE Verelle Peniston State School		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		

Walter Louis
FLUID TECHNOLOGIES

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Albany Regional Center

SystemName: Closed Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	6600	uS	2800	3800
pH	9.71	unit	8.4	10.1
NITRITE	1200	ppm	800	1200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	N/A	ppm/CaCO3	N/A	N/A
CHLORIDES	N/A	ppm	N/A	N/A
CONDUCTIVITY	515	uS	N/A	N/A
HARDNESS	320	ppm/CaCO3	N/A	N/A
Iron (Fe)	N/A	ppm	N/A	N/A
Magnesium(Mg)	N/A	ppm/CaCO3	N/A	N/A
M-ALK	270	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	N/A	ppm	N/A	N/A
P-ALK	N/A	ppm\CaCO3	N/A	N/A
pH	7.8	unit	N/A	N/A
PHOSPHATE	N/A	ppm	N/A	N/A
SILICA(SiO2)	N/A	ppm	N/A	N/A
SULFATE(SO4)	N/A	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Albany Regional Center
System I.D.: Closed system (Non-Potable)
Recommendations
System needs to be drained and flushed with #96 Cleaner. After Cleaning NO_3 should be boosted to chemical treatment parameters, 800-1200 mg/l as NO_3 to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.

WATER TREATMENT PROGRAM

Facility: Albany Regional Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.8 gallons	
#839	40 Gallons	
# 96 Cleaner	1 Gallon	
Existing Equipment (include make, model, and quantity)		
5 gallon pot feeder		
_____ Drumless, Bulk Storage	___X_____ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MH BELLEFONTAINE HABILITATION CENTER

10695 Bellefontaine Road, St. Louis, MO 63137

SystemName: COOLING TOWER- MULTIPURPOSE BLDG

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	210	ppm/CaCO3	200	800
M-ALK	200	ppm\CaCO3	200	500
POLYMER	5	ppm	4	10
CONDUCTIVITY	1500	uS	1800	2200

SystemName: Closed Loop- MULTIPURPOSE BLDG

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1400	uS	500	6000
NITRITE	800	ppm	800	1200
pH	9.8	unit	6.5	8.5

SystemName: Pool

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	300	ppm\CaCO3	250	500
OH-ALK	100	ppm\CaCO3	200	400
P-ALK	100	ppm\CaCO3	250	400
POLYMER	0.3	ABS	0.3	0.6
SULFITE(SO3)	10	ppm	30	60
CONDUCTIVITY	2300	uS	2000	3000

SystemName: Unit #1 (wet layup)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	690	ppm\CaCO3	250	500
OH-ALK	290	ppm\CaCO3	200	400
P-ALK	200	ppm\CaCO3	250	400
POLYMER	0.	ABS	0.3	0.6
SULFITE(SO3)	80	ppm	30	60
CONDUCTIVITY	4170	uS	2000	3000

SystemName: Warehouse

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	900	ppm\CaCO3	250	500
OH-ALK	400	ppm\CaCO3	200	400
P-ALK	250	ppm\CaCO3	250	400
POLYMER	0.05	ABS	0.3	0.6
SULFITE(SO3)	120	ppm	30	60
CONDUCTIVITY	3150	uS	2000	3000

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SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Bellefontaine Habilitation Center, St. Louis

System I.D.: Fulton Steam boilers.
Pool: 3 x 30 hp with hard water make-up.

Unit #1: 2 x 15 hp with hard water make-up.
Warehouse: 3 x 30 hp with hard water make-up.

Load: HVAC comfort heating, approximate six month usage.

There is currently in place a project to acid clean these boilers. It was originally scheduled to be done in May, postponed till August by the facility

Chemical Program: Walter Louis 157L (phosphate/sulfite/amine).
Method for injection: Pulsatrol pump – directly into feedwater tank.
Blowdown: Manually per operator per TDS test.

System I.D.: Cooling Towers (Multipurpose Building
Make-Up Water: 100% hard water.
Recommendations:

1. Multipurpose Building: 120 Tons, Trane Chillers, BAC Cooling Tower.
2. Needs a conductivity controller. Operator has to manually feed and bleed

WATER TREATMENT PROGRAM

Facility: MH Bellefontaine Habilitation Center- St. Louis		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 157L	3 Gallon	200 gallons
Note: WLFT 157L "Multifunctional" liquid boiler compound - treats boiler, deaerator/feedwater, and steam system. 180 gallons required in total for all three steam boiler systems.		
Equipment: 3 LMI P041-151 pumps		
_____ Drumless, Bulk Storage	____x _____ Conventional Drum	

Facility: MH Bellefontaine Habilitation Center- St. Louis		
COOLING TOWERS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.6 gallons	30 gallons
WLFT Verox 8	0.5 gallons	30 gallons
WLFT 714	.5 gallons	30 gallons
Equipment : LMI P121 pumps (2) in place		
Moor Control Model SYS-A-S Tower Control (Does not work)		
_____ Drumless, Bulk Storage	_____ _x____ Conventional Drum	

Facility: MH Bellefontaine Habilitation Center- St. Louis		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 Gallon	
Equipment 2 gallon Generic Bypass Feeders		
__ ___x____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: MH Bellefontaine Habilitation Center- St. Louis		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gal	
Equipment 2 gallon Generic Bypass Feeders		
_____ _ Drumless, Bulk Storage	_____ x___ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

FULTON STATE HOSPITAL

600 East 5th Street, Fulton, MO 65251

SystemName: COOLING TOWER- HEARNES BLDG

Two x 400 Ton chillers off line – no condenser testing available; chilled loop nitrite at 580 ppm.

SystemName: COOLING TOWER - BIGGS BLDG

Two x 325 Ton chillers off line – no condenser testing available; chilled loop nitrite at 650 ppm.

SystemName: COOLING TOWER – GOULMANN BLDG

Two x 400 Ton chillers off line – no condenser testing available; chilled loop nitrite at 620 ppm.

SystemName: CLOSED LOOPS (HOT/CHILLED)

BUILDING	*TDS*	*Nitrite(ppm)*
HOPE CTR	2100	520
HEARNES	1700	580
GOULMANN 1-4	1800	620
BVE BLDG	1700	480
BIGGS	2000	650
Low Range-	*1000*	*800*
High Range	*4000*	*1200*

SystemName: STEAM BOILER SYSTEM

SystemName: BOILER 6

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	1120	ppm\CaCO3	400	800
OH-ALK	880	ppm\CaCO3	200	400
P-ALK	1000	ppm\CaCO3	400	80
POLYMER	0.27	abs	0.3	0.6
SULFITE(SO3)	40	ppm	30	60
TDS	2500	uS	2000	3000

SystemName: CONDENSATE (Square Tank)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm\CaCO3	0	0
Iron (Fe)	0	ppm	0	0.5
M-ALK	44	ppm\CaCO3	30	50
pH	8.9	unit	8.2	9.5
TDS	60	uS	20	80

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SystemName: FEEDWATER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0.5
M-ALK	50	ppm\CaCO3	5	100
Softener Hardness	0	ppm\CaCO3	0	0
TDS	110	uS	100	200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Fulton State Hospital – Fulton, MO

System I.D.: Steam System

1. Three Cleaver Brooks Firetube Boilers [140MMlbs/yr]
2. 100% Soft Water Make-up
3. Approximately 75% Condensate Return
4. RO system has been installed .

Recommendations:

(1) Maintain existing chemical treatment parameters. FSH chemical program demonstrates consistent program management, record-keeping, follow-up and equipment maintenance.

(2) Train all FSH power plant personnel on WLFT computer based software (E-Service).

System I.D.: Cooling Towers (Biggs/Hearnes/Goulmann)

1. Hearnes bldg. is on soft make-up water and servicing the Cremer building.
2. All chemical injections controlled by the WLFT controller and water meter.

Recommendations:

(1) Conversions to Softwater make-up from acid feed is in progress This should increase the safety and efficiency of the program

(2) Train all FSH HVAC personnel on WLFT computer based software (E-Service).

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(3) If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

Closed Loop System:

1. Closed loop chemical is WLFT 839 corrosion inhibitor.
2. All chemical is injected thru a by-pass feeder.

WATER TREATMENT PROGRAM

Facility: Fulton State Hospital		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel Save-Stabilizer	0.18 Gallons	0.288 Gallons
STORAGE VOLUME #2 DIESEL = 16,000 GAL		
Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage		_ _ x_____ Conventional Drum

Facility: MH Fulton State Hospital		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
1495		110 gallons
LC-25	40 gallon	
Equipment Neptune 515 Pump		
_ _ _x_ _ _ Drumless, Bulk Storage		_____ _ Conventional Drum

Facility: MH Fulton State Hospital		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595		75 Gallons
Equipment Neptune 515 Pump		
n/a		
_x _ _ _ _Drumless, Bulk Storage		_____ _Conventional Drum

Facility: MH Fulton State Hospital		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535		90 gallons
Equipment Neptune 515 Pump		
___x___ Drumless, Bulk Storage		_____ Conventional Drum

Facility: MH Fulton State Hospital		
COOLING TOWERS (Hearnes/Biggs/Goulmann)		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.6 gallons	300 gallons
WLFT Verox-8	0.8 gallons	200 gallons
WLFT 206	1.5 gallons	200 gallons
WLFT 7351	.6 gallon	150
Sulfuric acid	N/A	100
Equipment : Conductivity Controller and pumps in place		
Conductivity Controller Biggs WLFT PCS Dual tower Control with pH		
Conductivity Controller Goulmann WLFT PCS Single tower Control with pH		
Conductivity Controller Hearns WLFT Advantage SS		
Qty 10 LMI P051 GPH Pumps		
Qty 4 Pulsafeeder 1 GPH Pumps		
Qty 1 Advantage 1GPH Pump		
_____ Drumless, Bulk Storage		_____x___ Conventional Drum

Facility: MH Fulton State Hospital		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	25 gallons
Equipment (include make, model, and quantity) None		
_____ Drumless, Bulk Storage		_____x___ Conventional Drum

Facility: MH Fulton State Hospital		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	25 gallons
Equipment (include make, model, and quantity) None		

RFP B3Z014153
Section 3.7.2 Water Analysis, Systems & Make-up(raw water)

MH HAWTHORN PSYCHIATRIC CENTER

1901 PENNSYLVANIA ST. LOUIS, MO 63133

SystemName: HOT WATER BOILER

Boiler drained for repairs

2 45 horsepower Burnham boilers with 5 gallon pot feeder

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

Proposed Water Treatment Program(s)

System I.D: Hot Water Boiler

Make-Up Water: City Water

Recommendations: Sufficient WLFT 839 should be added to achieve a Nitrite level of 800 to 1200 ppm when system is repaired

Facility: HAWTHORN PSYCHIATRIC CENTER		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
5 Gallon Neptune By Pass Feeder		
___ ___ ___ Drumless, Bulk Storage	___ X___ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Higginsville Habilitation Center

System Name: Dietary Laundry Building
Steam Boiler 1 (Online)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4463	uS	2800	3800
P-ALK		ppm	0	0.5
M-ALK	37	ppm\CaCO3	500	800
Sulfite	83	ppm	900	1000
pH	7.38	unit	9	11
POLYMER	6	ppm	4	8
PHOSPHATE	17	ppm	N/A	N

System Name: Dietary Laundry Building
Steam Boiler 2 (Offline) (DRAINED)

Dietary Laundry Building
Water Softener Make Up

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	0	ppm/CaCO3	N/A	N/A
CHLORIDES	31	ppm	N/A	N/A
CONDUCTIVITY	500	uS	N/A	N/A
HARDNESS	0	ppm/CaCO3	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	8.17	unit	N/A	N/A

Dietary Laundry Building
Feed Water

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	17.42	uS	N/A	N/A
HARDNESS	0	ppm/CaCO3	N/A	N/A
M-ALK	0	ppm\CaCO3	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	10.88	unit	8.0	8.5

System Name: Ed. Building
Steam Boiler

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3847	uS	2800	3800
P-ALK		ppm	0	0.5
OH-ALK	160	ppm\CaCO3	500	800
Sulfite	137	ppm	900	1000
pH	10.41	unit	9	11
POLYMER	6	ppm	4	8
PHOSPHATE	17	ppm	N/A	N

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System Name: Ed. Building
Condensate

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	**20.81**	uS	N/A	N/A
HARDNESS	**0**	ppm\CaCO3	N/A	N/A
M-ALK	**0**	ppm\CaCO3	N/A	N/A
P-ALK	**0**	ppm\CaCO3	N/A	N/A
pH	**8.17**	unit	8.0	8.5

Chilled Water

System Name:

D Cottage

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	**2458**	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	**1320**	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
Glycol	**15**	%	25%	30%
pH	**10.63**	unit	9.5	10.5

F Cottage

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	**3928**	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	**1640**	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
Glycol	**10**	%	**25%**	**30%**
pH	**9.8**	unit	9.5	10.5

C Cottage

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	**3628**	ppm\CaCO3	500	800
NITRITE	**1200**	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
Glycol	**15**	%	**25%**	**30%**
pH	**9.58**	unit	9.5	10.5

B Building West

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	**620**	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	**160**	ppm	900	1000
P-ALK	**0**	ppm\CaCO3	N/A	N/A
Glycol	**0**	%	**25%**	**30%**
pH	**9.94**	unit	9.5	10.5

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B Building East

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	11'809	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	2800	ppm	900	1000
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	11.2	unit	9.5	10.5
Glycol	0	%	25%	30%

E Cottage

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	3441	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	1240	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
Glycol	15	%	25%	30%
pH	9.87	unit	9.5	10.5

Hot Water Heating Loops

D Cottage

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	3590	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	1160	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
pH	10.39	unit	9.5	10.5

F Cottage

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	3051	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	920	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
pH	11.04	unit	9.5	10.5

C Cottage

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	4046	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	1120	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
pH	10.39	unit	9.5	10.5

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B Building

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	1767	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	240	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
pH	11.4	unit	9.5	10.5

Ed. Building common Hot and Chilled (Ragland)

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	958	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	40	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
pH	8.3	unit	9.5	10.5

E Cottage

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	4171	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	1680	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
pH	9.76	unit	9.5	10.5

A. Building

PROCEDURE	Result:		LoLimit:	HiLimit:
CONDUCTIVITY	2605	uS	2800	3800
M-ALK		ppm\CaCO3	500	800
NITRITE	560	ppm	900	1000
P-ALK		ppm\CaCO3	N/A	N/A
pH	11.8	unit	9.5	10.5

System Name: Raw Water Supply

PROCEDURE	Result:		LoLimit:	HiLimit:
CaHardness(Ca)	137.25	ppm/CaCO3	N/A	N/A
CHLORIDES	14.6	ppm	N/A	N/A
CONDUCTIVITY	388	uS	N/A	N/A
HARDNESS	205	ppm/CaCO3	N/A	N/A
Iron	.00237	ppm	N/A	N/A
MAGNESIUM	67.65	ppm\CaCO3	N/A	N/A
M-ALK	153	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.42	ppm	N/A	N/A
pH	8.46	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	2.1	ppm	N/A	N/A

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SULFATE(SO4)	119 ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Higginsville Habilitation center

System I.D.: **Dietary Laundry Steam Boilers**
Make-Up Water: Soft Water
Recommendations:
Boiler #1 was online. The system has proper protection against corrosion, pitting, and sludge. We adjusted the levels and conductivity to decrease water usage and chemical consumption. The load on the boilers is minimal.

System I.D.: **Ed Building Steam Boiler**
Make-Up Water: Soft Water
Recommendations:
Test residuals looked good. The system has proper protection against corrosion, pitting, and sludge. We adjusted the levels and conductivity to decrease water usage and chemical consumption. The load on the boilers is minimal.
Recommendations:
Maintain existing chemical treatment parameters, 800-1000 mg/l as NO_3, to provide maximum corrosion inhibition and protection against metal loss. System has operated without any major incidents during last contract period.

Closed systems (Non-Potable Chilled water)
Most of the individual Buildings chilled water contains Glycol

System I.D: **E Cottage**
Recommendations: The system contains glycol with a Nitrite supplement. Chemical is added through a a 5gallon Pot feeder. Glycol concentration is 15% which is not optimum. The Glycol levels should be increase to maximize protection. Chemical levels are good.

System I.D: **F Cottage**
Recommendations: The system contains glycol with a Nitrite supplement. Chemical is added through a a 5gallon Pot feeder. Glycol concentration is 10% which is not optimum. The Glycol levels should be increase to maximize protection. Chemical levels are good.

System I.D: **D Cottage**
Recommendations: The system contains glycol with a Nitrite supplement. Chemical is added through a 5gallon Pot feeder. Glycol concentration is 15% which is not optimum. The Glycol levels should be increase to maximize protection. Chemical levels are good.

System I.D: **Ed Building**
Recommendations: The system is a common Hot and Chilled loop. Chemical is added through a a 5gallon Pot feeder. The system contains no glycol Nitrite at 40 ppm is very low. Additional WLFT 839 should be added to increase the nitrite to 600 to 1000ppm.

System I.D: **B building West**
Recommendations: The system contains no glycol chemical is fed through a 5 gallon Pot feeder. Nitrite level of 160 ppm is too low . Additional WLFT 839 should be added to increase the nitrite to 600 to 1000ppm.

System I.D: **B building East**
Recommendations: The system contains no glycol chemical is fed through a 2 gallon Pot feeder. Nitrite level of 2800 ppm is very high . No additional chemical need be added at this time.

Closed systems (Hot Water Heating Boilers)
All Building use identical "RITE" 450,000 BTU Hot water recirculating Boilers

System I.D: **E Cottage** This system contains a Nitrite based inhibitor. There is no Pot feeder to add additional chemical. This should be installed to facilitate chemical addition. Nitrite level is only 1680 ppm which is good for protection. No additional chemical need be added at this time.

System I.D: **F Cottage** This system contains a Nitrite based inhibitor. There is a 2 gallon Pot feeder to add additional chemical.. Nitrite level is only 920 ppm which is good for protection.. No additional chemical need be added at this time.

System I.D: **D Cottage** This system contains a Nitrite based inhibitor. There is a 2 gallon Pot feeder to add additional chemical.. Nitrite level is only 1160 ppm which is good for protection. No additional chemical need be added at this time.

System I.D: **C Cottage** This system contains a Nitrite based inhibitor. There is no Pot feeder to add additional chemical.. Nitrite level is only 1120 ppm which is good for protection. No additional chemical need be added at this time.

System I.D: **A Building** This system contains a Nitrite based inhibitor. There is a 2 gallon Pot feeder to add additional chemical.. Nitrite level is only 560 ppm which is too low for protection. Additional WLFT 839 should be added to increase the nitrite to 600 to 1000ppm..

WATER TREATMENT PROGRAM

Facility Higginsville Habilitation Center		
STEAM BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
157 L	3 gallons	50 gallons
592-L	.124 Gallons	30 gallons
55 gallon Mix tank **Advantage 1gph @ 110psi Chemical Injection Pump**		
(1) LMI P121 Chemical Pump		
_____ Drumless, Bulk Storage	____X____ Conventional Drum	

Facility: Higginsville Habilitation Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
2 gallon and 5 gallon pot feeders for most systems		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Higginsville Habilitation Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839 Thermal Guard HT1	40 gallons 2500 gal	
Equipment 2 gallon and 5 gallon pot feeders for most systems. Some need to be purchased		
*Inhibitor for cooling loop fed from same tank as hot loop.		
_____ Drumless, Bulk Storage	_____X____ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Joplin Regional Office

System Name: Closed Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3641	uS	2800	3800
pH	9.9	unit	9.5	10.5
NITRITE	1820	ppm	900	1000

System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	58	ppm/CaCO3	N/A	N/A
CHLORIDES	33.4	ppm	N/A	N/A
CONDUCTIVITY	438	uS	N/A	N/A
HARDNESS	150	ppm/CaCO3	N/A	N/A
Iron	0	ppm	N/A	N/A
MAGNESIUM	92	ppm\CaCO3	N/A	N/A
M-ALK	140	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.4	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.8	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	N/A	ppm	N/A	N/A
SULFATE(SO4)	25.1	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Joplin Regional Office
Maintain chemical treatment parameters, 800-1200 mg/l as NO_3, to provide maximum corrosion inhibition and protection against metal loss. The system was taken off line after the last testing was completed.

WATER TREATMENT PROGRAM

Facility: Joplin Regional Office		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
839		
Existing Equipment LMI Chemical Pump Model P121		
NONE		
_ _ _ _ _ Drumless, Bulk Storage	___X____ Conventional Drum	

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Water Analysis, Systems & Make-up(raw water)

Marshall Habilitation Center – Automotive Building

System Name: Hot Water Heating Loop (DRAINED UNABLE TO TEST)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY		uS	500	6000
Iron (Fe)		ppm	0	0.5
NITRITE		ppm	800	1200
HARDNESS		ppm\CaCO3	N/A	N/A
P-ALK		ppm\CaCO3	N/A	N/A
M-ALK		ppm\CaCO3	N/A	N/A
pH		unit	6.5	8.5
MOLYBDATE		ppm	N/A	N/A
SILICA(SiO2)			30	60

Proposed Water Treatment Program(s)

Facility: Marshall Habilitation Center – Automotive Building

System I.D: Hot Water Boiler, McNeil McCann, 30 hp, Hot Water Closed Loop

Make-Up Water: City water Make up Soft

Recommendations: Maintain chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

Marshall Habilitation Center – Power Plant

System Name: BOILER 1

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1910	uS	2000	3000
M-ALK		ppm\CaCO3	400	800
OH-ALK	189	ppm\CaCO3	200	400
P-ALK		ppm\CaCO3	400	800
PHOSPHATE	44	ppm	20	40
SULFITE(SO3)	72	ppm	30	60

System Name: BOILER 2

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1827	uS	2000	3000
M-ALK		ppm\CaCO3	400	800
OH-ALK	111	ppm\CaCO3	200	400
P-ALK		ppm\CaCO3	400	800
PHOSPHATE	47	ppm	20	40
SULFITE(SO3)	43	ppm	30	60

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System Name: **CONDENSATE**

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CODUCTIVITY	59.66	uS	20	80
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	.01	ppm	0	0.5
M-ALK		ppm\CaCO3	30	50
pH	8.67	unit	8.2	9.5

System Name: **FEEDWATER**

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUNTIVITY	249	uS	100	200
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	0	ppm	0	0.5
M-ALK	0	ppm\CaCO3	5	100
Softener Hardness	0	ppm\CaCO3	0	0

System Name: Soft Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	0	ppm/CaCO3	N/A	N/A
CHLORIDES		ppm	N/A	N/A
CONDUCTIVITY	518	uS	N/A	N/A
HARDNESS	0	ppm/CaCO3	N/A	N/A
pH	7.7	unit	N/A	N/A

System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	63.5	ppm/CaCO3	N/A	N/A
CHLORIDES	79	ppm	N/A	N/A
CONDUCTIVITY	481	uS	N/A	N/A
HARDNESS	136	ppm/CaCO3	N/A	N/A
Iron	0	ppm	N/A	N/A
MAGNESIUM	72	ppm\CaCO3	N/A	N/A
M-ALK	172	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
pH	7.64	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	23.6	ppm	N/A	N/A
SULFATE(SO4)	5.19	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Marshall Habilitation Center - Power Plant (Boiler Building)

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System I.D.: 2 - Steam Boilers / 250 hp, 300 hp / Monthly alternate / 85% Condensate return

Make-Up Water: 100% Softened

Recommendations:
The boilers are opened for inspection. The numbers reflect the testing ran before the boilers were opened. Maintain necessary chemical treatment in the boilers. Testing is done on a daily basis to maintain chemical levels.

NOTE: Rick said Wilson and Jamison systems have been shut down. The only boilers that have been and will be used are Automotive and the Power Plant/Boiler Building.

WATER TREATMENT PROGRAM

Facility: Marshall Habilitation Center – Power Plant		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 157-L	3 gallons	60 gallon
Equipment (include make, model, and quantity)		
1 each LMI Series P151 Chemical Feed Pump		
Stainless Steel Mix Tank 100GPH		
_____x__ Drumless, Bulk Storage		_ __ __ __ Conventional Drum

Facility: Marshall Habilitation Center – Power Plant		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067	15 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series P151 Chemical Feed Pump		
_ __ x_ __ __ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Marshall Habilitation Center – Power Plant		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) Per 10,000 Gallons Treated	***Annual Quantity***

WLFT 1545	0.4 gallons	15 gallons
Equipment (include make, model, and quantity)		
1 each LMI Series P151 Chemical Feed Pump		
_ ____x___ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Marshall Habilitation Center – Power Plant		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
Chemical is fed manually, through existing pot feeder.		
__ ___ ___ Drumless, Bulk Storage	_ _x_ ____ Conventional Drum	

Facility: Marshall Habilitation Center – Power Plant		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT #839	40 gallons	
Equipment (include make, model, and quantity)		
*This system is fed by same equipment that feeds the hot loop, as this is a 2-pipe system.		
_ ___ ____ Drumless, Bulk Storage	_____x___ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MH METROPOLITAN ST. LOUIS PSYCHIATRIC CENTER

5351 Delmar, St. Louis, MO 63112

SystemName: Cooling Tower

CaHardness(Ca)	40	ppm/CaCO3	40	300
CONDUCTIVITY	2400	uS	1000	1400
pH	8.9	unit	N/A	N/A
M-ALK	280	ppm\CaCO3	350	400
Polymer	5	ppm	4	8

SystemName: Closed Loop, Chilled

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	1000	ppm	800	1200
M-ALK	1200	ppm\CaCO3	500	1000
CONDUCTIVITY	2600	micromhos	1000	3500

SystemName: Hot Water Boiler System

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	920	ppm	800	1200
M-ALK	1200	ppm\CaCO3	500	1000
CONDUCTIVITY	2600	micromhos	1000	3500

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: MH Metropolitan St. Louis Psychiatric Center

System I.D.: Chiller/Cooling Tower (HVAC comfort cooling/seasonal only)
Make-Up Water: 100% softened water
Recommendations

1. 2 York ,450 Ton each
2. Chemical pumps (3), tanks (55 gallon polyethylene), and Advantage conductivity controller system all relatively new and fully operational. By-pass feeder on closed (chilled) loop fully functional. No changes required
3. If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

System I.D.: Hot Water Boilers
Make-Up Water: 100% Softened
Recommendations:

(1) Three Cleaver Brooks hot water boilers, rated at 80 horsepower each. One (1) Cleaver Brooks hot water boiler rated at 20 horspeower. By-pass feeder installed on common header
(2) Nitrite level normal in all closed loops.

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WATER TREATMENT PROGRAM

Facility: MH Metropolitan St. Louis Psych Center		
COOLING TOWERS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707		75 gallons
VEROX 8		10 gallons
WLFT AM-714		12 gallons
Equipment (include make, model, and quantity) 3 Pulsatron pumps model YTHJIE2-CRG		
30 GPD 100PSI Conductivity controller Model GCT210BCFS2		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

Facility: MH Metropolitan St. Louis Psych Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	30 gallons
Equipment (include make, model, and quantity)		
Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage	___ x_ ___ Conventional Drum	

Facility: MH Metropolitan St. Louis Psych Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	10 gallons
Equipment (include make, model, and quantity)		
Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MH MISSOURI SEXUAL OFFENDER TREATMENT CENTER –
1016 West Columbia, Farmington, MO 63640

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2800	uS	2200	3000
NITRITE	950	ppm	800	1200
M-ALK	850	ppm\CaCO3	N/A	N/A
pH	10.8	unit	N/A	N/A

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2700	uS	2200	3000
NITRITE	1050	ppm	800	1200
HARDNESS	40	ppm/CaCO3	N/A	N/A
M-ALK	650	ppm\CaCO3	N/A	N/A
pH	10.5	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	130	ppm/CaCO3	N/A	N/A
CHLORIDES	14	ppm	N/A	N/A
CONDUCTIVITY	590	uS	N/A	N/A
HARDNESS	280	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.20	ppm	N/A	N/A
Magnesium(Mg)	168	ppm/CaCO3	N/A	N/A
M-ALK	270	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	10.5	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.1	unit	N/A	N/A
PHOSPHATE	0.10	ppm	N/A	N/A
SILICA(SiO2)	10	ppm	N/A	N/A
SULFATE(SO4)	7.4	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Closed loops, water recirculating HVAC comfort heating/cooling. One pot feeder (Wingert 5 gal each) per system..

System I.D: Heat. Shell and tube heat exchanger. Steam is supplied by Farmington Correctional Center.

System ID: Chilled Water Closed Loop (all rooftop air cooled condensers less than 40 ton each).

Make-Up Water: City water Make up no softening
Recommendations:

(1) Chemical Level (nitrite) in both loops - adequate. Recommend nitrite be maintained at 800-1200 ppm.

WATER TREATMENT PROGRAM

Facility: MH MO Sexual Offender Treatment Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gal	2.5 gallons
Equipment (include make, model, and quantity)		
Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage		____X____ Conventional Drum

Facility: MH MO Sexual Offender Treatment Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gal	2.5 gallons
Equipment		
Generic 2 Gal Bypass Feeder		

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Nevada Mental Health Habilitation

System Name: **BOILER 1**

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4078	uS	2000	3000
M-ALK	231	ppm\CaCO3	400	800
OH-ALK	110	ppm\CaCO3	200	400
P-ALK		ppm\CaCO3	400	800
PHOSPHATE	17	ppm	20	40
SULFITE(SO3)	32	ppm	30	60

System Name: **CONDENSATE**

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CODUCTIVITY	183	uS	20	80
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	.18	ppm	0	0.5
M-ALK		ppm\CaCO3	30	50
pH	8.33	unit	8.2	9.5

System Name: **FEEDWATER**

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUNTIVITY	698	uS	100	200
HARDNESS	0	ppm/CaCO3	0	0
Iron (Fe)	3.1	ppm	0	0.5
pH	9.22	ppm\CaCO3	5	100
Softener Hardness	0	ppm\CaCO3	0	0

System Name: Soft Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	0	ppm/CaCO3	N/A	N/A
CHLORIDES		ppm	N/A	N/A
CONDUCTIVITY	773	uS	N/A	N/A
HARDNESS	0	ppm/CaCO3	N/A	N/A
pH	8.7	unit	N/A	N/A

System Name: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	720	uS	2200	3000
NITRITE	80	ppm	800	1200
HARDNESS		ppm/CaCO3	N/A	N/A
pH	9.38	unit	N/A	N/A

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System Name: Tower Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	80	ppm/CaCO3	N/A	N/A
CHLORIDES	111	ppm	N/A	N/A
CONDUCTIVITY	1172	uS	N/A	N/A
HARDNESS	111	ppm/CaCO3	N/A	N/A
M-ALK	51	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.7	ppm	N/A	N/A
pH	8.27	unit	N/A	N/A
PHOSPHATE	3	ppm	N/A	N/A

System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	55	ppm/CaCO3	N/A	N/A
CHLORIDES	161	ppm	N/A	N/A
CONDUCTIVITY	725	uS	N/A	N/A
HARDNESS	96	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.11	ppm	N/A	N/A
Magnesium(Mg)	40.8	ppm/CaCO3	N/A	N/A
M-ALK	270	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.012	ppm	N/A	N/A
pH	8.22	unit	N/A	N/A
PHOSPHATE	0.10	ppm	N/A	N/A
SILICA(SiO2)	2.2	ppm	N/A	N/A
SULFATE(SO4)	72.8	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Nevada Mental Health Habilitation
System I.D: 2 – Cleaver Brooks Steam Boilers (200 hp each), PSI: 70 (winter), PSI: 40 (summer)
Make-Up Water: City water Make up Soft Water
Recommendations: Condensate return system produces frequent "slugs" of iron sediment. Source of iron is due to age of condensate return piping. Iron sediment can cause damage to feedwater pumps and eventual redeposition in boiler internals. Recommend the installation of a by-pass type iron filter on main condensate return line. The underground steam lines leading to the other buildings all leak.
Also recommend a more efficient distribution of chemicals into the boiler and DA tank.
System ID: Chilled Water Closed Loop.
Make-Up Water: City water Make up Hard Water
Recommendations
Chilled water has no chemical. The water is at city water levels.
WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.
This facility should obtain a Nitrite test kit to monitor and maintain the Chilled and Hot Water systems.

System ID: 3 – Marley Cooling Towers (Total Tonnage: 300 Tons)
Make-up Water: City water make up, hard water
Recommendations:
Recommend a partially softened make-up water supply to the cooling tower.
The ideal make-up range is 40-60 ppm total hardness. Reduction in make-up water total hardness will allow for significant water savings, reduced chemical consumption, and adequate scale/corrosion protection.
If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: Nevada Mental Health Habilitation		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1450	0.3 gallons	150 gallons
Equipment (include make, model, and quantity)		
(BOILER) - (3) LMI P141 Chemical Pumps		
__ __ x____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Nevada Mental Health Habilitation		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	150 gallons
Equipment (include make, model, and quantity)		
__ __x_____ Drumless, Bulk Storage		_____ Conventional Drum

Facility: Nevada Mental Health Habilitation		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	155 gallons
Equipment (include make, model, and quantity)		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Western Reception Diagnostic Correctional Center		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallon	120 gallons
WLFT AM-545	0.5 gallon	25 lbs
WLFT Verox 8	0.5 gallon	25 gallons
Equipment (include make, model, and quantity)		
- (2) LMI LB64SA, (1) LMI LB64SA Chemical Pumps		
Advantage Microtron Controller – Model LCFB-2E		
(1) 2" WATER METER		
_____ Drumless, Bulk Storage	_____x_____ Conventional Drum	

Facility: Nevada Mental Health Habilitation		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage	_____X_____ Conventional Drum	

Facility: Nevada Mental Health Habilitation		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage	___X___ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Northwest Missouri Psych Rehab Center
St.Joseph Mo.

SystemName: Hot Water Boiler

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2500	uS	2200	4000
NITRITE	675	ppm	800	1200
pH	9.9	unit	10.0	11.0

SystemName: Chilled Water

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3600	uS	2200	4000
NITRITE	850	ppm	800	1200
pH	10.2	unit	10.0	11.0

SystemName: Domestic Hot water

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS)	35	ppm/CaCO3	N/A	N/A
CONDUCTIVITY	650	uS	N/A	N/A
pH	8.5	unit	N/A	N/A

SystemName: Domestic Hot water Softener Make up

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	N/A	N/A
CONDUCTIVITY	644	uS	N/A	N/A
pH	8.2	unit	N/A	N/A

SystemName: Cooling Tower Number 1
OFFLINE

SystemName: Cooling Tower Number 2

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	60	ppm/CaCO3	N/A	N/A
CONDUCTIVITY	1739	uS	1600	2000
pH	8.87	unit	N/A	N/A
HARDNESS	150	ppm/CaCO3	200	400
M-ALK	300	ppm\CaCO3	350	400
Polymer	8	ppm	4	8

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SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm/CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

System I.D.: Two 150 HP Cleaver Brooks Hot Water Boiler
Make-Up Water: 100% Softened
Recommendations: Only one boiler is online at a time.
System I.D.: Closed systems Chilled Water)
Make-Up Water: 100% Softened
Recommendations: Both Loops are well maintained with proper levels of chemical

System I.D.: Cooling tower Water:
Two McQuay WMC 250 Chillers. Each has a separate Plastic Marley Cooling Towers.The towers operate all season, and have heaters in the sump. Make up water is a blend of hard and soft water. The blend ratio is controlled by a manual mix valve. Cooling water treatment control consists of separate Advantage MDL LCF B-2 Controllers.
Recommendations: Tower Chemistry Levels are well maintained
Corrosion and scale control will be achieved using 7351 CTT. This blend of polymers and organic corrosion inhibitors will provide excellent results in the soft waters blend being used. Microbiological control will use Verox 8 stabilized Chlorine Dioxide for primary bacterial control. This will be supplemented with 206 Biodispersant. The combination will achieve very clean towers with low levels of biological activity.

If tower use is seasonal , addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

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System I.D.: Domestic Hot Water: Cold water tempering valves are causing eratic hardness levels. This should continue to be evaluated for scale build up. Operator are actively maintaining records in the online database

WATER TREATMENT PROGRAM

Facility: Northwest Missouri Psych Rehab center St. Joe

COOLING TOWER

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
7351	0.4gallons	75 gallons
206 Biodispersant	.5 gallons	25gallons
Verox 8	.5 gallons	30 gallons

Equipment (include make, model, and quantity)

Two Advantage Mdl LCF B-2 Cooling Tower Controllers
Four LMI P131-190s Chemical pumps for the Biocides
Two Pulsatron A+LB 03SA 12 gpd for Cooling tower treatment

____ __ _ Drumless, Bulk Storage	____X____ Conventional Drum

Facility: Northwest Missouri Psych Rehab center St. Joe

CLOSED LOOP HEAT

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
WLFT 839	40 gallons	

Equipment (include make, model, and quantity)

5 gallon Neptune Bypass Feeder

_____ ____ Drumless, Bulk Storage	_____X____ Conventional Drum

Facility: Northwest Missouri Psych Rehab center St. Joe

CLOSED LOOP COOLING

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	Annual Quantity
WLFT 839	40 gal	

Equipment (include make, model, and quantity)

Neptune 5 gallon By pass feeder

_____ Drumless, Bulk Storage	____X____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MH SIKESTON REGIONAL OFFICE 112 PLAZA DR., SIKESTON, MO

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2700	uS	2200	3000
Iron (Fe)	0.0	ppm	0	0.5
NITRITE	1150	ppm	800	1000
HARDNESS	140	ppm\CaCO3	N/A	N/A
P-ALK	550	ppm\CaCO3	N/A	N/A
M-ALK	750	ppm\CaCO3	N/A	N/A
pH	10.9	unit	N/A	N/A

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2200	uS	2200	3000
Iron (Fe)	0.0	ppm	0	0.5
NITRITE	1170	ppm	800	1000
HARDNESS	150	ppm\CaCO3	N/A	N/A
M-ALK	800	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	64	ppm\CaCO3	N/A	N/A
CHLORIDES	8	ppm	N/A	N/A
CONDUCTIVITY	210	uS	N/A	N/A
HARDNESS	100	ppm\CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A
Magnesium(Mg)	36	ppm\CaCO3	N/A	N/A
M-ALK	106	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	9.25	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.2	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	15.25	ppm	N/A	N/A
SULFATE(SO4)	0	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Four pipe closed loop HVAC water based system. Two pot feeders (Wingert 5 gal each).

System I.D: Bryan (3) Boilers at 50 hp each. Five gallon pot feeder. Vendor: WLFT. Closed System Treatment WLFT #893

System ID: Chilled Water Closed Loop (Trane Air Cooled Condenser, 100T). Five gallon pot feeder. Vendor WLFT. Closed System Treatment WLFT #893

Make-Up Water: City water Make up no softening
Recommendations:

(1) Chemical Level in both loops - adequate.

WATER TREATMENT PROGRAM

Facility: MH Sikeston Regional Office		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gal	2.5 gallons
Equipment (include make, model, and quantity)		
Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage		____X____ Conventional Drum

Facility: MH MH Sikeston Regional Office		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gal	2.5 gallons
Equipment		
Generic 2 Gal Bypass Feeder		

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MH : South County Habilitation Center,– 2312 Lemay Ferry Rd, St. Louis

NOTES:

(1) NO WATER BASED SYSTEMS IN USE AT THIS FACILITY.
(2) HVAC SYSTEM IS STANDARD FORCED AIR FURNACE (HEAT) AND WALL AND/OR ROOF-TOP AIR COOLED CONDENSER/CHILLER.
(3) NO WATER TREATMENT REQUIRED.

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

SOUTHEAST MO MENTAL HEALTH CENTER

1010 West Columbia Street, Farmington , MO

SystemName: COOLING TOWER- FORENSIC

HARDNESS	300	ppm/CaCO3	200	500
Iron (Fe)	0	ppm	0	0.5
M-ALK	360	ppm\CaCO3	300	500
Polymer		6 ppm	4	8
TDS	1300	uS	1000	1600

SystemName: COOLING TOWER –STAPLES BLDG

HARDNESS	300	ppm/CaCO3	200	500
Iron (Fe)	0	ppm	0	0.5
M-ALK	360	ppm\CaCO3	300	500
Polymer		6 ppm	4	8
TDS	1300	uS	1000	1600

SystemName: HOT WATER BOILER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	950	ppm	900	3000
M-ALK	800	ppm\CaCO3	500	1000

SystemName: CHILLED LOOP –FORENSICS

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	1050	ppm	900	3000
M-ALK	750	ppm\CaCO3	500	1000

SystemName: CHILLED LOOP – STAPLES

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	980	ppm	900	3000
M-ALK	720	ppm\CaCO3	500	1000

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	130	ppm/CaCO3	N/A	N/A
CHLORIDES	14	ppm	N/A	N/A
CONDUCTIVITY	590	uS	N/A	N/A
HARDNESS	280	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.20	ppm	N/A	N/A
Magnesium(Mg)	168	ppm/CaCO3	N/A	N/A
M-ALK	270	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	10.5	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.1	unit	N/A	N/A
PHOSPHATE	0.10	ppm	N/A	N/A
SILICA(SiO2)	10	ppm	N/A	N/A
SULFATE(SO4)	7.4	ppm	N/A	N/A

Proposed Water Treatment Program(s)

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Facility: Southeast MO Mental Health Center - Farmington
System I.D.: Hot & Chilled Closed Loops
Make-Up Water: 100% Softened
Recommendations:

1. Nitrite level very good in all closed loops.

System I.D.: Cooling Tower – Forensic
Make-Up Water: Well water supply.
Recommendations:

1. Record keeping and system management excellent.

System I.D.: Cooling Tower - Staples
Make-Up Water: Well water supply.
Recommendations:

1. Record keeping and system management excellent.

WATER TREATMENT PROGRAM

Facility: MH Southeast MO Mental Health Center - Farmington		
COOLING TOWERS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4714	0.6 gallons	120 gallons
WLFT Verox-8	0.8 gallons	55 gallons
WLFT AM-714	1.5 gallons	55 gallons
Equipment (include make, model, and quantity)		
Advantage Microton Controller, Qty = 1 Advantage Microton B130 Chemical Feed Pumps, Qty = 3		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

Facility: MH Southeast MO Mental Health Center - Farmington		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gal	15 gallons
Generic 2 Gal Bypass Feeder		
_____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: MH Southeast MO Mental Health Center - Farmington		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gal	15 gallons
Equipment Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage	_____x___ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

MH : St. Charles Habilitation Center- 22 Marr Lane, St. Charles, MO

SystemName: Hot/Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1140	uS	2200	3000
Iron (Fe)	0.4	ppm	0	0.5
NITRITE	1100	ppm	800	1200
HARDNESS	300	ppm/CaCO3	N/A	N/A
P-ALK	150	ppm\CaCO3	N/A	N/A
M-ALK	640	ppm\CaCO3	N/A	N/A
pH	9.9	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	42	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	380	uS	N/A	N/A
HARDNESS	100	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A
Magnesium(Mg)	63	ppm/CaCO3	N/A	N/A
M-ALK	112	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.5	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	8.1	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	9.00	ppm	N/A	N/A
SULFATE(SO4)	80	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: MH St. Charles Habilitation Center

System I.D: Weil-McClain (2) Boilers, 40 hp each.

System ID: Chilled Water Closed Loop (Chiller-Trane, Air Cooled Condenser 100 Ton).

Make-Up Water: City water Make up no softening. Two pipe HVAC system (hot/chilled loop).

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Recommendations:

(1).Maintain system parameters as is. WLFT corrosion inhibitor #839 in place.

WATER TREATMENT PROGRAM

Facility: MH St. Charles Habilitation Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gal	5 gallons
Equipment (include make, model, and quantity)		
2 Gallon Wingert By Pass Feeder		
_____ Drumless, Bulk Storage	____X_____ Conventional Drum	

Facility: MH St. Charles Habilitation Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gal	5 gallons
Equipment 2 Gallon Wingert By Pass Feeder		

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

ST. LOUIS PSYCHIATRIC REHABILITATION CENTER

5300 ARSENAL, ST. LOUIS, MO 63139

SystemName: Cooling Tower C Mechanical Room

CaHardness(Ca)	185	ppm/CaCO3	40	300
CONDUCTIVITY	2400	uS	1000	1400
pH	8.9	unit	N/A	N/A
M-ALK	260	ppm\CaCO3	350	400
Polymer	1	ppm	4	8

SystemName: Chilled Loop "C" Mechanical Room

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	1200	ppm	800	1200
M-ALK	800	ppm\CaCO3	500	1000
Softener Hardness	0	ppm\CaCO3	0	0

SystemName: Cooling Tower Dome Bldg

CaHardness(Ca)	110	ppm/CaCO3	40	300
CONDUCTIVITY	990	uS	1000	1400
pH	8.9	unit	N/A	N/A
M-ALK	280	ppm\CaCO3	350	400
Polymer	5	ppm	4	8

SystemName: Chilled Loop Dome Bldg

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	1200	ppm	800	1200
M-ALK	800	ppm\CaCO3	500	1000
Softener Hardness	0	ppm\CaCO3	0	0

SystemName: Hot Water Boilers – "C" Mechanical Room

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	0	ppm/CaCO3	0	0
HWS NITRITE	1200	ppm	800	1200
M-ALK	800	ppm\CaCO3	500	1000
Softener Hardness	0	ppm\CaCO3	0	0

SystemName: Steam Boilers – Dome Bldg.

OFFLINE

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

System I.D.: Cooling Tower Dome Bldg

System I.D.: Cooling Tower C Mechanical Room

Make-Up Water: 100% Hard water

Recommendations:

Corrosion and scale control will be achieved using 4707 CTT. This blend of polymers and organic corrosion inhibitors will provide excellent results in St.Louis's water. Microbiological control will use Verox 8 stabilized Chlorine Dioxide for primary bacterial control. This will be supplemented with WLFT # 206. The combination will achieve very clean towers with low levels of biological activity.

System I.D.: Closed system (Non-Potable Hot)

Recommendations:

Maintain existing chemical treatment parameters, 800-1200 mg/l as NO_3 to provide maximum corrosion inhibition and protection against metal loss. System has operated without any major incidents during last contract period.

WATER TREATMENT PROGRAM

Facility MH St. Louis Psychiatric Rehabilitation Center		
BOILER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1450	0.3 gallons	60 gallons
Equipment (include make, model, and quantity)		
LMI P141 Chemical Pump		
_ _ _ _ _ Drumless, Bulk Storage	_ _ _x_ _ _ _ Conventional Drum	

Facility: MH St. Louis Psychiatric Rehabilitation Center		
DEAERATOR		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 595	0.067 gallons	50 gallons
Equipment (include make, model, and quantity)		
LMI P141 Chemical Pump		
_ _ _ _ _ Drumless, Bulk Storage	_ _ _x_ _ _ _ Conventional Drum	

Facility: MH St. Louis Psychiatric Rehabilitation Center		
STEAM SYSTEMS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1535	0.4 gallons	30 gallons
Equipment (include make, model, and quantity)		
LMI P141 Chemical Pump		
_____ Drumless, Bulk Storage	_____x____ Conventional Drum	

Facility: MH St. Louis Psychiatric Rehabilitation Center		
COOLING TOWERS		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.6 gallons	180 gallons
WLFT Verox 8 Biocide	0.5 gallons	20 gallons
WLFT 206	.5 gallons	20 gallons
Equipment (include make, model, and quantity)		
Pulsatrol conductivity controller MVS1PA-XXX with three (3) Pulsatrol 1GPH pumps		
_____ Drumless, Bulk Storage	___x__ Conventional Drum	

Facility: MH St. Louis Psychiatric Rehabilitation Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT #839	10 gallons	
Equipment (include make, model, and quantity)		
Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage	___x_____ Conventional Drum	

Facility: MH St. Louis Psychiatric Rehabilitation Center		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	10 gallons	
Equipment (include make, model, and quantity)		
Generic 2 Gal Bypass Feeder		
_____ Drumless, Bulk Storage	___x____ Conventional Drum	

RFP B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Western Mo Mental Health

SystemName: Closed Loop (Chilled)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	834	uS	2800	3800
M-ALK	73	ppm\CaCO3	500	800
NITRITE	240	ppm	900	1000
pH	10.73	unit	9.5	10.5

SystemName: Closed Loop (Hot)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2786	uS	2800	3800
M-ALK	124	ppm\CaCO3	500	800
NITRITE	720	ppm	900	1000
pH	10.6	unit	9.5	10.5

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm/CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

SystemName: Tower Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2000	uS	1400	1800
HARDNESS	222	ppm/CaCO3	200	600
M-ALK	42	ppm\CaCO3	200	600
pH	8.28	unit	8.2	9.0
PHOSPHATE	9	ppm	4	8

Proposed Water Treatment Program(s)

Facility: Western MO Mental Health

System I.D.: Closed system (Non-Potable Chilled)

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Recommendations:
The system was serviced and put back on line. The chemical levels have not returned to operating levels. The free Iron levels are high at 1.49ppm. It is recommended that filtration be used in this system to maintain the integrity of the chillers and help clean it up. It does not appear the system was flushed after service was completed.

System I.D.: Closed System (Hot)

Recommendations:
The hot loop has chemical treatment for necessary corrosion protection.

System I.D.: Cooling Tower
Make-Up Water: 100% Hard water
Recommendations:
Estimated Contained Volume 2500 Gallon

The tower has chemical to protect against corrosion, algae, and bacteria.

Do to the seasonal use of the tower, addition of WLFT# 1248 Tower Lay-up Corrosion Inhibitor being used right before winter shutdown. This will result in rapid pacification of all metal surfaces to prevent corrosion. The tenacious inhibitor films protect metals immersed in the water as well as other wet, humid areas such as the air/water interface that exists in drained or partially drained systems. The use of #1248 prevents the formation and subsequent removal of loosened rust flakes and deposits on system start-up. Plugging of screens, strainers, and distribution decks by these deposits is eliminated.

WATER TREATMENT PROGRAM

Facility: Western MO Mental Health		
FUEL OIL TREATMENT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Fuel-Save Anti-bacterial/Stabilizer	.18 gallons	
Existing Equipment (include make, model, and quantity No equipment necessary, although it is desirable to circulate fuel oil if possible while fuel oil treatment is being added, to ensure good mixing.		
_ _ _ _ _ _ Drumless, Bulk Storage		_ _ _ _ _ _ _ Conventional Drum

Facility Western MO Mental Health		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
#4707	0.4 gallons	120 gallons
Verox-8	.5 gallons	15 gallons
#206	0.5 gallons	15 gallons
Existing Equipment (include make, model, and quantity)		
Advantage SSCF-H1 Control w/Makeup Meter		
Qty 3 LMI A771-352SI Chemical Pump		
Side Stream Media Filter		
___ _ _ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: Western MO Mental Health		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
5 gallon pot feeder		
___ _ _ Drumless, Bulk Storage	___X____ Conventional Drum	

Facility: Western MO Mental Health		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide		
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
5 gallon pot feeder		
_ _____ Drumless, Bulk Storage	_ _X _ _ Conventional Drum	

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

RFP NO.: B3Z14153 Exhibit E

Water Analysis, Systems & Make-up(raw water

Missouri Highway Patrol Crime Lab - Springfield

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3400	uS	2200	3000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	1000	ppm	800	1200
HARDNESS	600	ppm\CaCO3	N/A	N/A
P-ALK	300	ppm\CaCO3	N/A	N/A
M-ALK	640	ppm\CaCO3	N/A	N/A
pH	9.9	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	137	ppm\CaCO3	N/A	N/A
CHLORIDES	17.2	ppm	N/A	N/A
CONDUCTIVITY	377	uS	N/A	N/A
HARDNESS	168	ppm\CaCO3	N/A	N/A
Iron (Fe)	0.2	ppm	N/A	N/A
Magnesium(Mg)	31	ppm\CaCO3	N/A	N/A
M-ALK	144	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	1.2	ppm	N/A	N/A
pH	7.7	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	3.1	ppm	N/A	N/A
SULFATE(SO4)	6.33	ppm	N/A	N/A

Proposed Water Treatment Program(s)
System ID: Chilled Water Closed Loop,
Make-Up Water: City water Make up is hard water.
Recommendations:
Chilled water has Nitrite based inhibitor.corrosion chemical in the system and within the proper parameters. WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.

This facility has a Nitrite test kit to monitor and maintain the Chilled water system.
The chilled water loop is approximately 4000 gallons of water - a 4 floor building.

WATER TREATMENT PROGRAM

Facility: Mo. Highway Patrol Crime Lab - Springfield		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 5 gallon by-pass feeder		
_____ Drumless, Bulk Storage	___X___ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Missouri Highway Patrol Academy

SystemName: Cooling Tower

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	510	ppm/CaCO3	300	600
M-ALK	490	ppm\CaCO3	300	600
POLYMER	8	ppm	4	8
CONDUCTIVITY	1500	uS	900	1500

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	6000	uS	500	6000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	900	ppm	800	1200
HARDNESS	160	ppm/CaCO3	N/A	N/A
P-ALK	730	ppm\CaCO3	N/A	N/A
M-ALK	860	ppm\CaCO3	N/A	N/A
pH	10.5	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2200	uS	2200	3000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	300	ppm	800	1200
HARDNESS	400	ppm/CaCO3	N/A	N/A
P-ALK	810	ppm\CaCO3	N/A	N/A
M-ALK	1230	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	67	ppm/CaCO3	N/A	N/A
CHLORIDES	28.8	ppm	N/A	N/A
CONDUCTIVITY	610	uS	N/A	N/A
HARDNESS	116	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	49	ppm/CaCO3	N/A	N/A
M-ALK	49	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	1.4	ppm	N/A	N/A
P-ALK	14	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.7	ppm	N/A	N/A
SILICA(SiO2)	0	ppm	N/A	N/A
SULFATE(SO4)	203	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Missouri Highway Patrol Academy – Jefferson City, Mo.

System I.D: Four Fulton Hot Water Boilers rated at 40 hp each

Make-Up Water: City water Make up no softening
Recommendations: Maintain existing chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up no softening
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are way too low to prevent corrosion and will actually increase the corrosion rate. WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.

This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

System ID: Cooling Tower, 500 Ton Marley, York Chiller

Make-up Water: City water, Make up no softening
Recommendations:

Maintain chemical treatment parameters. Recommend that the facility test their cooling tower water on a daily basis, demonstrate a consistent program management, record keeping, follow up and equipment maintenance.
Bulk tank system not feasible per space initiations.

WATER TREATMENT PROGRAM

Facility: Missouri Highway Patrol Academy – Jefferson City, Mo.		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4714	40 gallons	180 gallons
Verox-8	.5gallons	30 gallons
WLFT AM 714	.5 gallon	18 gallons
Equipment (include make, model, and quantity)		
Advantage Tower Control		
3 LMI Chemical Pumps A141-352SI		
_____ Drumless, Bulk Storage	_____X_____ Conventional Drum	

Facility: Missouri Highway Patrol Academy – Jefferson City, Mo.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	***Annual Quantity***
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	____X____ Conventional Drum	

Facility: Missouri Highway Patrol Academy – Jefferson City, Mo.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	____X____ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Missouri Highway Patrol ANNEX

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	600	uS	500	6000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	800	ppm	800	1200
HARDNESS	0	ppm/CaCO3	N/A	N/A
P-ALK	730	ppm\CaCO3	N/A	N/A
M-ALK	860	ppm\CaCO3	N/A	N/A
pH	10.5	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	600	uS	2200	3000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	150	ppm	800	1200
HARDNESS	160	ppm/CaCO3	N/A	N/A
P-ALK	810	ppm\CaCO3	N/A	N/A
M-ALK	1230	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	67	ppm/CaCO3	N/A	N/A
CHLORIDES	28.8	ppm	N/A	N/A
CONDUCTIVITY	810	uS	N/A	N/A
HARDNESS	116	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	49	ppm/CaCO3	N/A	N/A
M-ALK	49	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	1.4	ppm	N/A	N/A
P-ALK	14	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.7	ppm	N/A	N/A
SILICA(SiO2)	0	ppm	N/A	N/A
SULFATE(SO4)	203	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Missouri Highway Patrol Annex – Jefferson City, Mo.

System I.D: Two Fulton Hot Water Boilers rated at 40 hp each

Make-Up Water: City water Make up no softening
Recommendations: Maintain existing chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up no softening
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are within the proper range. WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.

This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

WATER TREATMENT PROGRAM

Facility: Missouri Highway Patrol Annex – Jefferson City, Mo.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	_ _ X _ _ Conventional Drum	

Facility: Missouri Highway Patrol Annex – Jefferson City, Mo.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
_ _ _ _ _ Drumless, Bulk Storage	_ _X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Missouri Highway Patrol GHQ

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	5800	uS	500	6000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	350	ppm	800	1200
HARDNESS	0	ppm\CaCO3	N/A	N/A
P-ALK	730	ppm\CaCO3	N/A	N/A
M-ALK	860	ppm\CaCO3	N/A	N/A
pH	10.5	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2900	uS	2200	3000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	150	ppm	800	1200
HARDNESS	160	ppm\CaCO3	N/A	N/A
P-ALK	810	ppm\CaCO3	N/A	N/A
M-ALK	1230	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	67	ppm\CaCO3	N/A	N/A
CHLORIDES	28.8	ppm	N/A	N/A
CONDUCTIVITY	610	uS	N/A	N/A
HARDNESS	116	ppm\CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	49	ppm\CaCO3	N/A	N/A
M-ALK	49	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	1.4	ppm	N/A	N/A
P-ALK	14	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.7	ppm	N/A	N/A
SILICA(SiO2)	0	ppm	N/A	N/A
SULFATE(SO4)	203	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Missouri Highway Patrol Headquarters – Jefferson City, Mo.

System I.D: Two Fulton Hot Water Boilers rated at 40 hp each

Make-Up Water: City water Make up no softening
Recommendations: Maintain existing chemical treatment parameters. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up no softening
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are way too low to prevent corrosion and will actually increase the corrosion rate. WLFT 839 should be added to obtain a Nitrite level between 800 and 1200 ppm.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Missouri Highway Patrol Headquarters – Jefferson City, Mo.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_____ _____ Drumless, Bulk Storage	_____X_____ Conventional Drum	

Facility: Missouri Highway Patrol Headquarters – Jefferson City, Mo.		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
__ _____ __ Drumless, Bulk Storage	_____X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Missouri Highway Patrol Troop A

System Name: Closed Loop (Glycol, Chilled)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	696	uS	2800	3800
M-ALK	720	ppm\CaCO3	500	800
NITRITE	1040	ppm	800	1200
GLYCOL	44	%	40	45

System Name: Closed Loop (Hot)

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	255	uS	2800	3800
M-ALK	70	ppm\CaCO3	500	800
NITRITE	30	ppm	800	1200

System Name: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	38	ppm/CaCO3	N/A	N/A
CHLORIDES	N/A	ppm	N/A	N/A
CONDUCTIVITY	461	uS	N/A	N/A
HARDNESS	100	ppm/CaCO3	N/A	N/A
Iron (Fe)	.03	ppm	N/A	N/A
Magnesium(Mg)	62	ppm/CaCO3	N/A	N/A
M-ALK	48	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	N/A	ppm	N/A	N/A
P-ALK	40	ppm\CaCO3	N/A	N/A
pH	9.5	unit	N/A	N/A
PHOSPHATE	N/A	ppm	N/A	N/A
SILICA(SiO2)	10.3	ppm	N/A	N/A
SULFATE(SO4)	80	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: Missouri Highway Patrol Troop A Hqts

System I.D.: Closed system (Non-Potable Chilled, Glycol)
Recommendations:
System was not circulating at time of sample
Glycol levels sufficient to maintain freeze protection to -10°F.(reported as propylene) The closed loop system automatic feed maintains the necessary chemical levels between 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.

WLFT will provide a Nitrite Test Kit & refractometer and train on-site personnel in their use.

System I.D.: Closed system (Hot)
Recommendations:
System has virtually no treatment. Add appropriate amount of #839 to achieve chemical treatment parameters, 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss.

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Note: Facility has a non functioning water softener. Repair of this unit would decrease scaling and increase efficiency on potable water side of heat exchanger.

WATER TREATMENT PROGRAM

Facility: Missouri Highway Patrol Troop A Hqts		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
#839	40 Gallons	
Existing Equipment NONE		
_____ Drumless, Bulk Storage	__ X __ Conventional Drum	

Facility: Missouri Highway Patrol Troop A Hqts		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.25 Gallons	
#839	40 Gallons	
HT1-P	4500 Gallons	
Existing Equipment (include make, model, and quantity)		
Neptune Glycol Feeder		
_____ Drumless, Bulk Storage	__X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Missouri Highway Patrol Troop B

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4155	uS	500	5000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	0	ppm	0	0
HARDNESS	0	ppm\CaCO3	N/A	N/A
P-ALK	730	ppm\CaCO3	N/A	N/A
M-ALK	860	ppm\CaCO3	N/A	N/A
pH	10.5	unit	8.5	8.5
MOLYBDATE	1.3	ppm	N/A	N/A
SILICA(SiO2)	60		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3000	uS	2200	3000
Iron (Fe)	0.2	ppm	0	0.5
NITRITE	1150	ppm	800	1200
HARDNESS	10	ppm\CaCO3	N/A	N/A
P-ALK	810	ppm\CaCO3	N/A	N/A
M-ALK	1230	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	59	ppm\CaCO3	N/A	N/A
CHLORIDES	14.4	ppm	N/A	N/A
CONDUCTIVITY	240	uS	N/A	N/A
HARDNESS	100	ppm\CaCO3	N/A	N/A
Iron (Fe)	0.05	ppm	N/A	N/A
Magnesium(Mg)	17	ppm\CaCO3	N/A	N/A
M-ALK	103	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	7.5	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.8	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	10	ppm	N/A	N/A
SULFATE(SO4)	18	ppm	N/A	N/A

Proposed Water Treatment Program(s)

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Facility: Missouri Highway Patrol Troop B Macon Mo.

System I.D: Two Mach Aluminum Hot Water Boilers rated at750,000 BTU each

Make-Up Water: City water Make up no softening
Recommendations: These two boilera are made of Aluminum and have very specific treatment requirements. The pH can not be exceed 8.5 without creating severe corrosion. WLFT 1193 is specifically buffered to maintain proper pH and corrosion inhibitors to prevent multi metal corrosion

This facility has a pH tester and Aluminum inhibitor test kit for the Hot water loop

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up no softening
Recommendations

Chilled water is using a typical Nitrite based inhibitor. WLFT 839 should is added to obtain a Nitrite level between 800 and 1200 ppm.

This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

WATER TREATMENT PROGRAM

Facility: Missouri Highway Patrol Troop B Macon Mo		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 1193	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	_____X_____ Conventional Drum	

Facility: Missouri Highway Patrol Troop B Macon Mo		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 893	40 gallons	
Equipment 2 Gallon Neptune By Pass Feeder		
_____ Drumless, Bulk Storage	_____X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E

Water Analysis, Systems & Make-up(raw water

Missouri Highway Patrol Troop C – Park Hills

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	5000	uS	500	6000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	1000	ppm	800	1200
HARDNESS	120	ppm/CaCO3	N/A	N/A
P-ALK	700	ppm\CaCO3	N/A	N/A
M-ALK	1100	ppm\CaCO3	N/A	N/A
pH	9.4	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2500	uS	2200	1000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	900	ppm	800	1200
HARDNESS	130	ppm/CaCO3	N/A	N/A
P-ALK	600	ppm\CaCO3	N/A	N/A
M-ALK	740	ppm\CaCO3	N/A	N/A
pH	9.5	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	350	ppm/CaCO3	N/A	N/A
CHLORIDES	145	ppm	N/A	N/A
CONDUCTIVITY	571	uS	N/A	N/A
HARDNESS	665	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.2	ppm	N/A	N/A
Magnesium(Mg)	315	ppm/CaCO3	N/A	N/A
M-ALK	304	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.23	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.69	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SiO2)	8.1	ppm	N/A	N/A
SULFATE(SO4)	367	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Missouri Highway Patrol Troop C – Park Hills

System I.D: Hot Water Boiler, 30 hp

Make-Up Water: City water Make up is soft.

Recommendations: Closed loop inhibitor is added to the loop in order to prevent severe corrosion, and maintains a proper pH level. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop,

Make-Up Water: City water Make up is soft.
Recommendations

Chilled water is using a typical Nitrite based inhibitor. WLFT 839 is added to obtain a Nitrite level between 800 and 1200 ppm. Nitrite will prevent corrosion.

This facility has a Nitrite test kit to monitor and maintain the Chilled and Hot Water systems.

WATER TREATMENT PROGRAM

Facility: Mo. Highway Patrol Troop C – Park Hills		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
No by-pass feeder		
_ _ _ _ _ _ _ Drumless, Bulk Storage	____X_____ Conventional Drum	

Facility: Mo. Highway Patrol Troop C – Park Hills		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment No by-pass feeder		
_ _ _ _ _ _ _ Drumless, Bulk Storage	____X_____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E

Water Analysis, Systems & Make-up(raw water

Missouri Highway Patrol – Troop F

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3000	uS	500	6000
NITRITE	1000	ppm	800	1200
M-ALK	900	ppm\CaCO3	N/A	N/A

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3000	uS	2200	3000
NITRITE	1000	ppm	800	1200
M-ALK	1230	ppm\CaCO3	N/A	N/A
pH	10.0	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	67	ppm/CaCO3	N/A	N/A
CHLORIDES	28.8	ppm	N/A	N/A
CONDUCTIVITY	610	uS	N/A	N/A
HARDNESS	116	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	49	ppm/CaCO3	N/A	N/A
M-ALK	49	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	1.4	ppm	N/A	N/A
P-ALK	14	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.7	ppm	N/A	N/A
SILICA(SiO2)	0	ppm	N/A	N/A
SULFATE(SO4)	203	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Missouri Highway Patrol Troop F – Jefferson City, Mo.

System I.D: All Electric, one common closed loop

Make-Up Water: City water Make up softening
Recommendations: Maintain chemical treatment parameters, existing levels are low. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop

Make-Up Water: City water Make up softening
Recommendations

Chilled water is using a typical Nitrite based inhibitor. Current Nitrite levels are within the proper control ranges.

This facility has a Nitrite test kit to monitor and maintain the Chilled Water system.

Facility: Missouri Highway Patrol Troop F – Jefferson City, Mo.		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
2 Gallon Neptune By Pass Feeder		
___ _ _ _ Drumless, Bulk Storage	____X____ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water

Missouri Highway Patrol Troop I - Rolla

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4400	uS	500	6000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	950	ppm	800	1200
HARDNESS	840	ppm/CaCO3	N/A	N/A
P-ALK	600	ppm\CaCO3	N/A	N/A
M-ALK	800	ppm\CaCO3	N/A	N/A
pH	8.4	unit	6.5	8.5
MOLYBDATE	0	ppm	N/A	N/A
SILICA(SiO2)	15		30	60

SystemName: Chilled Water Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	4400	uS	2200	3000
Iron (Fe)	0.5	ppm	0	0.5
NITRITE	950	ppm	800	1200
HARDNESS	800	ppm/CaCO3	N/A	N/A
P-ALK	500	ppm\CaCO3	N/A	N/A
M-ALK	640	ppm\CaCO3	N/A	N/A
pH	8.5	unit	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	158	ppm/CaCO3	N/A	N/A
CHLORIDES	6.1	ppm	N/A	N/A
CONDUCTIVITY	475	uS	N/A	N/A
HARDNESS	328	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.208	ppm	N/A	N/A
Magnesium(Mg)	170	ppm/CaCO3	N/A	N/A
M-ALK	260	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.48	unit	N/A	N/A
PHOSPHATE	0.2	ppm	N/A	N/A
SILICA(SIO2)	4	ppm	N/A	N/A
SULFATE(SO4)	59.3	ppm	N/A	N/A

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Proposed Water Treatment Program(s)

Facility: Missouri Highway Patrol Troop I – Rolla, Mo.

System I.D: Hot Water Boiler, 30 hp
Make-Up Water: City water Make up is not softened.
Recommendations: Closed loop inhibitor is in the the loop in order to prevent severe corrosion, and maintain a proper pH level. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

System ID Chilled Water Closed Loop,

Make-Up Water: City water Make up is not softened.
Recommendations

Chilled water has Nitrite based inhibitor,corrosion chemical in the system. WLFT 839 is added to obtain a Nitrite level between 800 and 1200 ppm.

This facility has a Nitrite test kit to monitor and maintain the Chilled and Hot Water systems.

WATER TREATMENT PROGRAM

Facility: Mo. Highway Patrol Troop I - Rolla		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
No by-pass feeder		
__ __ __ __ Drumless, Bulk Storage	___X__ __ Conventional Drum	

Facility: Mo. Highway Patrol Troop I – Rolla		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment No by-pass feeder		
__ __ __ __ Drumless, Bulk Storage	____X__ __ Conventional Drum	

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FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

(Cameron) State of Missouri Veterans Home

System Name: Closed Loop - Hot

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3237	uS	2800	3800
pH	10.06	ppm\CaCO3	500	800
NITRITE	450	ppm	800	1200

System Name: Closed Loop - Cold

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2552	uS	2800	3800
pH	9.1	ppm\CaCO3	500	800
NITRITE	840	ppm	800	1200

System Name: Raw Water Supply - City

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	109	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	288	uS	N/A	N/A
HARDNESS	144	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	33.5	ppm/CaCO3	N/A	N/A
M-ALK	131	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.025	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.47	unit	N/A	N/A
PHOSPHATE	0.170	ppm	N/A	N/A
SILICA(SiO2)	6.5	ppm	N/A	N/A
SULFATE(SO4)	20	ppm	N/A	N/A

System Name: Cooling Tower

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1500	uS	1500	1800
HARDNESS	400	ppm/CaCO3	30	100
M-ALK	134	ppm\CaCO3	100	600
pH	9.0	unit	N/A	N/A
POLYMER	7	ppm	4	8

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Proposed Water Treatment Program(s)
Facility: (Cameron) State of Missouri Veterans Home

System I.D.: Closed system - Hot
Recommendations:
The Hot loop has a low level for the chemical treatment used for corrosion inhibitor WLFT839 should be added to bring system to the recommend levels between 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss.
System I.D.: Closed system - Cold
Recommendations:
The Cold loop has chemical treatment between the recommended levels of 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.
System I.D.: Closed system - Tower
Recommendations:
The Tower has chemical to protect against corrosion, Algae, and Sludge. The tower has a "Dolphin" system in usage. WLFT recommends the "Dolphin" drain system be valved off and blow down be controlled with the WLFT controller. They have a controller to control chemical usage, water consumption, and over all water treatment. The "Dolphin" scaled up the towers. Current chemical program is designed to remove scale.

WATER TREATMENT PROGRAM

Facility: (Cameron) State of Missouri Veterans Home		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4709	0.4 gallon	150 gallons
WLFT Verox-8	0.5 gallon	20 gallon
WLFT 206	0.5 gallon	10 gallons
Equipment (include make, model, and quantity)		
- (2) LMI P141, (1) LMI LB64SA Chemical Pumps		
LMI Controller – Model DC4500		
(1) 2" WATER METER		
_____ Drumless, Bulk Storage	_____x_____ Conventional Drum	

Facility: (Cameron) State of Missouri Veterans Home		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Existing Equipment (include make, model, and quantity)		
2 gallon pot feeder		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: (Cameron) State of Missouri Veterans Home		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.8 Gallons	
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
2 gallon pot feeder,		
_ _ _ _ _ Drumless, Bulk Storage	___X_____ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Missouri Veterans Home – Cape Girardeau

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	360	ppm\CaCO3	300	600
M-ALK	320	ppm\CaCO3	300	600
POLYMER	5	ppm	4	8
TDS	1600	uS	1200	1800

SystemName: CLOSED CHILLED LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	1050	ppm\CaCO3	60	2000
NITRITE	1200	ppm\CaCO3	900	1500
CONDUCTIVITY	1000	u mhos	500	

SystemName: CLOSED HEATING LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	850	ppm\CaCO3	60	2000
NITRITE	1100	ppm\CaCO3	900	1500
CONDUCTIVITY	1300	u mhos	500	

SystemName: RAW WATER SUPPLY

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	104	ppm/CaCO3	N/A	N/A
CHLORIDES	10	ppm	N/A	N/A
CONDUCTIVITY	440	uS	N/A	N/A
HARDNESS	220	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.075	ppm	N/A	N/A
Magnesium(Mg)	116	ppm/CaCO3	N/A	N/A
M-ALK	202	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	16.75	ppm	N/A	N/A
P-ALK	0	ppm\CaCO3	N/A	N/A
pH	7.3	unit	N/A	N/A
PHOSPHATE	0.175	ppm	N/A	N/A
SILICA(SiO2)	80	ppm	N/A	N/A
SULFATE(SO4)	15	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: MVH Cape Girardeau

System I.D.: Cooling Tower
Make-Up Water: City of Cape Girardeau
Recommendations:

1. System well maintained and controlled. Advantage Controller with percentage timers/auto feed and bleed system. Alternating biocidal program in addition to corrosion/scale inhibitor.

WATER TREATMENT PROGRAM

Facility: MVH Cape Girardeau		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4714	0.4 gallons	180 gallons
AM-66	1.0 lbs	150 lbs
WLFT 206	0.5 gallons	10 gallons
Equipment (include make, model, and quantity)		
1each Pulsatrol Chemical Feed Pump (Inhibitor) 2each Pulsatrol A171 Chemical Feed Pump (Biocide) 1each Advantage Conductivity Controller		
____x_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: MVH Cape Girardeau		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
Wingert Model 2HD By Pass Feeder		
_ _ _ _ _ Drumless, Bulk Storage	___x_____ Conventional Drum	

Facility: MVH Cape Girardeau		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment Wingert Model 2HD By Pass feeder		
_____ Drumless, Bulk Storage	_ _ _ _x_ _ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

(Mexico)Missouri Veterans Home

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	360	ppm/CaCO3	300	600
pH	8.5	ppm\CaCO3	300	600
POLYMER	5	ppm	4	8
TDS	1100	uS	1200	1800

SystemName: ` CLOSED CHILLED LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	1050	ppm\CaCO3	60	2000
NITRITE	1200	ppm\CaCO3	800	1200
CONDUCTIVITY	1000	u mhos	500	

SystemName: ` CLOSED HEATING LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	850	ppm\CaCO3	60	2000
NITRITE	1100	ppm\CaCO3	800	1200
CONDUCTIVITY	1300	u mhos	500	

SystemName: RAW WATER SUPPLY

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	93	ppm/CaCO3	N/A	N/A
CHLORIDES	42	ppm	N/A	N/A
CONDUCTIVITY	440	uS	N/A	N/A
HARDNESS	219	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.075	ppm	N/A	N/A
Magnesium(Mg)	82	ppm/CaCO3	N/A	N/A
M-ALK	245	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.3	ppm	N/A	N/A
pH	7.3	unit	N/A	N/A
PHOSPHATE	0.175	ppm	N/A	N/A
SULFATE(SO4)	66.5	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: MVH Mexico

System I.D.: Cooling Tower
1 - BAC fluid cooler, Model: FXV-662-MM, Tonnage: 150 ton

2 - McQuay Centrifugal Chillers, rated capacity: 200 ton

Make-Up Water: City of Mexico

Recommendations:

1. System well maintained and controlled. LMI Controller with percentage timers/auto feed and bleed system

WATER TREATMENT PROGRAM

Facility: MVH Mexico		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallons	180 gallons
AM-66	1.0 lbs	150 lbs
Equipment (include make, model, and quantity)		
1 - LMI tower controller 1 - LMI chemical feed Dump - this is wired to a make-up water meter. Biocide: AM-66 is put in a small container with holes and hung in the cooling tower.		
_ _ _x_ _ _ _ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: MVH Mexico		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
5 Gallon By-Pass Feeder		
_ _ _ _ _ _ Drumless, Bulk Storage	_ _ _x_ _ _ _ Conventional Drum	

Facility: MVH Mexico		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	
Equipment (include make, model, and quantity)		
5 Gallon By-Pass Feeder	_____x_ _ Conventional Drum	

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

(Mt. Vernon) State of Missouri Veterans Home

System Name: Closed Loop - Hot

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	447	uS	2800	3800
pH	8.67	ppm\CaCO3	500	800
NITRITE	80	ppm	900	1000
HYDRAZINE	1	ppb	N/A	N/A

System Name: Closed Loop - Cold

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	284	uS	2800	3800
pH	8.91	ppm\CaCO3	500	800
NITRITE	80	ppm	900	1000
HYDRAZINE	1	ppb	N/A	N/A

System Name: Raw Water Supply - City

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	40	ppm	N/A	N/A
CHLORIDES	11	ppm	N/A	N/A
Conductivity	362	uS	N/A	N/A
HARDNESS	112	ppm/CaCO3	N/A	N/A
Iron (Fe)	N/A	ppm	N/A	N/A
M-ALK	94	ppm\CaCO3	N/A	N/A
pH	7.75	unit	N/A	N/A

System Name: Tower Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	70	ppm	N/A	N/A
CHLORIDES	34	ppm	N/A	N/A
Conductivity	966	uS	N/A	N/A
HARDNESS	312	ppm/CaCO3	N/A	N/A
Iron (Fe)	N/A	ppm	N/A	N/A
M-ALK	272	ppm\CaCO3	N/A	N/A
pH	8.88	unit	N/A	N/A
PHOSPHATE	1	ppm		

Proposed Water Treatment Program(s)

Facility: (**Mt. Vernon**) State of Missouri Veterans Home

System I.D.: Closed system - Hot Loop
Recommendations:
The Hot loop has Hydrazine as treatment. This is not normally used for corrosion inhibitor in a hot loop. We recommend draining and cleaning the system then adding 839 at 800-1000 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss.

System I.D.: Closed system – Cold Loop
Recommendations:
The Cold loop has Hydrazine as treatment. This is not normally used for corrosion inhibitor in a cold loop. We recommend draining and cleaning the system then adding 839 at 800-1000 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.

System I.D.: Cooling Tower
Recommendations:
The Tower has chemical to protect against corrosion, Algae, and Sludge. The tower water usage is pretty high. The LSI is limited to Alkalinity and Hardness. We are working with the facility engineer to control chemical usage and reduce water consumption. WLFT loaned the facility a controller to help expedite the process because the previous vender's controller had been failing.

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WATER TREATMENT PROGRAM

Facility: (**Mt. Vernon**) State of Missouri Veterans Home		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4709	0.4 gallon	200 gallon
WLFT 206	0.5 Gallon	10 gallon
WLFT Verox-8	0.5 Gallon	20 gallon
Existing Equipment (1)Advantage controller-Model-SSCRF3E, (Loaner from WLFT) (2)PulsaFeeder Chemical Pump Model LBO4SA,		
(2)PulsaFeeder Chemical Pump Model LC54SA,		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: (**Mt. Vernon**) State of Missouri Veterans Home		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
#839	40 Gallons	
Existing Equipment *Same as Closed Loop Cooling*		
_____ Drumless, Bulk Storage	_____ Conventional Drum	

Facility: (**Mt. Vernon**) State of Missouri Veterans Home		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.8 Gallons	
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
2 gallon pot feeder, (1) 3/4" Water Meter (1) Cartridge filtration System		
_____ Drumless, Bulk Storage	__X_____ Conventional Drum	

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RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

(St. James)Missouri Veterans Home

SystemName: COOLING TOWER

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
HARDNESS	360	ppm\CaCO3	300	600
pH	8.5	ppm\CaCO3	300	600
POLYMER	5	ppm	4	8
TDS	1100	uS	1200	1800

SystemName: ` CLOSED CHILLED LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	1050	ppm\CaCO3	60	2000
NITRITE	1200	ppm\CaCO3	800	1200
CONDUCTIVITY	1000	u mhos	500	

SystemName: ` CLOSED HEATING LOOP

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
M-ALK	850	ppm\CaCO3	60	2000
NITRITE	1100	ppm\CaCO3	800	1200
CONDUCTIVITY	1300	u mhos	500	

SystemName: RAW WATER SUPPLY

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	93	ppm/CaCO3	N/A	N/A
CHLORIDES	42	ppm	N/A	N/A
CONDUCTIVITY	440	uS	N/A	N/A
HARDNESS	219	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.075	ppm	N/A	N/A
Magnesium(Mg)	82	ppm/CaCO3	N/A	N/A
M-ALK	245	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.3	ppm	N/A	N/A
pH	7.3	unit	N/A	N/A
PHOSPHATE	0.175	ppm	N/A	N/A
SULFATE(SO4)	66.5	ppm	N/A	N/A

Proposed Water Treatment Program(s)

Facility: MVH St. James

System I.D.: Closed Loop
4 - 30 hp gas fired hot water boilers(2" lines)
Make-Up Water: City of St. James
Recommendations:

1. Maintain proper Nitrite levels in the cold and hot loops and check for any leaks.

System I.D.: Cooling Tower
2 - Marley Cooling Towers (145 ton each)
2 - McQuay Centrifugal Chillers Model C2009BLYYZA
Towers run 24/7 - during the winter approx. 50% load.

Make-Up Water: City of St. James
Recommendations:

1. Tower was acid cleaned 3 months ago and contractor recently acid cleaned both chillers. Maintain proper control values on the TDS, Polymer and Biocides and test daily.

WATER TREATMENT PROGRAM

Facility: MVH St. James

COOLING TOWER

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	***Annual Quantity***
WLFT 4707	0.4 gallons	180 gallons
AM-66	0.5 gallons	150 gallons
WLFT 206	0.5 Gallons	10 gallons

Equipment (include make, model, and quantity)

1 - LMI tower controller DC4500
1 - LMI chemical feed Dump - this is wired to a make-up water meter.
. Biocide: AM-66 is put in a small container with holes and hung in the cooling tower.

____x____ Drumless, Bulk Storage	_____ Conventional Drum

Facility: MVH St. James

CLOSED LOOP HEAT

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	

Equipment (include make, model, and quantity)

3 - 5 gal. by-pass feeders with sock filters

_____ Drumless, Bulk Storage	___x_____ Conventional Drum

Facility: MVH St. James

CLOSED LOOP COOLING

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	

Equipment (include make, model, and quantity)

5 gal. by-pass feeder with sock filters	_____x__Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

(St. Louis)MISSOURI VETERENS HOME
10660 LEWIS AND CLARK BELLEFONTAINE, MO

SystemName: Chilled Water

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3000	uS	2800	3800
NITRITE	800	ppm	800	1200
pH	10.5	unit	9	11

SystemName: Cooling Tower

CaHardness(Ca)	225	ppm/CaCO3	40	300
CONDUCTIVITY	2300	uS	1000	1400
pH	8.9	unit	N/A	N/A
M-ALK	260	ppm\CaCO3	350	400
Polymer	4	ppm	4	8

SystemName: Hot Water Boiler

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
NITRITE	400	ppm	800	1200

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	47.5	ppm/CaCO3	N/A	N/A
CHLORIDES	29	ppm	N/A	N/A
CONDUCTIVITY	350	uS	N/A	N/A
HARDNESS	140	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	73.8	ppm/CaCO3	N/A	N/A
M-ALK	85	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	0.6	ppm	N/A	N/A
pH	9.7	unit	N/A	N/A
PHOSPHATE	0.47	ppm	N/A	N/A
SILICA(SiO2)	6.00	ppm	N/A	N/A
SULFATE(SO4)	19.2	ppm	N/A	N/A

System I.D.: Cooling Tower
Make-Up Water: 100% Hard water
Recommendations:
Corrosion and scale control will be achieved using 4707 CTT. This blend of polymers and organic corrosion inhibitors will provide excellent results in Chillicothe's water. Microbiological control will use Verox 8 stabilized Chlorine Dioxide for primary bacterial control. This will be supplemented with 206 Biodispersant. The combination will achieve very clean towers with low levels of biological activity.

System I.D.: Closed system (Non-Potable Chilled water)

Recommendations:
Maintain existing chemical treatment parameters, 800-1200 mg/l as NO_2, to provide maximum corrosion inhibition and protection against metal loss.
System I. D.: Hot Closed Loops
Make-Up Water: City of St. Louis
Maintain existing chemical treatment parameters, 800-1200 mg/l as NO_2, to provide maximum corrosion inhibition and protection against metal loss. We are currently waiting to get the defective Bypass Feeder replaced

WATER TREATMENT PROGRAM

Facility: MVH St. Louis

COOLING TOWER

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4707	0.4 gallons	80 gallons
WLFT 206	0.5 gallons	10 gallons
WLFT Verox Biocide	0.5 gallons	20 gallons

Equipment (include make, model, and quantity)

3 LMI P141 Chemical Pumps and WLFT PCS Control

_____ Drumless, Bulk Storage	_____x_____ Conventional Drum

Facility: MVH St. Louis

CLOSED LOOP HEAT

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT #839	40 gallons	

Equipment (include make, model, and quantity)

Bypass Feeder (needs replaced)

_____ Drumless, Bulk Storage	____x_____ Conventional Drum

Facility: MVH St. Louis

CLOSED LOOP COOLING

Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 gallons	

Equipment (include make, model, and quantity)

Bypass Feeder

_____ Drumless, Bulk Storage	____x_____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

(Warrensburg) State of Missouri Veterans Home

System Name: Closed Loop - Hot

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3237	uS	2800	3800
pH	10.06	ppm\CaCO3	500	800
NITRITE	1330	ppm	800	1200

System Name: Closed Loop - Cold

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	2552	uS	2800	3800
pH	9.1	ppm\CaCO3	500	800
NITRITE	740	ppm	800	1200

System Name: Raw Water Supply - City

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	50	ppm	N/A	N/A
CHLORIDES	50	ppm	N/A	N/A
Conductivity	674	uS	N/A	N/A
HARDNESS	123	ppm/CaCO3	N/A	N/A
Iron (Fe)	N/A	ppm	N/A	N/A
M-ALK	132	ppm\CaCO3	N/A	N/A
pH	7.54	unit	N/A	N/A
PHOSPHATE	N/A	ppm	N/A	N/A

System Name: Tower Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	50	ppm	N/A	N/A
CHLORIDES	50	ppm	N/A	N/A
Conductivity	698	uS	N/A	N/A
HARDNESS	129	ppm/CaCO3	N/A	N/A
Iron (Fe)	N/A	ppm	N/A	N/A
M-ALK	141	ppm\CaCO3	N/A	N/A
pH	8.13	unit	N/A	N/A
PHOSPHATE	4	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: (Warrensburg) State of Missouri Veterans Home
System I.D.: Closed system - Hot
Recommendations: The Hot loop has chemical treatment used for corrosion inhibitor at the recommend levels between 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss.
System I.D.: Closed system - Cold

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Recommendations:
The Cold loop has chemical treatment between the recommended levels of 800-1200 mg/l as NO_2 to provide maximum corrosion inhibition and protection against metal loss. Addition of biocide will reduce the possibility of bio-fouling.
System I.D.: Closed system - Tower
Recommendations:
The Tower has chemical to protect against corrosion, Algae, and Sludge. The tower has a "Dolphin" system in usage. WLFT recommends the "Dolphin" drain system be valved off and blow down be controlled with the WLFT controller. WLFT loaned a controller to control chemical usage, water consumption, and over all water treatment. The "Dolphin" scaled up the towers which caused the maintenance staff clean and descale the towers before they could be used.

WATER TREATMENT PROGRAM

Facility: (Warrensburg) State of Missouri Veterans Home		
COOLING TOWER		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 4709	0.4 gallon	200 gallon
WLFT 206	0.5 Gallon	10 gallon
WLFT Verox-8	0.5 Gallon	20 gallon
Existing Equipment (1)Advantage controller-Model-SSCRF3E, (Loaner from WLFT) (2)PulsaFeeder Chemical Pump Model LBO4SA, (2)PulsaFeeder Chemical Pump Model LC54SA,		
_____ Drumless, Bulk Storage	_____ Conventional Drum	
Facility: (Warrensburg) State of Missouri Veterans Home		
CLOSED LOOP HEATING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
Same as Closed Loop Cooling		
Existing Equipment (include make, model, and quantity)		
_____ Drumless, Bulk Storage	_____ Conventional Drum	
Facility: (Warrensburg) State of Missouri Veterans Home		
CLOSED LOOP COOLING		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
ISO-15 Biocide	1.8 Gallons	
#839	40 Gallons	
Existing Equipment (include make, model, and quantity)		
2 gallon pot feeder,		
____ Drumless, Bulk Storage	_X_ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Fulton Treatment Center

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1200	uS	500	6000
NITRITE	800	ppm	800	1200
HARDNESS	390	ppm/CaCO3	N/A	N/A
M-ALK	600	ppm\CaCO3	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Fulton Treatment Center
System I.D:
4 hot water boilers (15 hp each)
Make-Up Water: City water Make up Hard
Recommendations: Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Fulton Treatment Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 Gallons	
Equipment (include make, model, and quantity)		
Generic 2 gal Bypass Feeder		
_____ Drumless, Bulk Storage	___X___ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

HOGAN STREET YOUTH CENTER

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	3600	uS	5500	6000
NITRITE	1200	ppm	800	1200
pH	10.5	unit	8.5	11.0

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	66	ppm/CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	289	ppm/CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm/CaCO3	N/A	N/A
M-ALK	325	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Fulton Treatment Center
System I.D:
4 hot water boilers (15 hp each)
Make-Up Water: City water Make up Hard
Recommendations: Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Fulton Treatment Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 Gallons	
Equipment (include make, model, and quantity)		
Generic 2 gal Bypass Feeder		
_ _ _ _ _ _ Drumless, Bulk Storage	_ _ X _ _ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Montgomery City Treatment Center

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1995	uS	500	6000
NITRITE	800	ppm	800	1200
HARDNESS	470	ppm\CaCO3	N/A	N/A
M-ALK	590	ppm\CaCO3	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	69	ppm\CaCO3	N/A	N/A
CHLORIDES	20	ppm	N/A	N/A
CONDUCTIVITY	693	uS	N/A	N/A
HARDNESS	230	ppm\CaCO3	N/A	N/A
Iron (Fe)	0.02	ppm	N/A	N/A
Magnesium(Mg)	30	ppm\CaCO3	N/A	N/A
M-ALK	360	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.01	ppm	N/A	N/A
P-ALK	10	ppm\CaCO3	N/A	N/A
pH	7.5	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SILICA(SiO2)	7.0	ppm	N/A	N/A
SULFATE(SO4)	40	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Montgomery City Treatment Center
System I.D:
4 hot water boilers (15 hp each)
Make-Up Water: City water Make up Hard
Recommendations: Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Montgomery City Treatment Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 Gallons	
Equipment (include make, model, and quantity)		
Generic 2 gal Bypass Feeder		
_ _ _ _ _ _ Drumless, Bulk Storage	_ _ X _ _ _ Conventional Drum	

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Mt Vernon Treatment Center

No Systems to Test

530 South 5th St * Quincy IL 62301-4896 * Phone: (217)223-2017 * Fax: (217)223-7734 * Email: sales@walterlouis.com

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

Riverbend Treatment Center

SystemName: Hot Water Heating Loop

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CONDUCTIVITY	1995	uS	500	6000
NITRITE	2300	ppm	800	1200
HARDNESS	470	ppm/CaCO3	N/A	N/A

SystemName: Raw Water Supply

PROCEDURE	*Result:*		*LoLimit:*	*HiLimit:*
CaHardness(Ca)	120	ppm/CaCO3	N/A	N/A
CHLORIDES	25	ppm	N/A	N/A
CONDUCTIVITY	673	uS	N/A	N/A
HARDNESS	215	ppm/CaCO3	N/A	N/A
Iron (Fe)	0	ppm	N/A	N/A
Magnesium(Mg)	95	ppm/CaCO3	N/A	N/A
M-ALK	150	ppm\CaCO3	N/A	N/A
NITRATE(NO3)	.1	ppm	N/A	N/A
P-ALK	8.5	ppm\CaCO3	N/A	N/A
pH	9.4	unit	N/A	N/A
PHOSPHATE	0.3	ppm	N/A	N/A
SIL\CA(SiO2)	19	ppm	N/A	N/A
SULFATE(SO4)	160	ppm	N/A	N/A

Proposed Water Treatment Program(s)
Facility: Riverbend Treatment Center
System I.D:
Hot water boilers
Make-Up Water: City water Make up Hard
Recommendations: Maintain chemical treatment parameters at 800-1200 ppm of Nitrite. The chemical program should demonstrate consistent program management, record keeping, follow-up and equipment maintenance.

WLFT will provide a Nitrite Test Kit and train on-site personnel in its use.

WATER TREATMENT PROGRAM

Facility: Riverbend Treatment Center		
CLOSED LOOP HEAT		
Chemical	**Dosage** (lbs. or gals.) per 10,000 Gallons Treated	**Annual Quantity**
WLFT 839	40 Gallons	
Equipment (include make, model, and quantity)		
Generic 5 gal Bypass Feeder		
_____ Drumless, Bulk Storage		_____X_____ Conventional Drum

RFP NO.: B3Z14153 Exhibit E
Water Analysis, Systems & Make-up(raw water)

W.E. Sears Youth Center

530 South 5th St. * Quincy IL 62301-4896 * Phone: (217)223-2017 * Fax: (217)223-7734 * Email: sales@walterlouis.com

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **0225 CLOSED SYSTEM INHIBITOR**
Chemical Name and Synonyms: Proprietary Cooling Water Treatment
Proper Shipping Name: Corrosive Liquid N.O.S. (contains Sodium Hydroxide Solution)
Hazardous Class: Corrosive
ID Number: UN1760 PG II
Label Requirements: Corrosive
Reportable Quantity:

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Sodium Hydroxide	6 %	2 MG/M3
Case #1310-73-2		

****

Section III – Physical Data

Boiling Point –225 F
Solubility in Water -- Complete
Specific Gravity –1.20
Appearance and Odor -- Clear Organic odor
pH (1% solution) –11.3

****

Section IV – Fire and Explosion Hazard Data

Flash Point – N/A
Extinguishing Media – Water spray or fog; CO2
Special Fire fighting procedures: None Required
Unusual Fire and Explosion Hazards: N/A

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: May cause burns
Emergency and First Aid Procedure: EYES: Flush eye holding eyelids open with plenty of water for at least 15 minutes.
SKIN: Flush with water for at least 15 minutes.

****

MATERIAL SAFETY DATA SHEET – 225 CLOSED SYSTEM INHIBITOR

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid – Heat, sparks and open flame

Incompatibility: Avoid contacts with strong acids and oxidizers

Hazardous Decomposition Products: N/A

Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wash down area with plenty of water. Floor area may become slippery.

Waste Disposal Method: Dispose of contaminated product in accordance with all local, state and federal authorities.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: Local exhaust – Use only to minimize exposure

Protective Gloves: Rubber

Eye Protection: Chemical safety goggles or face shield

Other: Rubber boots, and rubber apron

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not transfer to improperly marked containers. Keep container closed when not in use.

Other:

****

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****

Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1146 ALKALINITY BUILDER**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Corrosive Liquid N.O.S. (contains Sodium Hydroxide Solution)
Hazardous class: Corrosive Material (8)
ID Number: UN1760
Label Requirements: Corrosive
Reportable Quantity:

Health	= 2
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Sodium Hydroxide	15%	2 mg/m3

Case #1310-73-2

****

Section III – Physical Data

Boiling point –298 F
Solubility in water – Complete
Specific Gravity –1.16
Appearance and Odor -- Brown syrupy liquid – mild, slightly pungent odor
pH (1% solution) –11.7

****

Section IV – Fire and Explosion Hazard Data

Flash Point – None
Extinguishing Media – N/A
Special Fire fighting procedures: Flood with water using care not to spatter or splash this material.
Unusual Fire and Explosion Hazards: Although non-combustible, contact with moisture or water sufficient heat may be generated to ignite adjacent combustible materials.

****

Section V – Health Hazard Data

Threshold Limit Value: 2 mg/m3 (ceiling unit)
Effects of Overexposure: Skin: Extremely corrosive to all body tissue. Contact will result in severe burns and frequently deep ulceration. *Eye:* Will produce severe and painful injury. *Inhalation:* Mist will cause irritation and may even cause damage to entire respiratory tract.
Emergency and First Aid Procedure: EYES: Immediately flush eyes with plenty of water for at least 15 minutes, including under eye lids. Speed in flushing is important. Get medical attention immediately. *Skin:* Promply remove contaminated clothing under a shower and flush with plenty of water. Get medical attention. *Ingestion:* Do not induce vomiting. Immediately dilute by drinking water or milk, then neutralize with diluted vinegar or fruit juice. Get medical attention.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid

Incompatibility: Reacts with water generating heat. Boiling and spattering of hot caustic solution may occur.
Hazardous Decomposition Products:
Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wear protective clothing made from rubber or other caustic resistant material. Wear chemical splash goggles or face shield. Dam up spill. Cover with sand or absorb with an inert porous material. Transfer into caustic resistant containers. Avoid flushing chemical into public sewers or water systems. Small spills may be neutralized with a dilute acidic solution. The neutralized spill should be diluted with plenty of water before flushing.

Waste Disposal Method: Dispose of in a licensed hazardous disposal facility.

****

Section VIII – Special Protection Information

Respiratory Protection: Airline or self-contained respirator with full face shield in presents of mists for whenever the TLV is exceeded.

Ventilation: Should be adequate to maintain the ambient workplace below the 2.0 mg/m3

Protective Gloves: Rubber

Eye Protection: Chemical splash goggles or face shield

Other: Rubber boots and apron

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Provide eye bath and safety showers at every location where eye and/or skin contact can occur. Do not get in eyes, on skin or clothing. Do not take internally. Wash hands thoroughly with soap and water after handling containers or process equipment carrying sodium hydroxide.

Other: When preparing solutions, add to water slowly and in small amounts to avoid violent boiling and spattering. Do not use hot water.

****

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****

Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1147 ALKALINE BOIL OUT**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Boil Out
Hazard Class: Non-Hazardous

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None listed		

****

Section III – Physical Data

Boiling Point – N/A
Solubility in Water – 55%
Specific Gravity - *N/A*
Appearance and Odor -- White & Brown powder – Organic Odor
pH (1% solution) – 11.1

****

Section IV – Fire and Explosion Hazard Data

Flash Point -- None
Extinguishing Media – N/A
Special Fire Fighting Procedures -- N/A
Unusual Fire and Explosion Hazards -- N/A

****

Section V – Health Hazard Data

Threshold Limit Value -- N/A
Effects of Overexposure -- Mild irritant to skin, eyes and mucous membranes. Remove patient from area.

Emergency and First Aid Procedures – EYES: Wash copiously with water – check with physician. SKIN: Wash with water. INHALATION: Remove from exposure to fresh air.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –.

Incompatibility – Acids

Hazardous Decomposition Products – None

Hazardous Polymerization | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case of Material Spilled or Released: For minor spills the material should be swept up and discarded in the general dump. Residue may be washed away with water.

Waste Disposal Method: No special handling required. Empty containers can be incinerated or discarded with general trash.

****

Section VIII – Special Protection Information

Respiratory Protection -- U.S. Bureau of Mines approved toxic dust mask.

Ventilation -- None required with normal use.

Protective Gloves: Non-absorbent material.

Eye Protection -- Chemical type goggles

Other: Full cover clothing.

****

Section IX – Special Precautions

Precautions to be Taken in Handling and Storing -- Keep in dry area.

****

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling abuse, or misuse, are beyond our control, Walter Louis Fluid Technologies makes no warranty, either express or implied with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to this particular use.

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **123 ACID CLEANER**
Chemical Name and Synonyms: Proprietary Inhibited Acid
Proper Shipping Name: Hydrochloric Acid
Hazardous Class – Corrosive Material (8)
ID Number: UN1789
Label Requirements: Corrosive
Reportable Quantity:

Health	= 3
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Hydrochloric Acid, Muriatic	98 %	5 PPM

Case # 7647-01-0

****

Section III – Physical Data

Boiling Point – 123 F
Solubility in Water –Complete
Specific Gravity –1.11
Appearance and Odor -- Brown to amber liquid with irritation odor
pH (1% solution) – 1.7

****

Section IV - Fire and Explosion Hazard Data

Flash Point – Not Flammable
Extinguishing Media - Not Pertinent
Special Fire Fighting Procedures: Keep containers cool. If it can be accomplished safely, move containers away from fire area.
Unusual Fire and Explosion Hazards: Nonflammable, but reacts with most metals to evolve hydrogen gas which may cause fire or explosion in air.

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: May be corrosive to eyes and skin. May cause blindness. Inhalation of vapor immediately produces severe irritation of upper respiratory tract. If inhaled deeply, edema of lungs may occur.
Emergency and First Aid Procedure: *INGESTION:* Do not induce vomiting. Drink copious amounts of water or milk of magnesia. Get medical attention. *SKIN:* Flush with plenty of water. Do not apply oils or ointments to burned areas unless physician prescribes. Get medical attention. *EYE CONTACT:* Flush with plenty of water for at least 15 minutes. Get medical attention. *INHALATION:* Remove to fresh air. If not breathing, give artificial respiration. Give oxygen. Get medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid -

Incompatibility: Avoid base and corrosive materials. Avoid contact with most metals. Avoid oxidizing matter.
Hazardous Decomposition Products: Hydrogen gas in contact with most metals.
Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is Spilled or Released: Flush with water. Neutralize with lime. Prevent spread of spill. Avoid contact with liquid or vapor.

Waste Disposal Method: Dilute and neutralize with controlled quantities of alkali before disposal into sewer or surface water system.

****

Section VIII – Special Protection Information

Respiratory Protection: Where required, use a respirator approved by NIOSH for sulfuric acid or mists, as applicable. Some exposures may require a full face-piece, helmet or hood.

Ventilation: Use with adequate ventilation. Equipment must be engineered to prevent any condensate formed from dropping on workers. Exhaust systems should be discharged to absorption or neutralizing equipment.

Protective Gloves: Rubber, neoprene, and polyvinyl chloride

Eye Protection: Face shield, chemical safety goggles.

Other: Rubber apron, rubber shoes

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Wash thoroughly after handling. Do not get in eyes, on skin or clothing. Do not breathe vapors. Keep container closed when not in use. Empty container may contain hazardous residues.

****

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1248 WET LAY UP CORROSION INHIBITOR**
Chemical Name and Synonyms: Proprietary Corrosive Inhibitor
Proper Shipping Name: Wet Lay up Corrosion Inhibitor
Hazard Class: Non-Hazardous
ID Number: Non Required — Health = 1
Label requirements: None Required — Fire = 0
Reportable Quantity: — Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None listed		

****

Section III – Physical Data

Boiling Point - 212
Solubility in water –Complete
Specific Gravity - 1.08
Appearance and Odor -- Clear, no odor
pH (1% solution) – 7.8

****

Section IV – Fire and Explosion Hazard Data

Flash Point – None
Extinguishing Media – Whatever media is appropriate for surrounding fire.
Special Fire fighting procedures: Firefighters should always wear protective clothing and positive pressure self-contained breathing apparatus when fighting fires near chemicals.

Unusual Fire and Explosion Hazards: N/A

****

Section V – Health Hazard Data

Threshold Limit Value: N/A

Effects of Overexposure: EYES: May cause irritation. Skin: May irritate skin and cause discomfort or rash. Inhalation: May irritate the mucous membranes, nose, and throat and cause chest discomfort. Ingestion: May irritate the gastrointestinal tract.

Emergency and First Aid Procedures: *Eyes:* Immediately flush eyes with large amounts of water for at least 15 minutes, holding lids open to ensure flushing of the entire eye surface. Get emergency medical attention. Skin: Remove contaminated clothing. Wash contaminated skin with soap and water. Inhalation: Inhalation of mist or vapor, remove to fresh air. Get medical attention. Ingestion: Have conscious patient drink several glasses of water, then induce vomiting by having patient tickle back of throat with finger. Keep airway clear. Get medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –None Known

Incompatibility: Hazardous reaction can occur with acids, ammonium compounds, amines.

Hazardous Decomposition Products:

Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Persons performing clean-up work should wear adequate personal protection equipment and clothing. Contain and clean up spills immediately with inert absorbent material and place into approved container for disposal. Flush spill area with volumes of water. Attempt to keep spilled material out of sewers, lakes, rivers, streams, and other public waters.

Waste Disposal Method: Dispose of waste in accordance with all federal, state, and local regulations regarding health pollution. Waste material may be disposed of in an approved landfill.

****

Section VIII -- Special Protection Information

Respiratory Protection: NIOSH approved respirator if air concentration exceeds TLV.

Ventilation: Local mechanical

Protective Gloves: Gauntlet-type rubber

Eye Protection: Chemical splash goggles

Other: Rubber boots and apron.

****

Section IX - Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin, or on clothing. Do not take internally. Do not breathe mists. Use with adequate ventilation and use protective equipment. Wash thoroughly after handling.

Other: Store in a cool area. Keep drum tightly closed when not in use.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1435 BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: None
Hazardous Class – None
ID Number: None Required
Label Requirements: None
Reportable Quantity:
****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None listed		

****

Section III – Physical Data

Boiling Point – 110° C
Solubility in Water –Complete
Specific Gravity – 1.1638
Appearance and Odor—Clear liquid with light odor.
pH (1% solution) – 8.1
****

Section IV – Fire and Explosion Hazard Data

Flash Point – N/A
Extinguishing Media – Water spray, CO2, dry chemical, alcohol foam, foam
Special Fire Fighting Procedures: Although not combustible, should a fire occur, it is proper to wear pressure self-contained breathing apparatus. Upon evaporation such gases as hydrogen gas or nitrogen oxides may be produced.
Unusual Fire and Explosion Hazards: None
****

Section V – Health Hazard Data

Threshold Limit Value: Not established
Effects of Overexposure: Burns and/or irritation to skin and eyes.
Emergency and First Aid Procedure: Flush affected areas with plenty of water. Promptly remove contaminated clothing under a shower. Wash the affected area with plenty of soap and water. Get medical attention.
****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Heat and open flame

Incompatibility: Strong acids, strong oxidizers

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is Spilled or Released: Wear protective clothing made of rubber. Flush with plenty of water.

Waste Disposal Method: Dispose of contaminated product, empty containers and materials used in cleaning up spills in a manner approved by local authorities. Consult appropriate federal, state and local regulatory officials for correct disposal method.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: (mechanical) used only if a chance of airborne concentrations exist.

Protective Gloves: Rubber

Eye Protection: Safety shields or chemical goggles.

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin or on clothing. Do not take internally. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapors. Destroy any contaminated leather articles. Store in a well-ventilated area away from oxidizing materials and acids.

Other:

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

****

Revised Date: February, 2005 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1450 BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: None
Hazardous class – None
ID Number: None Required
Label Requirements: None
Reportable Quantity:
****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None listed		

****

Section III – Physical Data

Boiling Point – 110° C
Solubility in water –Complete
Specific Gravity –1.118
Appearance and Odor– Woody odor, dark amber liquid
pH (1% solution) – 7.9
****

Section IV – Fire and Explosion Hazard Data

Flash Point - N/A
Extinguishing Media – Water spray, CO2, dry chemical, alcohol foam, foam
Special Fire fighting procedures: Although not combustible, should a fire occur, it is proper to wear pressure self-contained breathing apparatus. Upon evaporation such gases as hydrogen gas or nitrogen oxides may be produced.
Unusual Fire and Explosion Hazards: None
****

Section V – Health Hazard Data

Threshold Limit Value: Not established
Effects of Overexposure: Burns and/or irritation to skin and eyes.
Emergency and First Aid Procedure: Flush affected areas with plenty of water. Promptly remove contaminated clothing under a shower. Was the affected area with plenty of soap and water. Get medical attention.
****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Heat and open flame

Incompatibility: Strong acids, strong oxidizers

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wear protective clothing made of rubber. Flush with plenty of water.

Waste Disposal Method: Dispose of contaminated product, empty containers and materials used in cleaning up spills in a manner approved by local authorities. Consult appropriate federal, state and local regulatory officials for correct disposal method.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: (mechanical) used only if a chance of airborne concentrations exist.

Protective Gloves: Rubber

Eye Protection: Safety shields or chemical goggles.

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin or on clothing. Do not take internally. Upon contact with skin or eyes wash off with water. Avoid breathing mist or vapors. Destroy any contaminated leather articles. Store in a well-ventilated area away from oxidizing materials and acids.

Other:

****

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Revised Date: May, 2004 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1460 BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Corrosive Liquid N.O.S. (contains Potassium Hydroxide Solution)
Hazard Class: Corrosive (8)
ID Number: UN 1760 PGII
Label Requirements: Corrosive

Health = 1
Fire = 0
Reactivity = 0

****

Section II - Hazardous Ingredients

Ingredient	***Percent***	***TLV***
Potassium Hydroxide CAS #1310-58-3	20%	2 mg/m3

****

Section III – Physical Data

Boiling Point – >212°
Solubility in Water – Complete
Specific Gravity -- 1.205
Appearance and Odor -- Clear liquid – pungent odor
pH (1% solution) – 11.8

****

Section IV – Fire and Explosion Hazard Data

Flash Point -- Non-Flammable
Extinguishing Media -- Water Spray or fog: CO_2 foam
Special Fire Fighting Procedures -- None required in normal use.
Unusual Fire and Explosion Hazards -- N/A

****

Section V – Health Hazard Data

Threshold Limit Value -- N/A
Effects of Overexposure -- INHALATION: Airborne concentrations of dust, mist, or spray can cause damage to the upper respiratory tract. EYES: May cause severe blindness resulting in damage to the eyes. SKIN: May irritate the skin if prolonged exposure exists.

Emergency and First Aid Procedures -- INHALATION: Remove person from contaminated area to fresh air. If breathing has stopped, give artificial respiration. EYES: Flush with copious amounts of water for at least 15 minutes period, periodically lifting upper and lower lids to ensure washing of the entire surface. Seek medical attention. SKIN: Immediately wash contaminated area with plenty of soap and water. If irritation persists, seek medical attention. INGESTION: DO NOT INDUCE VOMITING. Give large quantities of water or several glasses of milk if available. Never give anything by mouth to an unconscious person. Seek medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid – heat

Incompatibility – Strong oxidizing agents, strong acids

Hazardous Decomposition Products – N/A

Hazardous Polymerization | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case of Material Spilled or Released: Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- None required in normal use. However, avoid breathing vapor or mist. Use NIOSH approved equipment when airborne exposure is excessive.

Ventilation -- Maintain adequate ventilation. Local exhaust if dusty or misty conditions prevail.

Protective Gloves: Rubber

Eye Protection -- Face shield or chemical safety goggles.

****

Section IX – Special Precautions

Precautions to be Taken in Handling and Storing -- Keep container closed when not in use. Avoid contact With skin, eyes, and clothing. Store away from heat, sparks and open flame.

Other -- Minimize skin contact. Wash with soap and water before eating, drinking, smoking, or using toilet facilities. Safety shower, eye bath and washing facilities should be available. Never transfer to improperly marked containers.

****

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling abuse, or misuse, are beyond our control, Walter Louis Fluid Technologies makes no warranty, either express or implied with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to this particular use.

****

Revised Date: May, 2004 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1495 BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: None
Hazardous class – None
ID Number: None Required
Label Requirements: None
Reportable Quantity:
****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None listed		

****

Section III – Physical Data

Boiling Point – 110° C
Solubility in water –Complete
Specific Gravity –1.065
Appearance and odor—Clear liquid with no specific odor.
pH (1% solution) – 7.0 - 8.0
****

Section IV – Fire and Explosion Hazard Data

Flash Point – N/A
Extinguishing Media – Water spray, CO2, dry chemical, alcohol foam, foam
Special Fire fighting procedures: Although not combustible, should a fire occur, it is proper to wear pressure self-contained breathing apparatus. Upon evaporation such gases as hydrogen gas or nitrogen oxides may be produced.
Unusual Fire and Explosion Hazards: None
****

Section V – Health Hazard Data

Threshold Limit Value: Not established
Effects of Overexposure: Burns and/or irritation to skin and eyes.
Emergency and First Aid Procedure: Flush affected areas with plenty of water. Promptly remove contaminated clothing under a shower. Wash the affected area with plenty of soap and water. Get medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Heat and open flame

Incompatibility: Strong acids, strong oxidizers

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wear protective clothing made of rubber. Flush with plenty of water.

Waste Disposal Method: Dispose of contaminated product, empty containers and materials used in cleaning up spills in a manner approved by local authorities. Consult appropriate federal, state and local regulatory officials for correct disposal method.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: (mechanical) used only if a chance of airborne concentrations exist.

Protective Gloves: Rubber

Eye Protection: Safety shields or chemical goggles.

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin or on clothing. Do not take internally. Upon contact, with skin or eyes, wash off with water. Avoid breathing mist or vapors. Destroy any contaminated leather articles. Store in a well-ventilated area away from oxidizing materials and acids.

Other:

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

****

Revised Date: August 2004 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1535 STEAMLINE TREATMENT**
Chemical Name and Synonyms: Proprietary Corrosion Inhibitor
Proper Shipping Name: Corrosive Liquid, Flammable N.O.S. (contains Diethylaminoethanol)
Hazardous class: Corrosive Material (8)
ID Number: UN2920 PG II
Label Requirements: Corrosive/Flammable
Reportable Quantity:

Health	= 3
Fire	= 2
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
Cyclohexylamine CAS #108-91-8	15%	10 ppm
Diethylaminoethanol CAS #100-27-8	20%	10 ppm
Morpholine CAS #110-91-8	10%	

****

Section III – Physical Data

Boiling Point - *>212°*
Solubility in Water - *Complete*
Specific Gravity – 0.98
Appearance and Odor -- Clear liquid with pungent odor
pH (1% solution) - 11.1

****

Section IV – Fire and Explosion Hazard Data

Flash Point – *None*
Extinguishing Media -- Water spray of fog: CO_2 foam
Special Fire fighting procedures: N/A
Unusual Fire and Explosion Hazards: None

****

Section V – Health Hazard Data

Threshold Limit Value: None listed
Effects of Overexposure: Liquid is irritating to the eyes. May be harmful if swallowed or absorbed through the skin.
Emergency and First Aid Procedure: EYES: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eye lids frequently. Call a physician. Continue flushing with water if medical attention is not immediately available. SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Call physician if irritation persists.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid
Incompatibility: Strong oxidizing agents, strong acids.
Hazardous Decomposition Products: None

MATERIAL SAFETY DATA SHEET – 1535 STEAMLINE TREATMENT

Section VI – Reactivity Data (cont.)

Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use. However, avoid breathing vapor or mist. Use NIOSH approved equipment when airborne exposure is excessive.

Ventilation: Maintain adequate ventilation. Local exhaust if dusty or misty conditions prevail.

Protective Gloves: Rubber

Eye Protection: Side shield safety glasses or chemical safety goggles. Do not wear contacts.

Other: Wear rubber apron and rubber boots if possibility of contact exits during use.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Avoid contact with eyes, skin, and clothing. Avoid breathing vapors.

Other: Do not transfer into improperly marked containers. Keep container closed when not in use.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

Revised Date: May, 2004

Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **155-L BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Corrosive Liquid, N.O.S. (contains Sodium Hydroxide, solution)
Hazardous Class - Corrosive Material (8) — Health = 1
ID Number: UN1760 — Fire = 0
Label Requirements: Corrosive — Reactivity = 0
Reportable Quantity:

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
Sodium Hydroxide Case #1310-73-2	10 %	2 mg/m3
Diethylaminoethanol Case #100-37-8	1%	50 mg/m3

****

Section III – Physical Data

Boiling Point – 110 C
Solubility in Water –Complete
Specific Gravity –1.112
Appearance and Odor – Dark brown liquid
pH (1% solution) – 12.3

****

Section IV – Fire and Explosion Hazard Data

Flash Point - N/A
Extinguishing Media – Water spray, CO2, dry chemical, alcohol foam, foam.
Special Fire fighting procedures: Although not combustible, should a fire occur, it is proper to wear pressure self-contained breathing apparatus. Upon evaporation such gases as hydrogen gas or nitrogen oxides may be produced.
Unusual Fire and Explosion Hazards: None

****

Section V – Health Hazard Data

Threshold Limit Value: Not Established
Effects of Overexposure: Burns and/or irritation to skin and eyes.
Emergency and First Aid Procedure: Flush affected areas with plenty of water. Promptly remove contaminated clothing under a shower. Wash the affected area with plenty of soap and water. Get medical attention.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Heat and open flame

Incompatibility: Strong acids, strong oxidizers.

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wear protective clothing made of rubber. Flush with plenty of water.

Waste Disposal Method: Dispose of contaminated product, empty containers and materials used in cleaning up spills in a manner approved by local authorities. Consult appropriate federal, state and local regulatory officials for correct disposal.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: Used only if a chance of airborne concentrations exist.

Protective Gloves: Rubber

Eye Protection: Safety shields or goggles.

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin or on clothing. Do not take internally. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapors. Destroy any contaminated leather articles. Store in a well ventilated area away from oxidizing materials and acids.

Other:

****

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****

Revised Date: August, 2008 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1565 STEAMLINE TREATMENT**
Chemical Name and Synonyms: Proprietary Corrosion Inhibitor
Proper Shipping Name: Corrosive Liquid N.O.S. (contains Cyclohexylamine)
Hazardous class: Corrosive Material (8)
ID Number: UN1760 PG II
Label Requirements: Corrosive/Flammable
Reportable Quantity:

Health	= 2
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Cyclohexylamine CAS #108-91-8	36%	
Diethylaminoethanol CAS #100-27-8	8%	
Morpholine CAS #110-91-8	4%	

****

Section III – Physical Data

Specific Gravity –.98
Appearance and Odor -- light amber liquid with pungent odor
pH (1% solution) –11.1
Boiling Point -- >212°
****

Section IV – Fire and Explosion Hazard Data

Flash Point – *None*
Extinguishing Media – Water spray, CO_2, or other Class B extinguishing agent.
Special Fire fighting procedures: N/A
Unusual Fire and Explosion Hazards: None
****

Section V – Health Hazard Data

Threshold Limit Value: None
Effects of Overexposure: Liquid is irritating to the eyes. May be harmful if swallowed or absorbed through the skin.
Emergency and First Aid Procedure: EYES: Immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Call physician if irritation persists.
****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid

Incompatibility: Avoid contact with strong bases. Contact will result in the evolution of heat. Also , avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations. Disposal by incineration is recommended.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use. However, avoid breathing vapor or mist. Use NIOSH approved equipment when airborne exposure is excessive.

Ventilation: Maintain adequate ventilation. Local exhaust if dusty or misty conditions prevail.

Protective Gloves: Rubber

Eye Protection: Chemical safety goggles. Do not wear contacts.

Other: Eye baths should be immediately available in case of contact. Wear rubber apron and rubber boots if possibility of contact exists during use.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin, or clothing. Avoid breathing vapors or mist. Store away from heat, sparks, and open flame. Use with adequate ventilation. Wash thoroughly after handling.

Other: Do not transfer into improperly marked containers. Keep container closed when not in use.

****

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Revised Date: May, 2004 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1575 STEAMLINE TREATMENT**
Chemical Name and Synonyms: Proprietary Corrosion Inhibitor
Proper Shipping Name: Corrosive Liquid, Flammable N.O.S. (contains Diethylaminoethanol)
Hazardous class: Corrosive Material (8)
ID Number: UN1760 PG II
Label Requirements: Corrosive/Flammable
Reportable Quantity:

Health	= 2
Fire	= 1
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Diethylaminoethanol	40%	

****

Section III – Physical Data

Specific Gravity –.985
Appearance and Odor -- Clear liquid with pungent odor
pH (1% solution) –10.85
Boiling Point -- >212°

****

Section IV – Fire and Explosion Hazard Data

Flash Point – *None*
Extinguishing Media – Water spray, CO_2, or other Class B extinguishing agent.
Special Fire fighting procedures: N/A
Unusual Fire and Explosion Hazards: None

****

Section V – Health Hazard Data

Threshold Limit Value: None
Effects of Overexposure: Liquid is irritating to the eyes. May be harmful if swallowed or absorbed through the skin.
Emergency and First Aid Procedure: EYES: Immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Call physician if irritation persists.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid

Incompatibility: Avoid contact with strong bases. Contact will result in the evolution of heat. Also , avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations. Disposal by incineration is recommended.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use. However, avoid breathing vapor or mist. Use NIOSH approved equipment when airborne exposure is excessive.

Ventilation: Maintain adequate ventilation. Local exhaust if dusty or misty conditions prevail.

Protective Gloves: Rubber

Eye Protection: Chemical safety goggles. Do not wear contacts.

Other: Eye baths should be immediately available in case of contact. Wear rubber apron and rubber boots if possibility of contact exists during use.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin, or clothing. Avoid breathing vapors or mist. Store away from heat, sparks, and open flame. Use with adequate ventilation. Wash thoroughly after handling.

Other: Do not transfer into improperly marked containers. Keep container closed when not in use.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

Revised Date: February, 2009 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **157-L BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Corrosive Liquid, N.O.S. (contains Sodium Hydroxide, solution)
Hazardous Class – Corrosive Material (8) Health = 1
ID Number: UN1760 Fire = 0
Label Requirements: Corrosive Reactivity = 0
Reportable Quantity:

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Sodium Hydroxide	12 %	2 mg/m3
Case #1310-73-2		
Diethylaminoethanol	1%	50 mg/m3
Case #100-37-8		

****

Section III – Physical Data

Boiling Point – 110 C
Solubility in Water –Complete
Specific Gravity –1.105
Appearance and Odor—Clear liquid, Inorganic odor
pH (1% solution) - 12.0

****

Section IV – Fire and Explosion Hazard Data

Flash Point – N/A
Extinguishing Media – Water spray, CO2, dry chemical, alcohol foam, foam.
Special Fire fighting procedures: Although not combustible, should a fire occur, it is proper to wear pressure self-contained breathing apparatus. Upon evaporation such gases as hydrogen gas or nitrogen oxides may be produced.
Unusual Fire and Explosion Hazards: None

****

Section V – Health Hazard Data

Threshold Limit Value: Not Established
Effects of Overexposure: Burns and/or irritation to skin and eyes.
Emergency and First Aid Procedure: Flush affected areas with plenty of water. Promptly remove contaminated clothing under a shower. Wash the affected area with plenty of soap and water. Get medical attention.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Heat and open flame

Incompatibility: Strong acids, strong oxidizers.

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wear protective clothing made of rubber. Flush with plenty of water.

Waste Disposal Method: Dispose of contaminated product, empty containers and materials used in cleaning up spills in a manner approved by local authorities. Consult appropriate federal, state and local regulatory officials for correct disposal.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: Used only if a chance of airborne concentrations exist.

Protective Gloves: Rubber

Eye Protection: Safety shields or goggles.

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin or on clothing. Do not take internally. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapors. Destroy any contaminated leather articles. Store in a well ventilated area away from oxidizing materials and acids.

Other:

****

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****

Revised Date: January, 2007 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1655 BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: None
Hazardous class – None
ID Number: None Required
Label Requirements: None
Reportable Quantity:
****

Section II -- Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None listed		

****

Section III – Physical Data

Boiling Point – 110° C
Solubility in water –Complete
Specific Gravity –1.04
Appearance and odor –Clear liquid with no specific odor.
pH (1% solution) – 8.0
****

Section IV – Fire and Explosion Hazard Data

Flash Point – N/A
Extinguishing Media – Water spray, CO2, dry chemical, alcohol foam, foam
Special Fire fighting procedures: Although not combustible, should a fire occur, it is proper to wear pressure self-contained breathing apparatus. Upon evaporation such gases as hydrogen gas or nitrogen oxides may be produced.
Unusual Fire and Explosion Hazards: None
****

Section V – Health Hazard Data

Threshold Limit Value: Not established
Effects of Overexposure: Burns and/or irritation to skin and eyes.
Emergency and First Aid Procedure: Flush affected areas with plenty of water. Promptly remove contaminated clothing under a shower. Wash the affected area with plenty of soap and water. Get medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid - Heat and open flame

Incompatibility: Strong acids, strong oxidizers

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII - Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wear protective clothing made of rubber. Flush with plenty of water.

Waste Disposal Method: Dispose of contaminated product, empty containers and materials used in cleaning up spills in a manner approved by local authorities. Consult appropriate federal, state and local regulatory officials for correct disposal method.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: (mechanical) used only if a chance of airborne concentrations exist.

Protective Gloves: Rubber

Eye Protection: Safety shields or chemical goggles.

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin or on clothing. Do not take internally. Upon contact, with skin or eyes, wash off with water. Avoid breathing mist or vapors. Destroy any contaminated leather articles. Store in a well-ventilated area away from oxidizing materials and acids.

Other:

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

****

Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **206 BIO-DISPERSANT**
Chemical Name and Synonyms: Dispersant
Proper Shipping Name: Non-Hazardous Dispersant
Hazard Class: Non-Hazardous
ID Number: None
Label requirements: None Required
Reportable Quantity:

Health = 1
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None Listed		

****

Section III – Physical Data

Boiling Point – 212F
Solubility in water – Miscible in high proportions
Specific Gravity – .0975 – 1.02
Appearance and Odor -- Milky yellow color, petroleum like odor
pH (1% solution) – 5.7
Freezing Point: - Below 35 deg. F; active ingredient freezing point 0.00 deg. F

****

Section IV – Fire and Explosion Hazard Data

Flash Point – None to 212 deg. F
Extinguishing Media – To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical, or foam.
Special Fire fighting procedures: Keep people away. Isolate fire area and deny unnecessary entry.
Unusual Fire and Explosion Hazards: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Hazardous combustion products may
Include, but are not limited to: Sulfur oxides, nitrogen oxides, carbon monoxide, and carbon dioxide.

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: EYE: May cause severe irritation with corneal injury, which may result in permanent impairment of vision, even blindness. SKIN: Prolonged exposure may cause skin burns. May cause allergic reaction. INGESTION: Single dos oral toxicity is extremely low. Small amounts swallowed are not likely to cause injury; swallowing large amounts may. May cause gastrointestinal irritation or ulceration. May cause burns of mouth and throat. INHALATION: Excessive exposure may cause irritation to upper respiratory tract.
Emergency and First Aid Procedures: *Eyes:* Flush eyes with large amounts of water for at least 15 minutes. If irritation persists, seek medical attention. SKIN: Wash off with soap and water. If irritation persists, seek

Section V – Health Hazard Data (con't)

medical attention. *INHALATION:* Remove from exposure. If breathing is difficult or discomfort persists, seek medical attention. *INGESTION:* Do not induce vomiting. Rinse mouths and dilute stomach contents with water, or preferably with milk if available.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Product can decompose at elevated temperatures.

Incompatibility: None known

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Dike spill and soak up with absorbent material and put in salvage container for disposal. Contain material to prevent contamination of the soil, surface water or ground water.

Waste Disposal Method: If material cannot be salvaged, a method of disposal has to be in accordance with state, local, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.
Ventilation: None required in normal use.
Protective Gloves: Rubber or neoprene
Eye Protection: Chemical safety goggles or face shield
Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin, or on clothing. Do not take internally.
Other: Store in a full-ventilated area away from oxidizer materials and acids. Always keep container closed when not in use. Never transfer to improperly marked containers.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

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Revised Date: February, 2009 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **290 DISPERSANT**
Chemical Name and Synonyms: Dispersant
Proper Shipping Name: Non-Hazardous Dispersant
Hazard Class: Non-Hazardous
ID Number: None
Label requirements: None Required
Reportable Quantity:

Health = 1
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None Listed		

****

Section III - Physical Data

Boiling Point - 212F
Solubility in water – Miscible in high proportions
Specific Gravity – 1.00 – 1.02
Appearance and Odor -- Clear, off-white to amber liquid; vinegar-like odor
pH (1% solution) – N/A
Freezing Point: - Below 35 deg. F; active ingredient freezing point 0.00 deg. F

****

Section IV - Fire and Explosion Hazard Data

Flash Point – None to 212 deg. F
Extinguishing Media – To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical, or foam.
Special Fire fighting procedures: Keep people away. Isolate fire area and deny unnecessary entry.
Unusual Fire and Explosion Hazards: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Hazardous combustion products may
Include, but are not limited to: Sulfur oxides, nitrogen oxides, carbon monoxide, and carbon dioxide.

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: EYE: May cause severe irritation with corneal injury, which may result in permanent impairment of vision, even blindness. SKIN: Prolonged exposure may cause skin burns. May cause allergic reaction. INGESTION: Single dos oral toxicity is extremely low. Small amounts swallowed are not likely to cause injury; swallowing large amounts may. May cause gastrointestinal irritation or ulceration. May cause burns of mouth and throat. INHALATION: Excessive exposure may cause irritation to upper respiratory tract.
Emergency and First Aid Procedures: *Eyes:* Flush eyes with large amounts of water for at least 15 minutes. If irritation persists, seek medical attention. SKIN: Wash off with soap and water. If irritation persists, seek

Section V – Health Hazard Data (con't)

medical attention. *INHALATION:* Remove from exposure. If breathing is difficult or discomfort persists, seek medical attention. *INGESTION:* Do not induce vomiting. Rinse mouths and dilute stomach contents with water, or preferably with milk if available.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Product can decompose at elevated temperatures.

Incompatibility: None known

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Dike spill and soak up with absorbent material and put in salvage container for disposal. Contain material to prevent contamination of the soil, surface water or ground water.

Waste Disposal Method: If material cannot be salvaged, a method of disposal has to be in accordance with state, local, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.
Ventilation: None required in normal use.
Protective Gloves: Rubber or neoprene
Eye Protection: Chemical safety goggles or face shield
Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin, or on clothing. Do not take internally.
Other: Store in a full-ventilated area away from oxidizer materials and acids. Always keep container closed when not in use. Never transfer to improperly marked containers.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

****

Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **29-A BOILER BANKING**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Corrosive Liquid, N.O.S. (contains Potassium Hydroxide, Solution)
Hazard Class: Corrosive Material (8)
ID Number: UN1760
Label requirements: Corrosive

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Potassium Hydroxide	28%	2 MG/M3

****

Section III – Physical Data

Boiling Point - complete
Specific Gravity – 1.33
Appearance and Odor -- Brown liquid with woody odor
pH (1% solution) – 14.7

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Not combustible
Extinguishing Media - Water spray for fog, CO2 foam
Special Fire Fighting procedures: Use NIOSH approved positive pressure self-contained breathing apparatus when any material is involved in a fire.
Unusual Fire and Explosion Hazards: Highly flammable Hydrogen is formed by reaction with aluminum.
****

Section V – Health Hazard Data

Threshold Limit Value - Not established
Effects of Overexposure – May cause skin irritation, eye burns, or burns of the gastrointestinal tract if ingested.
Emergency and First Aid Procedures: EYES: Flush immediately with large amounts of water for at least 30 minutes, lifting lids to ensure complete washing of the entire surface. Call a physician. *SKIN:* Wash skin with plenty of soap and water. See a physician if skin shows signs of irritation. *INHALATION:* Inhalation exposure not expected unless specific use generates a mist. If adverse symptoms are experienced move the employee to fresh air. Administer oxygen if breathing is difficult. See a physician. *INGENTION:* Call a physician immediately if significant amounts have been swallowed. Give the employee large amounts of water or milk to drink for dilution effect. DO NOT INDUCE VOMITING.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XXXXX)
| Conditions to avoid ..
Incompatibility – Aluminum and Zinc metal
Hazardous Decomposition Products – None
Hazardous Polymerization | May occur
| Will not occur (XXXXX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Prevent product from entering drinking water supplies or streams. Collect liquid or solidify liquid with absorbent material and package for disposal according to local, state, and federal regulations.

Waste Disposal Method: Check with local authorities. Use only approved disposal facilities.

****

Section VIII – Special Protection Information

Respiratory Protection -- None required.

Ventilation -- General industrial requirements.

Protective Gloves: Rubber gloves.

Eye Protection -- Chemical safety goggles. Do not wear contact lenses when handling chemicals.

Other: Rubber apron, rubber boots.

****

Section IX – Special Precautions

Precautions to be Taken in Handling and Storing - Keep away from heat, sparks and open flame. Do not transfer to improperly marked containers. Keep container closed when not in use. Do not get on skin, eyes, or clothing.

****

Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **358 STEAMLINE TREATMENT**
Chemical Name and Synonyms: Ammonia Solution
Proper Shipping Name: Ammonia Solution
Hazard Class: Corrosive Material (8)
ID Number: UN 2672 P.G. III
Label requirements: Corrosive
Reportable Quantity:

Health = 3
Fire = 1
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*OSHA PEL*	*ACGIH TLV*
Ammonium Hydroxide CAS No. 1336-21-6	15%	35 ppm	25 pm

****

Section III – Physical Data

Boiling Point *– 212°F @ 760 mmHg*
Solubility in water *– Soluble*
Specific Gravity *– 0.946 @ 77° F*
Appearance and Odor - Colorless liquid, pungent odor.
Vapor Pressure *– 17.500 mmHg @ 68° F*
Vapor Density *- < 1.000 @AIR=1*
Freezing Point *– N/A*
Flash Point *– N/A*
% Volatile by Weight *– 100%*
pH *– 13.0*

****

Section IV – Fire and Explosion Hazard Data

Flash Point - N/A Flammable Limits In Air, % Lower: 16% N/A Upper: 25%
Extinguishing Media Non-combustible – use water fog or spray to escape ammonia gas. AVOID CARBON DIOXIDE EXTINGUISHERS.
Special Fire fighting procedures: Use water to keep fire-exposed containers cool. Water hose streams are comparatively effective in removing ammonia gas from the atmosphere and will extinguish burning ammonia gas.
Unusual Fire and Explosion Hazards: When heated, aqua ammonia emits fumes of ammonia, which can be irritating to toxic. Ammonia increases the fire hazard from other combustible materials, including oil. Flammable limits are broadened by increasing temperature. Ammonia vapor in the range of 16-25% in air can explode on contact with ignition sources.

****

Section V – Health Hazard Data

Threshold Limit Value *– N/A*
Effects of Overexposure *– INHALATION*: May be irritating to respiratory tract. If inhaled, can cause nausea, vomiting, breathing difficulty, and convulsions. Shock or loss of consciousness may result. Brief exposure to 5000 ppm may be fatal. *EYE CONTACT*: Intensely irritating. Liquid will cause burns. *SKIN CONTACT*: May cause corrosive burns or blister formation. *INGESTION*: May cause severe burning of stomach, mouth and throat.
Chronic Overexposure: May cause damage to all body tissues.

Section V - Health Hazards Data (cont)

Emergency and First Aid Procedures - *EYE CONTACT*: Immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids apart to ensure flushing of entire surface. Call a physician. *INHALATION*: Remove to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. Call a physician. *INGESTION*: Do not induce vomiting. Dilute stomach contents by drinking water. Call a physician immediately. *SKIN*: Remove contaminated clothing. Rinse skin with water. Get immediate medical attention. Launder contaminated clothing before reuse.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid – Heat increases vapor pressure. Ammonia gas may be released when aqua ammonia is heated.

Incompatibility – Strong acids, mercury, chlorine, bromine, iodine, calcium, silver oxide, or hypochlorite can from explosive compounds.

Hazardous Decomposition Products -- Gaseous ammonia upon heating. Normal combustion products of ammonia vapor are nitrogen and water.

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Remain upwind of spill or leak. Evacuate immediate area and wear appropriate protective equipment depending on concentration of ammonia in immediate area. Keep ignition sources away.

Waste Disposal Method: Dispose of in accordance with all federal, state and local regulations.

****

Section VIII – Special Protection Information

Respiratory Protection: If exposure limits are exceeded, or if exposure may occur, use NIOSH/MSHA respirator approved for your conditions of exposure. Refer to the most recent NIOSA publication concerning chemical hazards, or consult your safety equipment supplier.

Ventilation: Adequate ventilation is required to minimize exposure or to maintain exposure levels below OSHA/ACGIH requirements. Mechanical general ventilation is usually adequate. Local mechanical ventilation may be required.

Protective Gloves: Wear acid-resistant gauntlet gloves

Eye Protection: Chemical goggles face shield. Always wear eye protection when working with chemicals. Do not wear contact lenses when working with chemicals.

Other: Clean body covering clothing, rubber apron, and rubber boots.

****

Section IX – Special Precautions

Precautions to be taken in Handling and storing: Avoid all contact of liquid with the body. Minimize gas contact. Good maintenance to prevent leaks. Keep away from heat and open flame. Use good process control. Preferably store outside, otherwise in a cool, dry, well-ventilated, non-combustible location. Keep away from all possible sources of ignition and oxidizers. Protect containers from heat and corrosion.

Regulatory Information:

Reportable Quantity: 1000 pounds (454 Kilograms) (134 gallons)
TSCA: Ammonium Hydroxide (CAS #1336-21-6) is listed in the TSCA Inventory
RCRA: N/A
SARA Title III: Subject to reporting requirements of SARA (1986, Sec 313 of the Title III) and 40 CFR Part 370. Section 302 Extremely Hazardous Substance: YES (as ammonia); Section 311/312 Hazardous Categories: Immediate (Acute) Health Hazard; Section 313 Toxic Chemical: YES (Ammonia).
SARA Section 311 – EPA Hazard Categories: Immediate, Fire, Sudden Release of press., Reactive.

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **4707 COOLING WATER TREATMENT**
Chemical Name and Synonyms:
Proper Shipping Name: Proprietary Cooling Water Treatment
Hazardous class – Non-Hazardous
ID Number: None
Label Requirements: None
Reportable Quantity:

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None listed		

****

Section III – Physical Data

Boiling Point –> 212°F
Solubility in water – Complete
Specific Gravity –1.05 – 1.08
Appearance and Odor -- Clear light yellow liquid – strong inorganic odor
pH (1% solution) –9.7

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Non-Flammable
Extinguishing Media – Use "alcohol" foam or dry chemical
Special Fire fighting procedures: None required in normal use.
Unusual Fire and Explosion Hazards:

****

Section V – Health Hazard Data

Threshold Limit Value: Not established
Effects of Overexposure: EYES: May be irritating to eyes if not flushed immediately. SKIN: May be irritating to skin if prolonged exposure exists. INHALATION: Airborne concentrations of dust, mist, or spray can cause damage to the upper respiratory tract.
Emergency and First Aid Procedure: EYES: Immediately flush eyes with large quantities of water for a 15 minute period, periodically lifting upper and lower lids to ensure washing of the entire surface. Seek medical attention. SKIN: Immediately wash contaminated area with plenty of soap and water. If irritation persists, seek medical attention. INHALATION: Remove person from contaminated area to fresh air. If breathing has stopped, give artificial respiration. Seek medical attention. INGESTION: DO NOT INDUCE VOMITING. Give large quantities of water or several glasses of milk if available. Never give anything by mouth to a unconscious person. Seek medical attention.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –

Incompatibility: Strong acids without dilution or agitation, metal alloys, chlorinated hydrocarbons.
Hazardous Decomposition Products: N/A
Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Neutralize spill with dilute inorganic acids such as hydrochloric, sulfuric, nitric, phosphoric or acetic acid. The spill area should then be flushed with water followed by a liberal covering of sodium bicarbonate.

Waste Disposal Method: If not diluted and neutralized, this product can become a hazardous waste as designated by the EPA under authority of the Resource Conservation and Recovery Act.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: Local exhaust – Provide ventilation to maintain airborne concentration below OSHA limitations.

Protective Gloves: Rubber

Eye Protection: Chemical safety goggles or face shield

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Keep container closed when not in use.

Other: Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities. Safety shower, eye bath and washing facilities should be available.

****

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **4709 COOLING WATER TREATMENT**
Chemical Name and Synonyms: Proprietary Water Treatment
Proper Shipping Name: Corrosive Liquid N.O.S. (contains Sulfuric Acid)
Hazard Class: Corrosive (8)
ID Number: UN1760
Label requirements: Corrosive
Reportable Quantity:

Health = 1
Fire = 0
Reactivity = 0

****

Section II -- Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Sulfuric Acid-Case #7664-93-9	15%	1 mg / m^3
Phosphoric Acid- Case #7664-38-2	2%	110 mg / m^3
Hydroxyethylidene- Case #2809-21-4	1.5%	

****

Section III – Physical Data

Boiling Point –
Solubility in water – Complete
Specific Gravity – 1.12
Appearance and Odor -- Clear in color and no odor
pH (1% solution) – 1.6

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Will not burn
Extinguishing Media – Use water spray; dry chemical for fires adjacent to containers of material.
Special Fire fighting procedures: Do not use solid streams near ruptured drums. At high temperatures sulfur trioxide gas can be released from vented or ruptured containers.
Unusual Fire and Explosion Hazards: Flammable and potentially explosive hydrogen gas can be generated inside metal drums and storage tanks.

****

Section V – Health Hazard Data

Threshold Limit Value – N/A
Effects of Overexposure – May irritate
Emergency and First Aid Procedures – *Eyes & Skin:* Immediately apply large quantities of running water for prolonged period. Remove all clothing touched by the material. Call a physician. *Ingestion:* Do not induce vomiting. Have patient drink large quantities of water or milk immediately. Call a physician. Do not give carbonates. Do not give anything by mouth to an unconscious person. If vomiting occurs spontaneously, Keep head below hips to prevent aspiration of vomitus into lungs.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid --

Incompatibility – Avoid contact with organic materials, which may be combustible. Mixing with water or alkalies causes a severe exothermic reaction. Avoid contact with organic materials and strong alkalis.

Hazardous decomposition Products --

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In case material is spilled or released: Contain spills and leaks to prevent discharge to the environment.

Waste Disposal Method: Dilute and neutralize with limestone or soda ash before disposal. Dispose of in accordance with federal, state, and local regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- Not usually required.

Ventilation: Local exhaust used only as good industrial exhaust.

Protective Gloves: Rubber gloves

Eye Protection: Chemical safety glasses or goggles.

Other: Rubber apron, and rubber boots.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

Other: Eye wash and quick drench shower facilities protected from freezing should be available.

****

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Revised Date: April, 2014 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **4714 COOLING WATER TREATMENT**
Chemical Name and Synonyms: Proprietary water Treatment
Proper Shipping Name: Cooling Water Treatment
Hazard Class: Non-Hazardous
ID Number: None
Label requirements: None Required
Reportable Quantity:

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None Listed		

****

Section III – Physical Data

Boiling Point –
Solubility in water - Complete
Specific Gravity –1.04
Appearance and Odor -- Light amber liquid strong inorganic odor
pH (1% solution) -- 9.0 - 9.6

****

Section IV -- Fire and Explosion Hazard Data

Flash Point – Will not burn
Extinguishing Media – Use water spray, dry chemical for fires adjacent to containers of material.
Special Fire fighting procedures: Do not use solid streams near ruptured drums. At high temperatures sulfur trioxide gas can be released from vented or ruptured containers.
Unusual Fire and Explosion Hazards: Flammable and potentially explosive hydrogen gas can be generated inside metal drums and storage tanks.

****

Section V – Health Hazard Data

Threshold Limit Value – N/A
Effects of Overexposure - May irritate
Emergency and First Aid Procedures -- *Eyes & Skin:* Immediately apply large quantities of running water for prolonged period. Remove all clothing touched by the material. Call a physician. *Ingestion:* Do not induce vomiting. Have patient drink large quantities of water or milk immediately. Call a physician. Do not give carbonates. Do not give anything by mouth to an unconscious person. If vomiting occurs spontaneously, Keep head below hips to prevent aspiration of vomitus into lungs.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –

Incompatibility – Avoid contact with organic-material which may be combustible. Mixing with water or alkalies causes a severe exothermic reaction. Avoid contact with organic materials and strong alkalies.

Hazardous decomposition Products --

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In case material is spilled or released: Contain spills and leaks to prevent discharge to the environment.

Waste Disposal Method: Dilute and neutralize with limestone or soda ash before disposal. Dispose of in accordance with federal, state, and local regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- Not usually required.

Ventilation: Local exhaust used only as good industrial exhaust.

Protective Gloves: Rubber gloves

Eye Protection: Chemical safety glasses or goggles

Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be taken in Handling and storing: Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

Other: Eye wash and quick drench shower facilities protected from freezing should be available.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

****

Revised Date: July, 2004 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **592-L OXYGEN SCAVENGER**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Oxygen Scavenger
Hazard Class: Non-Hazardous — Health = 1
ID Number: None — Fire = 0
Label Requirements: None — Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
None listed		

****

Section III – Physical Data

Boiling Point: 220 F
Solubility in Water: Complete
Specific Gravity: 1.19
Appearance and Odor: Purple liquid – no odor
pH (1% solution): 6.9

****

Section IV – Fire and Explosion Hazard Data

Flash Point -- None
Extinguishing Media – As appropriate to adjacent fire
Special Fire Fighting Procedures --Pressure demand self-contained breathing apparatus should be used by firefighters.
Unusual Fire and Explosion Hazards - Protective clothing for skin and eye protection should be worn to protect against this highly alkaline chemical.

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: Inhalation: Liquid is irritating to eyes. May be harmful if swallowed or absorbed through skin.

Emergency and First Aid Procedures: Eyes: Flush eyes for 15 minutes and get medical attention. *Skin:* Wash thoroughly with soap and water and get medical attention if irritation or redness develops. Launder clothes before reuse. *Ingestion:* Give 2 or 3 glasses of water, induce vomiting by tickling back of throat with finger. Get medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid – Keep away from sparks, heat, and open flame.

Incompatibility – Avoid contact with strong oxidizing agents and acids.

Hazardous Decomposition Products –

Hazardous Polymerization | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Extinguish all sources of ignition. Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Incinerate in an incinerator equipped with an after-burner and scrubber or bury in an approved landfill.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: Use adequate local exhaust ventilation where mist, dust or spray may be generated.

Protective Gloves: Rubber

Eye Protection: Face shield or goggles

Other: Rubber boots and apron if possibility of contact during use exits.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Store away from heat, sparks, and open flame.

Other: Do not transfer to improperly marked containers. Keep container closed when not in use.

****

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling abuse, or misuse, are beyond our control, Walter Louis Fluid Technologies makes no warranty, either express or implied with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

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Revised Date: February, 1998 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **595 OXYGEN SCAVENGER**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Bisulfites, Aqueous Solution N.O.S.
Hazard Class: 8 (Corrosive)
ID Number: UN2693
Label Requirements: Corrosive

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***

None listed

****

Section III – Physical Data

Boiling Point: 212° F
Solubility in Water: Complete
Specific Gravity: 1.30
Appearance and Odor: Clear liquid – pungent odor
pH (1% solution): 5.6

****

Section IV – Fire and Explosion Hazard Data

Flash Point -- Non-Flammable
Extinguishing Media – Use "alcohol" foam or dry chemical
Special Fire Fighting Procedures: None required in normal use.
Unusual Fire and Explosion Hazards:

****

Section V – Health Hazard Data

Threshold Limit Value: Not Established
Effects of Overexposure: *Eyes:* May be irritating to eyes if not flushed immediately. *Skin:* May be irritating to skin if prolonged exposure exists. *Inhalation:* Airborne concentrations of dust, mist, or spray can cause damage to the upper respiratory tract.

Emergency and First Aid Procedures: *Eyes:* Immediately flush eyes with large quantities of water for a 15 minute period, periodically lifting upper and lower lids to ensure washing of the entire surface. Seek medical attention. *Skin:* Immediately wash contaminated area with plenty of soap and water. If irritation persists, seek medical attention. *Inhalation:* Remove person from contaminated area to fresh air. If breathing has stopped, give artificial respiration. Seek medical attention. *Ingestion:* Give large quantities of water or several glasses of milk if available. Induce Vomiting. Never give anything by mouth to a unconscious person. Seek medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid

Incompatibility -- Strong Acids without dilution or agitation, metal alloys, chlorinated hydrocarbons.

Hazardous Decomposition Products -- N/A

Hazardous Polymerization | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Neutralize spill with dilute inorganic acids such as hydrochloric, sulfuric, nitric, phosphoric or acetic acid. The spill area should then be flushed with water followed by a liberal covering of sodium bicarbonate.

Waste Disposal Method: If not diluted and neutralized, this product can become a hazardous waste as designated by the EPA under authority of the Resource Conservation and Recovery Act.

****

Section VIII -- Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: Provide ventilation to maintain airborne concentration below OSHA limitations.

Protective Gloves: Rubber

Eye Protection: Chemical safety goggles or face shield

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Keep container closed when not in use.

Other: Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities. Safety shower, eye bath and washing facilities should be available.

****

The above information is accurate to the best of our knowledge. However, since data, safety standards, and Government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

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Revised Date: October, 2006 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **7116 COOLING WATER TREATMENT**
Chemical Name and Synonyms: Proprietary water Treatment
Proper Shipping Name: Corrosive Liquid N.O.S. (contains Hydroxyphosphono-Acetic Acid)
Hazard Class: Corrosive (8)
ID Number: UN1760
Label Requirements: Corrosive
Reportable Quantity:

Health = 1
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
1-Hydroxyethylidene-1,1-Diphosphonic Acid	>10%	
Case #2809-21-4		

****

Section III – Physical Data

Boiling Point –
Solubility in Water – Complete
Specific Gravity – 1.08
Appearance and Odor -- Blue-green Liquid
pH (1% solution) – 2.8

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Will not burn
Extinguishing Media – Use water spray, dry chemical for fires adjacent to containers of material.
Special Fire Fighting Procedures: Do not use solid streams near ruptured drums. At high temperatures sulfur trioxide gas can be released from vented or ruptured containers.
Unusual Fire and Explosion Hazards: Flammable and potentially explosive hydrogen gas can be generated inside metal drums and storage tanks.

****

Section V – Health Hazard Data

Threshold Limit Value – N/A
Effects of Overexposure – May be irritating
Emergency and First Aid Procedures – *Eyes & Skin:* Immediately apply large quantities of running water for prolonged period. Remove all clothing touched by the material. Call a physician. *Ingestion:* Do not induce vomiting. Have patient drink large quantities of water or milk immediately. Call a physician. Do not give carbonates. Do not give anything by mouth to an unconscious person. If vomiting occurs spontaneously, Keep head below hips to prevent aspiration of vomits into lungs.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –

Incompatibility – Avoid contact with organic-material, which may be combustible. Mixing with water or alkalizes causes a severe exothermic reaction. Avoid contact with organic materials and strong alkalies.

Hazardous decomposition Products --

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In case Material is Spilled or Released: Contain spills and leaks to prevent discharge to the environment.

Waste Disposal Method: Dilute and neutralize with limestone or soda ash before disposal. Dispose of in accordance with federal, state, and local regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- Not usually required.

Ventilation: Local exhaust used only as good industrial exhaust.

Protective Gloves: Rubber gloves

Eye Protection: Chemical safety glasses or goggles

Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be Taken in Handling and Storing: Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

Other: Eye wash and quick drench shower facilities protected from freezing should be available.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

****

Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **7221 COOLING TOWER TREATMENT**
Chemical Name and Synonyms: Proprietary water Treatment
Proper Shipping Name: Corrosive Liquid N.O.S. (contains Sulfuric Acid)
Hazard Class: Corrosive (8)
ID Number: UN1760
Label requirements: Corrosive
Reportable Quantity:

Health = 1
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Sulfuric Acid - Case # 7664-93-9	15%	1mg / m^3
Phosphoric Acid - Case # 7664-38-2	4%	1.0 mg / m^3
Hydroxyethylidene - Case # 2809-21-4	3%	

****

Section III – Physical Data

Boiling Point –
Solubility in water - Complete
Specific Gravity –1.118
Appearance and Odor -- Clear in color and no odor.
pH (1% solution) – 1.6

****

Section IV – Fire and Explosion Hazard Data

Flash Point - Will not burn
Extinguishing Media – Use water spray, dry chemical for fires adjacent to containers of material.
Special Fire fighting procedures: Do not use solid streams near ruptured drums. At high temperatures sulfur trioxide gas can be released from vented or ruptured containers.
Unusual Fire and Explosion Hazards: Flammable and potentially explosive hydrogen gas can be generated inside metal drums and storage tanks.

****

Section V – Health Hazard Data

Threshold Limit Value – N/A
Effects of Overexposure – May be irritating
Emergency and First Aid Procedures – Eyes & Skin: Immediately apply large quantities of running water for prolonged period. Remove all clothing touched by the material. Call a physician. *Ingestion:* Do not induce vomiting. Have patient drink large quantities of water or milk immediately. Call a physician. Do not give carbonates. Do not give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of vomits into lungs.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –

Incompatibility – Avoid contact with organic-material, which may be combustible. Mixing with water or alkalizes causes a severe exothermic reaction. Avoid contact with organic materials and strong alkalies.

Hazardous decomposition Products --

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In case material is spilled or released: Contain spills and leaks to prevent discharge to the environment.

Waste Disposal Method: Dilute and neutralize with limestone or soda ash before disposal. Dispose of in accordance with federal, state, and local regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- Not usually required.

Ventilation: Local exhaust used only as good industrial exhaust.

Protective Gloves: Rubber gloves

Eye Protection: Chemical safety glasses or goggles

Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be taken in Handling and storing: Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

Other: Eye wash and quick drench shower facilities protected from freezing should be available.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

****

Revised Date: April, 2007 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **7351 COOLING WATER TREATMENT**
Chemical Name and Synonyms: Proprietary water Treatment
Proper Shipping Name: Cooling Water Treatment
Hazard Class: Non-Hazardous
ID Number: None
Label requirements: None Required
Reportable Quantity:

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
None Listed		

****

Section III – Physical Data

Boiling Point –
Solubility in water – Complete
Specific Gravity –1.068
Appearance and Odor -- Amber liquid -- inorganic odor
pH (1% solution) – 9.0 to 9.5

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Will not burn
Extinguishing Media - Use water spray, dry chemical for fires adjacent to containers of material.
Special Fire fighting procedures: Do not use solid streams near ruptured drums. At high temperatures sulfur trioxide gas can be released from vented or ruptured containers.
Unusual Fire and Explosion Hazards: Flammable and potentially explosive hydrogen gas can be generated inside metal drums and storage tanks.

****

Section V – Health Hazard Data

Threshold Limit Value -- N/A
Effects of Overexposure – May cause severe burns or irritation
Emergency and First Aid Procedures – *Eyes & Skin:* Immediately apply large quantities of running water for prolonged period. Remove all clothing touched by the material. Call a physician. *Ingestion:* Do not induce vomiting. Have patient drink large quantities of water or milk immediately. Call a physician. Do not give carbonates. Do not give anything by mouth to an unconscious person. If vomiting occurs spontaneously, Keep head below hips to prevent aspiration of vomits into lungs.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –

Incompatibility – Avoid contact with organic-material, which may be combustible. Mixing with water or alkalizes causes a severe exothermic reaction. Avoid contact with organic materials and strong alkalies.

Hazardous decomposition Products --

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In case material is spilled or released: Dilute with plenty of water. Neutralize residue with soda ash or lime.

Waste Disposal Method: Dilute and neutralize with limestone or soda ash before disposal. Dispose of in accordance with federal, state, and local regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- Not usually required.

Ventilation: Local exhaust used only as good industrial exhaust.

Protective Gloves: Rubber gloves

Eye Protection: Chemical safety glasses

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and storing: Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

Other: Eye wash and quick drench shower facilities protected from freezing should be available.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

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Revised Date: May, 2004 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **839 CLOSED SYSTEM INHIBITOR**
Chemical Name and Synonyms: Corrosive Inhibitor
Proper Shipping Name: Non-Hazardous Closed System Inhibitor
Hazardous class – None
ID Number: None
Label Requirements: None
Reportable Quantity:

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
None		

****

Section III – Physical Data

Boiling Point – 212
Solubility in water – Complete
Specific Gravity –1.222
Percent, volatile by volume: N/A
Evaporation Rate: N/A
Appearance and Odor -- Pinkish color – strong inorganic odor
pH (1% solution) - 11.4-11.8

****

Section IV – Fire and Explosion Hazard Data

Flash Point – N/A
Extinguishing Media – None
Special Fire fighting procedures: Not Flammable
Unusual Fire and Explosion Hazards: None

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: Liquid is irritating to eyes. May be harmful if swallowed or absorbed through skin.
Emergency and First Aid Procedure: *EYES:* Flush eyes for 15 minutes and get medical attention. *SKIN:* Wash skin thoroughly with soap and water and get medical attention if irritation or redness develops. Launder clothes before reuse. Follow good industrial hygiene practices.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Keep away from heat, sparks and open flame.

Incompatibility: Avoid contact with strong oxidizing agents, reducing agents, cyanides, amines, ammonium compounds, and acids.

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Extinguish all sources of ignition. Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Incinerate in an incinerator equipped with an after burner and scrubber or bury in an approved landfill.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation:

Protective Gloves: Rubber

Eye Protection: Face shield or goggles

Other: Rubber boots and apron if possibility of contact during use exists.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Store away from heat, sparks and open flame.

Other: Do not transfer to improperly marked containers. Keep container closed when not in use. Wash with soap and water before eating, drinking or using toilet facilities.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

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Revised Date: December, 2009 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **89-L BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Corrosion Inhibitor
Proper Shipping Name: Amines,Liquid, Corrosive, N.O.S. (contains Diethyalminoethanol and Cyclohexylamine)
Hazard Class: Corrosive (8)
ID Number: UN 1760 PGII I
Label Requirements: Corrosive
Reportable Quantity:

Health = 2
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
2-diethylaminoethanol CAS #100-37-8	2.5 – 10%	
Cyclohexylamine CAS #108-91-8	2.5 - 10%	

****

Section III – Physical Data

Specific Gravity -- 1.0094
Appearance and Odor -- Yellowish liquid; amine-like odor
pH (1% soln) – 10.4
Density at 20^0 C – ca. 0.98 g/cm3
Solubility in Water – Readily soluble

****

Section IV – Fire and Explosion Hazard Data

Flash Point -- None.
Extinguishing Media – Water spray or fog: CO_2 foam
Special Fire Fighting Procedures -- Wear full protective suit. Wear alkaline resistant protecting clothing. Put on breathing apparatus.
Unusual Fire and Explosion Hazards -- Fire can cause release of Carbon Monoxide & Nitrogen Oxides. Cool endangered containers with water spray jet. Collect contaminated fire fighting water separately. It must not enter drains.

****

Section V – Health Hazard Data

Threshold Limit Value -- None listed.
Effects of Overexposure -- Causes severe skin burns and eye damage. Suspected of damaging fertility. May cause respiratory irritation.
Emergency and First Aid Procedures -- EYES: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eye lids frequently. Call a physician. Continue flushing with water if medical attention is not immediately available. SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Continue

Emergency and First Aid Procedures (con't) --
flushing with water if medical attention is not available. Wash clothing and shoes before reuse. INHALATION: Supply fresh air and see medical attention. INJESTION: Rinse out moth and then drink plenty of water (approx. 500 ml) DO NOT induce vomiting; seek medical attention.

****

Section VIII – Stability and Reactivity

Stability | Unstable
| Stable (XX)
| Conditions to avoid – No further relevant information available.

Incompatibility – Avoid contact with strong acids.

Hazardous Decomposition Products – N/A

Hazardous Polymerization | May occur
| Conditions to avoid --
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case of Material Spilled or Released: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Use neutralizing agent. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- None required in normal use. However, avoid breathing vapor or mist. Use NIOSH approved equipment when airborne exposure is excessive.

Ventilation -- Maintain adequate ventilation.

Protective Gloves: Rubber

Eye Protection -- Face shield or goggles.

Other -- Wear rubber apron and rubber boots if possibility of contact exists during use.

****

Section IX – Special Precautions

Precautions to be Taken in Handling and Storing -- Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Store away from heat, sparks and open flame. Store away from heat, sparks and open flame.

Other -- Do Not transfer into improperly marked containers. Keep container closed when not in use.

****

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling abuse, or misuse, are beyond our control, Walter Louis Fluid Technologies makes no warranty, either express or implied with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to this particular use.

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Revised Date: August., 2012 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **96 CLOSED SYSTEM CLEANER**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Closed system cleaner
Hazard Class: Non-Hazardous
ID Number: None
Label requirements: None Required
Reportable Quantity:

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None Listed		

****

Section III – Physical Data

Boiling Point – N/A
Solubility in water – Complete
Specific Gravity – 1.093
Appearance and Odor -- Clear liquid with light yellow tint; slight organic odor
pH (1% solution) – 7.0 – 7.5

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Non-Combustible
Extinguishing Media – Not applicable
Special Fire fighting procedures: N/A
Unusual Fire and Explosion Hazards: N/A

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: Human industrial experience has shown no significant inhalation hazard or skin irritation when good personal hygiene practices are followed.
Emergency and First Aid Procedures: *Eyes:* Flush eyes with large amounts of water for at least 15 minutes. If irritation persists, seek medical attention. Wash off with soap and water. If irritation persists, seek medical attention. *INHALATION:* Remove from exposure. If breathing is difficult or discomfort persists, seek medical attention. *INGESTION:* Rinse mouths and dilute stomach contents with water, or preferably with milk if available. *DECONTAMINATION PROCEDURE:* Wash with water. NOTES TO PHYSICIAN: Large does may cause nausea, vomiting and diarrhea.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Strong oxidizers, acids

Incompatibility: None

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Dike spill and soak up with absorbent material and put in salvage container for disposal.

Waste Disposal Method: If material cannot be salvaged, a method of disposal has to be in accordance with state, local, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: None required in normal use.

Protective Gloves: Rubber or neoprene

Eye Protection: Chemical safety goggles or face shield

Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin, or on clothing. Do not take internally.

Other: Store in a full-ventilated area away from oxidizer materials and acids. Always keep container closed when not in use. Never transfer to improperly marked containers.

****

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****

Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **996 RESIN CLEANER**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Non-Hazardous Resin Cleaner
Hazard Class: Non-Hazardous
ID Number: None
Label requirements: None Required
Reportable Quantity:

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None Listed		

****

Section III – Physical Data

Boiling Point – N/A
Solubility in water – Complete
Specific Gravity – 1.093
Appearance and Odor -- Clear liquid with light yellow tint; slight organic odor
pH (1% solution) – 7.0 – 7.5

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Non-Combustible
Extinguishing Media - Not applicable
Special Fire fighting procedures: N/A
Unusual Fire and Explosion Hazards: N/A

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: Human industrial experience has shown no significant inhalation hazard or skin irritation when good personal hygiene practices are followed.
Emergency and First Aid Procedures: *Eyes:* Flush eyes with large amounts of water for at least 15 minutes. If irritation persists, seek medical attention. Wash off with soap and water. If irritation persists, seek medical attention. *INHALATION:* Remove from exposure. If breathing is difficult or discomfort persists, seek medical attention. *INGESTION:* Rinse mouths and dilute stomach contents with water, or preferably with milk if available. *DECONTAMINATION PROCEDURE:* Wash with water. NOTES TO PHYSICIAN: Large does may cause nausea, vomiting and diarrhea.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – Strong oxidizers, acids

Incompatibility: None

Hazardous Decomposition Products: None

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Dike spill and soak up with absorbent material and put in salvage container for disposal.

Waste Disposal Method: If material cannot be salvaged, a method of disposal has to be in accordance with state, local, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: None required in normal use.

Protective Gloves: Rubber or neoprene

Eye Protection: Chemical safety goggles or face shield

Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Do not get in eyes, on skin, or on clothing. Do not take internally.

Other: Store in a full-ventilated area away from oxidizer materials and acids. Always keep container closed when not in use. Never transfer to improperly marked containers.

****

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****

Revised Date: August 8, 2007 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: AM-50 BIOCIDE
Chemical Name and Synonyms:
Proper Shipping Name: Algaecide A
Hazard Class: Non-Hazardous
ID Number: None Required
Label Requirement: None

Health = 1
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***

None listed

****

Section III – Physical Data

Boiling Point – > 220° F
Solubility in Water – Complete
Specific Gravity – 1.05
Appearance and Odor --Clear to amber colored liquid -- slight odor
pH (1% solution) –

****

Section IV – Fire and Explosion Hazard Data

Flash Point – N/A
Extinguishing Media –Water fog, carbon dioxide, foam, dry chemical
Special Fire fighting procedures - None

****

Section V – Health Hazard Data

Thresh-hold Limit value – N/A
Effects of Overexposure – No hazard due to dermal absorption or inhalation. Irritating to the eyes, produces reversible minimal effects in the form of erythema, chmosis, and discharge. Not listed in any of the OSHA Standard, Section 1910.1200 sources as carcinogenic.

Emergency and First Aid Procedures: Flush eyes with clean, cool water for 15 minutes. See a physician if irritation occurs. Wash skin with soap and water. See a physician if irritation occurs. Remove and wash contaminated clothing. Remove to fresh air if inhaled.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –
Incompatibility –N/A
Hazardous decomposition products: None
Hazardous Polymerization – | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Flush liquid to sewer with copious amounts of water.

Waste Disposal Method: Product is not a hazardous waste. It can be disposed of in any approved landfill. Offer container for recycling or triple rinse and dispose of in an approved landfill.

****

Section VIII – Special Protection Information

Respiratory Protection -- None required

Ventilation –None required

Protective Gloves: Rubber gloves as good industrial practice

Eye Protection -- Chemical safety goggles as good industrial practice.

Other:

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing –Keep container closed when not in use.

Other:

****

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use or misuse are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of he information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **AM-545 MICROBIOCIDE**
Chemical Name and Synonyms: Glutaraldehyde, 45% Aqueous Solution
Proper Shipping Name: Corrosive Liquid, Acidic, Organic, NOS
Hazardous class – Corrosive Material (8)
ID Number: UN3265 PG II
Label Requirements: Corrosive
Reportable Quantity:

Health	= 3
Fire	= 1
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***CAS #***	***Percent***
Glutaraldehyde	111-30-8	45%
Methanol	67-56-1	<= 0.5%

****

Section III – Physical Data

Viscosity (centistokes) @ 20C	N/A
Solubility in water	100%
Specific Gravity **(H20=1)**	1.118
Appearance and Odor	Transparent colorless liquid; sharp, fruity, medicinal odor
pH (1% solids solution 2 25C):	3.1 – 4.5
Boiling Point	~ 100.5°C ~ 213°F (as product)
Freezing Point	-17°C 1.4°F
Evaporation Rate	1.0
Melting Point	N/A

****

Section IV – Fire and Explosion Hazard Data

Extinguishing Media – Non-flammable (aqueous solution): After water evaporates, remaining material will burn. Use alcohol-type or all-purpose foam, applied by manufacturer's recommendation techniques for large fires. Use carbon dioxide or dry chemical media for small fires.
Special Fire fighting procedures: Use self-contained breathing apparatus and protective clothing.
Burning can produce the following products: Carbon monoxide and/or carbon dioxide. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiate.

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Emergency and First Aid Procedure: INHALATION: Vapor is irritating to the respiratory tract, causing stinging sensations in the nose and throat, discharge from the nose, possibly bleeding from the nose, coughing, chest discomfort and tightness, difficulty with breathing and headache. Heating the solution may cause in more severe irritant effects. EYES: Liquid will cause a severe and persistent conjunctivitis, seen as excess redness and marked swelling of the conjunctiva with profuse discharge. Severe corneal injury may develop, which could permanently impair vision if prompt first-aid and medical treatment are not obtained. Vapor will cause stinging sensations in the eye with excess tear production, blinking and possibly a slight excess redness of the conjunctiva. SKIN: Brief contact will cause itching with

Section V – Health Hazard Data (Con't)

mild to moderate local redness and possible swelling. Prolonged contact may result in pain, severe redness and swelling, with ulceration, tissue destruction, and possibly bleeding into the inflamed area. Contact with solutions of glutaraldehyde may cause a harmless yellow or brownish discoloration of the skin. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material. INGESTION: Moderately toxic. May cause moderate to marked irritation and possibly chemical burns of the mouth, throat, esophagus, and stomach. There will be discomfort or pain the chest and abdomen, nausea, vomiting, diarrhea, dizziness, faintness, drowsiness, thirst, weakness, circulatory shock, collapse and coma. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

First Aid Procedures: INHALATION: Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention. EYES: Immediately flush eyes with water and continue washing for at least 15 minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist. SKIN: Immediately remove contaminated clothing and shoes. Wash skin with soap and water. Obtain medical attention. Wash clothes before reuse. Discard contaminated leather articles such as shoes and belt. INGESTION: DO NO INDUCE VOMITING. Do not give anything to drink. Obtain medical attention without delay.

Note to Physician: Due to the severely irritating or corrosive nature of the material, swallowing may lead to ulceration and inflammation of the upper alimentary tract with hemorrhage and fluid loss. Also, perforation of the esophagus or stomach may occur, leading to mediastinitis or peritonitis and resultant complication. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration.

****

Section VI – Reactivity Data

Incompatibility: Avoid high temperature and evaporation of water. Strong alkalies and acids catalyze an aldol-type condensations.

Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Very low concentrations (5 ppm or less of glutaraldehyde) can be degraded in a biological wastewater treatment system. Thus, small spills can be flushed with large quantities of water. Large quantities or "slugs" can be harmful to the treatment system. Thus, large spills should be collected for disposal. It may also be possible to decontaminate spilled material by careful application of aqueous Sodium Hydroxide, Ammonium or Sodium Bisulfite. Depending on conditions, considerable heat and fumes can be liberated by the decontamination reaction.

Waste Disposal Method: Atomize into a very hot incinerator fire or mix with a suitable flammable solvent, and incinerate where permitted under appropriate Federal, State and Local regulations. High water content may dampen flame. Dispose in accordance with all applicable Federal, State, Provincial and Local environmental regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

****

Section VIII – Special Protection Information

Respiratory Protection: Use self-contained breathing apparatus in high vapor concentrations. If self-contained breathing apparatus is not available, a MSHA/NIOSH approved air-purifying respirator equipped with an organic vapor cartridge should be used.

Ventilation: General (mechanical) room ventilation is expected to be satisfactory if this material is kept in covered equipment of if the solution is highly diluted.

Section VIII – Special Protection Information (Con't)

Protective Gloves: Nitrile (NBR) Butyl
Eye Protection: Wear chemical safety goggles and have eye baths immediately available where there is potential for eye contact.
Other: Wear chemical apron

****

Section IX – Special Precautions
Precautions to be taken in Handling and Storing: Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Do not swallow. Wear goggles, protective clothing and gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.
Other: This product in its undiluted from must not be used in a spray or aerosol application. If dilutions or mixtures of this product are used in a spray application, full personal protective equipment is strongly recommended to prevent exposure. Do not handle or empty container in the presence of flammable vapors.

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL. 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **AM-66 INDUSTRIAL MICROBIOCIDE**
Chemical Name and Synonyms: Biocide
Proper Shipping Name: Oxidizing Solid, N.O.S. (contains Bromo-Chloro-Dimethylhydantoin)
Hazard Class: 5.1 (Oxidizer)
ID Number: UN1479 PGI
Label Requirement: Oxidizer

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*CASE #*
1-Bromo-3-Chloro-5,5-Dimethylhydantoin	60%	126-06-7
1,3-Dichloro-5,5-Dimethylhydantoin	27.4%	118-52-5
1,3-Dichloro-5-ethyl-5-methylhydantoin	10.6%	89415-87-2
Inerts	2.0%	

****

Section III - Physical Data

Boiling Point – N/A
Solubility in Water – 0.34 OMS/1000ms @25 C
Specific Gravity – 1.0 @ 25 C
Appearance and Odor -- Very slight pungent odor
pH (1% solution) – 3.6

****

Section IV – Fire and Explosion Hazard Data

Flash Point - Decomposes @ 155 C
Extinguishing Media – Foam, CO_2, dry chemical or water
Special Fire fighting procedures – In a fire this material is combustible with the potential for generating noxious gases requiring the use of self-contained respiratory apparatus by firefighters. To minimize the progressive generation of noxious gases, flood the burning material with very large quantities of water.
Unusual Fire and Explosion Hazards – This material is a strong oxidizing and corrosive chemical.

Section V – Health Hazard Data

Effects of Overexposure – INGESTION: Harmful if swallowed. SKIN: Causes burns. EYES: Severe irritant, corrosive to the peripheral eye tissue. May produce irreversible cellular damage in the eye. INHALATION: Not expected to be toxic. Do not breathe fumes from fires or decomposition.
Emergency and First Aid Procedures: *EYES:* Immediately flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. Get medical attention immediately. SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. INHALATION: Move victim to fresh air. If not breathing, supplemental oxygen may be given, preferably with a physicians advice. Get medical attention immediately. INGESTION: Immediately give several glasses of water. Do not induce vomiting. Get medical attention.

Section VI – Reactivity Data

Stability | Unstable (x) If heated above 165C
| Stable
| Conditions to avoid – N/A
Incompatibility –Organic materials.
Hazardous decomposition products: Chlorine and Bromine gases
Hazardous Polymerization -- | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Do not touch spilled material. WET SPILL: Deactivate with dilute sodium bisulfate or sodium thiosulfate at pH > 7, and flush away with water in accordance with local wastewater ordinances. Deactivate and neutralized spills may also be absorbed with sand and treated as a dry spill. DRY SPILL: Shovel into clean, dry container; deactivate area.
Waste Disposal Method: Dispose of in accordance with your local, state and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- None under normal conditions. Dry dust masks, full face masks with Wilson G-S canisters; or self-contained breathing apparatus, depending on dust levels of the process.
Ventilation -- Local exhaust preferred to control dust.
Protective Gloves: Use Impervious gloves.
Eye Protection -- Chemical safety goggles
Other: Safety shower and eye bath

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing –Avoid breathing dust. Store in a cool, dry place, isolated from all organic material. Product is a strong oxidizer and is corrosive. Avoid heat and direct sunlight.
Other: NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock as well as oxygen and measures to support breathing manually or mechanically may be needed. If persistent, convulsions may be controlled by the cautious intravenous injection of a short acting barbiturate drug.

****

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Revised Date: September, 2006 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **AM-714 MICROBIOCIDE**
Chemical Name and Synonyms:
Proper Shipping Name: Corrosive Liquid, Acidic, Organic, NOS (contains Glutaraldehyde)
Hazard Class: 8 Health = 3
ID Number: UN3265 Fire = 1
Label Requirement: Corrosive Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Glutaraldehyde CAS #111-30-8	14.0%	
Water CAS #7732-18-5	<= 83.0%	
Quaternary ammonium compounds, benzyl-C12-16-Alkyldimethyl, chlorides CAS #68424-85-1	2.5%	
Methanol CAS #67-56-1	<= 0.14%	
Ethanol CAS #64-17-5	>= 0.3%	

****

Section III – Physical Data

Boiling Point – 212°F
Solubility in Water – Complete
Specific Gravity 1.035
Appearance and Odor --Transparent pale yellow – fruity odor
pH (1% solution) – 3.1 – 4.5

****

Section IV – Fire and Explosion Hazard Data

Flash Point - Non-Flammable
Extinguishing Media – Use water fog, carbon dioxide, dry chemical or foam
Special Fire fighting procedures – Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain the fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this MSDS.
Unusual Fire and Explosion Hazards -- Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant section.

Section V – Health Hazard Data

Threshold Limit Value – Not established

****

Effects of Overexposure - EYES: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapor may cause eye irritation experienced as mild discomfort and redness. SKIN: Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Skin contact may cause an allergic skin reaction in a small proportion of individuals. Based on information for component(s): Has caused allergic skin reactions when tested in guinea pigs. Has demonstrated the potential for contact allergy in mice. INHALATION: Vapor may cause severe irritation of the upper respiratory tract (nose and throat). Vapor from heated material may cause serious adverse effects, even death. Case reports and medical surveys link asthma and respiratory irritation to glutaraldehyde exposure, primarily in medical personnel. Asthma-like symptoms may occur in people prone to respiratory disorders or other allergies. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening. May cause allergic respiratory response in a small proportion of individuals. INGESTION: Low toxicity if swallowed. Swallowing may result in irritation or burns of the mouth, throat, and gastrointestinal tract. Swallowing may result in irritation or ulceration. Excessive exposure may cause: Headache, Dizziness, Anesthetic effects, drowsiness, unconsciousness and other central nervous system effects. Aspiration to the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Emergency and First Aid Procedures: EYES: Immediately flush eyes with large quantities of water for a 30 minute period, periodically lifting upper and lower lids to ensure washing of the entire surface. Seek medical attention. SKIN: Immediately wash contaminated area with plenty of soap and water. If irritation persists, seek medical attention. INHALATION: Remove person from contaminated area to fresh air. If breathing has stopped, give artificial respiration. Seek medical attention. INGESTION: DO NOT INDUCE VOMITING. Do not give any liquid to the person. Never give anything by mouth to a unconscious person. Seek medical attention.

****

Section VI – Reactivity Data

Stability | Unstable

| Stable (XX)

| Conditions to avoid: Active ingredients decompose at elevated temperatures.

Incompatibility –Avoid contact with: Amines, Ammonia, Strong Acids, Strong bases, strong oxidizers. Avoid contact with metals such as: Aluminum, carbon steel, copper, iron, mild steel.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.

Hazardous Polymerization -- | May occur

| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Evacuate area. Keep upwind of spill. Ventilate area of leak or spill. Only trained and properly protected personnel must be involved in clean-up operations. Use appropriate safety equipment. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

Avoid making contact with spilled material, glutaraldehyde will be absorbed by most shoes. Always wear the correct protective equipment, consisting of splashproof monogoggles, or both safety glasses with side shields and a wraparound full-face shield, appropriate gloves and protective clothing. A self-contained breathing apparatus or respirator and absorbents may be necessary, depending on the size of the spill and the adequacy of ventilation. Small Spills: Wear the correct protective equipment and cover the liquid with absorbent material.

****

Collect and seal the material and the dirt that has absorbed the spilled material in polyethylene bags and place in a drum for transit to an approved disposal site. Rinse away the remaining spilled material with water to reduce odor, and discharge the rinsate into a municipal or industrial sewer. Large spills: In case of nasal and respiratory irritation, vacate the room immediately. Personnel cleaning up should be trained and equipped with a self-contained breathing apparatus, or an officially approved or certified full-face respirator equipped with an organic vapor cartridge, gloves and clothing impervious to glutaraldehyde, including rubber boots or shoe protection. Deactivate with sodium bisulfite (2-3 parts (by weight) per part of active substance glutaraldehyde), collect the neutralized liquid and place in a drum for transit to an approved disposal site.

Waste Disposal Method: Dispose of in an approved landfill.

****

Section VIII – Special Protection Information

Respiratory Protection -- Use an approved air-purifying respirator.

Ventilation: Provide ventilation to maintain airborne concentration below OSHA limitations.

Protective Gloves: Rubber

Eye Protection -- Chemical Safety goggles or face shield

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing –Keep out of reach of children. Do not get in eyes, on skin, on clothing. Do not swallow. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Wear goggles, protective clothing and butyl or nitrile gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Other: Do not spray or aerosolize the undiluted form of this product. Do not store in: Aluminum carbon steel, copper, mild steel or iron.

****

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Revised Date: May, 2013 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **CTT COOLING TOWER TABLETS**
Chemical Name and Synonyms: Organic/Inorganic Tower Treatment
Proper Shipping Name: Cooling Tower Tablets
Hazard Class: Non-Hazardous
ID Number: None
Label Requirements: None
Reportable Quantity:

Health	= 2
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Sodium Phosphate CAS #68915-31-1	43.4%	N/D
Sodium Metasilicate CAS #6834-92-0	22.00%	N/D
Synthetic Camphor CAS #76-22-2	4.0 %	N/D
Benzotriazole CAS #95-14-7	1.0%	N/D

****

Section III – Physical Data

Boiling Point – N/A
Solubility in Water -- Soluble
Specific Gravity – Solid
Appearance and Odor -- Blue Tablet / Camphor Odor
Vapor Pressure (mm Hg) - N/D
Melting Point – N/D
Evaporation Rate (Ethyl Acetate = 1) – N/D

****

Section IV – Fire and Explosion Hazard Data

Flash Point – None
Extinguishing Media – Non-combustible. Use agents appropriate for surrounding fires.
Special Fire Fighting Procedures: None
Unusual Fire and Explosion Hazards: None

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: May cause irritation to skin, eyes and respiratory tract. May be harmful if swallowed or inhaled. Many of the systemic effects given below were taken from toxicity information for other phosphates. INHALATION: May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath. EYE CONTACT: May cause irritation, redness and pain. SKIN: May cause skin irritation. INGESTION: Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systemic effects. Such effects, however, have occurred. Symptoms may include vomiting, lethargy, diarrhea,

blood chemistry effects, heart disturbances and central nervous system effects. The toxicity of phosphates is because of their ability to sequester calcium. Systemic acidosis may result as this material is believed to hydrolyze into phosphoric acid when ingested. MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver, or kidney may have increased susceptibility to excessive exposure.
Emergency and First Aid Procedures: INHALATION: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential. SKIN: Immediately wash with soap and water. Remove and wash any contaminated clothing. EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists. INGESTION: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid – None

Incompatibility: Not Known
Hazardous Decomposition Products: N/A
Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is Spilled or released: Sweep up excess material to prevent footing hazard. Discard in trash.
Waste Disposal Method: Waste from this product is not is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with Federal, State and Local regulation regarding pollution.

****

Section VIII – Special Protection Information

Respiratory Protection: Normally none required. Use NIOSH/MSHA approved particulate respirator for dust.
Ventilation: Local exhaust: Acceptable
Protective Gloves: Rubber or neoprene
Eye Protection: Face shield or chemical safety goggles
Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be Taken in Handling and Storing: Store in a dry place.
Other: Avoid prolonged or repeated contact with skin or clothing.

****

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **HT-1 THERMOGUARD HEAT TRANSFER FLUID**
Chemical name and synonyms: Corrosion Inhibitor
Proper Shipping Name: Corrosion Inhibitor
Hazard Class: Non-Hazardous
ID Number: None Required
Label requirements: None Required
Reportable Quantity:

Health	= 1
Fire	= 1
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
None listed		

****

Section III – Physical Data

Boiling Point N/A
Solubility in water – Complete
Specific Gravity –1.16
Appearance and Odor -- Fluorescent Pink
Evaporation rate– 8.3

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Not combustible
Extinguishing Media – Apply alcohol type or all purpose type foams by manufacturers recommended techniques for large fires. Use water spray, carbon dioxide or dry chemical media for small fires. If a leak or spill has not ignited use a water spray to disperse the vapors and to provide protection for persons attempting to stop the leak.
Special Fire Fighting procedures: Cool exposed containers with water.
Unusual Fire and Explosion Hazards: N/A

****

Section V – Health Hazard Data

Threshold Limit Value N/A
Effects of Overexposure: Liquid is irritating to eyes. If swallowed, will cause loss of consciousness.

Emergency and First Aid Procedures: Remove contaminated clothing and shoes. Flush affected area with plenty of water. If in eyes, hold eyelids open and flush with plenty of water. If swallowed, and victim is conscious, have victim drink water or milk and have victim induce vomiting. If swallowed and victim is unconscious or having convulsions, do nothing except keep victim warm.
****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –

Incompatibility – Keep away from heat, sparks, open flames and strong oxidizing conditions. Avoid strong oxidizers, strong acids, permanganates, peroxides, dichromates, reactive sodium compounds, sulfur compounds, alkali metals & nitrates.

Hazardous decomposition products– Carbon Monoxide and carbon dioxide

Hazardous Polymerization: | May occur
| Will not occur(XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- None required in normal use. However, avoid breathing vapor or mist. Use NIOSH approved equipment when airborne exposure is excessive.

Ventilation: Maintain adequate ventilation. Local exhaust is dusty or misty conditions prevail.

Protective Gloves: Rubber

Eye Protection: Side shield safety goggles or chemical safety goggles. Do not wear contacts.

Other: Wear rubber apron and rubber boots if possibility of contact during use exists.

****

Section IX Special Precautions

Precautions to be taken in Handling and Storing - Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Store away from heat, sparks and open flame.

Other: Do not transfer to improperly marked containers. Keep container closed when not in use.

****

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Revised Date: May, 2007 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **ISA-10 ACID CLEANER**
Chemical Name and Synonyms: Inorganic Acid
Proper Shipping Name: Sulfamic Acid
Hazard Class: Corrosive (8)
ID Number: UN2967 PG III
Label requirements: Corrosive
Reportable Quantity:

Health	= 1
Fire	= 0
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
Sulfamic Acid	90%	
Case # 5329-14-6		

****

Section III – Physical Data

Boiling Point – N/A
Solubility in water – Complete
Specific Gravity –
Appearance and Odor – Off White crystalline
pH 1.3

****

Section IV – Fire and Explosion Hazard Data

Flash Point – Non-Flammable
Extinguishing Media: Water, chemical foam or carbon dioxide
Special Fire fighting procedures: If safe, remove containers from fire area, or wear self-contained breathing apparatus and fully protective gear.
Unusual Fire and Explosion Hazards: Sulfuric dioxide and Sulfur Trioxide may be released in fire. Water solution of sulfamic acid is tronly acidic, run-off from fire may cause water pollution.

****

Section V – Health Hazard Data

Threshold Limit Value – N/A
Effects of Overexposure: - Can cause eye burns, irritation of nose, throat and skin.
Emergency and First Aid Procedures: EYE: Flush immediately with copious amounts of water (under lids) for 15 minutes. See physician. SKIN: Wash thoroughly with copious amounts of water. INHALATION: Remove to fresh air. Aid in breathing if necessary and call physician. INGESTION: DO NOT INDUCE VOMITING. Drink large amounts of water and call a physician at once.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid – Hazardous reaction in aqueous solution may occur with Chlorine, Hypochlorous Acid, Hypochlorites, Cyanides or Sulfide.

Incompatibility –

Hazardous DecompositionProducts--Sulfur Trioxide, Sulfur dioxide, Nitrongen, Sulfuric Acid and ammonia.

Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Sweep up spillage and flush area with large amounts of water to waste water treatment system. Neutralize with Alkalies.

Waste Disposal Method: Should be neutralized with Alkalies. Dispose of in accordance with local, state, and federal authorities.

****

Section VIII – Special Protection Information

Respiratory Protection – NIOSH/MSHA approved respirator for toxic dust.

Ventilation: Maintain TWA for local exhaust. Maintain TWA for mechanical exhaust.

Protective Gloves: Rubber

Eye Protection: Chemical splash goggles, face shield.

Other: Rubber apron, and rubber boots.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Store in dry, cool area. (To prevent caking) Keep away from Cyanides, Sulfides, Chlorine, Hypochlorous Acids or Hypochlorites.

Other: Use with adequate ventilation and maintain good personal hygiene.

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

Walter Louis
FLUID TECHNOLOGIES

MATERIAL SAFETY DATA SHEET
ISO-15

Walter Louis Fluid Technologies
530 South 5th St.
Quincy, IL 62301

EMERGENCY TELEPHONE NUMBERS
217-223-2017 - WLFT (weekdays)
800-424-9300 - CHEMTREC (24 Hours)

Date: January 31, 2000

PRODUCT IDENTIFICATION

Other Trade Names: AMA®-215, KATHON®, KTND®, BUSAN 1078®
Active ingredients Formula: C_4H_4ClNOS **CAS Nos:** 26172-55-4/2682-20-4
Chemical Names/Synonyms: 5-chloro-2-methyl-4-isothiazolin-3-one/ 2-methyl-4-isothiazolin-3-one
DOT Shipping Name: Corrosive liquid, acidic organic, NOS , 8, UN 3265, PG II

PHYSICAL DATA (TYPICAL)

Appearance: Pale yellow to green liquid
Odor: Mild aromatic odor
Specific Gravity (H_2O=1): 1.02
pH: 3.2
Solubility In Water: Complete
Boiling Point: 212°F
Viscosity: 3 cps @ 77°F
Vapor Pressure: 17 mm Hg @ 70°F

HAZARDOUS INGREDIENTS

Components	%	TLV
5-chloro-2-methyl-4-isothiazolin-3-one	1.11	Not established
2-methyl-4-isothiazolin-3-one	0.39	Not established
Magnesium Nitrate (CAS 10377-60-3)	~1.75	Not established

FIRE AND EXPLOSION DATA

Flash Point : > 200°F
Extinguishing Media: No fire hazard.
Special Fire Fighting Procedures: Not applicable.
Unusual Fire And Explosion Hazards: None.

HEALTH HAZARD DATA

Effects Of Overexposure: Contact with eyes causes severe irritation and corneal injury. Skin irritation effects, including corrosive burns, may be delayed for hours. Material is a skin sensitizer.

Emergency First Aid Procedures:

Eyes: Flush with plenty of water for at least 15 minutes. Get prompt medical attention.

Skin: Wash thoroughly with soap and water. Remove and wash contaminated clothing before reuse. Get medical attention if irritation develops.

Ingestion: Do not induce vomiting. Drink promptly a large quantity of milk, egg whites, gelatin solution or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

Inhalation: Move immediately to fresh air. If not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Physicians Note: Probable mucosal damage may contraindicate the use of gastric lavage.

REACTIVITY DATA

Stability: Material is stable.
Incompatibility: Nitrates.
Hazardous Decomposition Products: Hydrogen chloride and oxides of sulfur.
Hazardous Polymerization: Will not occur.

SPILL OR LEAK PROCEDURES

Steps To Be Taken In Event Material Is Released Or Spilled: Collect all spilled material. Do not flush directly to watercourses. In industrial facilities, spill residuals may be flushed into sewers from which the discharge is regulated under NPDES (or comparable) permits
Waste Disposal Method: Material is corrosive. Disposal controlled by EPA Resource Conservation and Recovery Act (RCRA D002).

SPECIAL PROTECTION INFORMATION

Specific Personal Protective Equipment:

Eyes:	Chemical goggles which are dust- and splash-proof or face shield.
Skin:	Impervious clothing, rubber gloves and boots.
Other:	Have knowledge of location of nearest safety shower/eye wash.
Ventilation Requirements:	Mechanical ventilation is recommended if working with this product in enclosed areas

SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling And Storing: Keep from freezing and temperatures >140°F. Store in a cool well ventilated area.
Other Precautions: Insure containers are tightly closed when not in use.

REGULATORY STATUS INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA): All components of this product are listed in the Toxic Substances Control Act inventory.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA): If this product is to be discarded, it is classified as a hazardous waste (DOO2 - corrosive); as such, it has a reportable quantity of 100 pounds.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA Title III) - Section 311 Hazard Categories:

Acute Health:	Yes
Chronic Health:	No
Fire:	No
Sudden Release of Pressure:	No
Reactive:	No

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA Title III) - Section 313: Components of this product subject to reporting: *Magnesium nitrate (CAS 10377-60-3) as a nitrate compound.*

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **LC-25 CAUSTIC SODA LIQUID 25%**
Chemical Name and Synonyms: Sodium Hydroxide Solution
Proper Shipping Name: Sodium Hydroxide Solution
Hazard Class: Corrosive Material
ID Number: UN1824 PG:II
Label requirements: Corrosive
Reportable Quantity:

Health	= 3
Fire	= 0
Reactivity	= 1

****

Section II - Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Sodium Hydroxide Case # 1310-73-2	25%	2 MG/M3 – Ceiling

****

Section III – Physical Data

Boiling Point: 288 F
Solubility in Water: Complete
Specific Gravity: 1.28
Appearance and Odor: Clear and colorless
Evaporation Rate: Slower than ether
Vapor Density: Heavier than air
pH (1% solution) – 50%

****

Section IV – Fire and Explosion Hazard Data

Flash Point: Not applicable
Extinguishing Media:
Special Fire fighting procedures: Wear self-contained breathing apparatus with a full face-piece operated in pressure-demand or other positive pressure mode and full body protective clothing when fighting fires.
Unusual Fire and Explosion Hazards: Can react with chemically reactive metals such as aluminum, zinc, magnesium, copper, ect. To release hydrogen gas which can form explosive mixtures with air.

Section V – Health Hazard Data

Threshold Limit Value: 2 MG/M3 - Ceiling
Effects of Overexposure: EYES: Causes severe damage and even blindness very rapidly. SKIN: Causes burns, possible deep ulceration. BREATHING: Mist can cause damage to nasal and respiratory passages. SWALLOWING: Results in severe damage to mucous membranes and deep tissues.

Emergency and First Aid procedures: SKIN: Immediately flush exposed area with water for at least 15 minutes, get medical attention. Remove contaminated clothing. Launder contaminated clothing before re-use. Discard contaminated shoes. EYES: Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get immediate medical attention. If physician is not immediately available, continue flushing with water. Do not use chemical antidote. IF SWALLOWED: Do not induce vomiting. Vomiting will cause further damage to the throat. Dilute by giving water. Give milk of magnesia. Keep warm and quite. Get medical attention immediately. IF BREATHED: If affected remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Keep person warm, quiet and get medical attention.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)

Incompatibility – Avoid contact with strong mineral acids, reactive metals such as aluminum and magnesium, organic materials, water, strong organic acids, copper.
Hazardous decomposition products: N/A
Hazardous Polymerization -- | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Small spill: Neutralize and mop up solution. Large spill: Collect and add slowly to large volume of water. Persons not wearing protective equipment should be excluded from area of spill until cleanup is completed. Stop spill at source. Dike to prevent spreading. Pump to salvage tank.

Waste Disposal Method: Small Spill: dispose of in accordance with Local, State, and Federal regulations. Large spill: pour into a large tank of water and neutralize. Flush to drain with large excess of water in accordance with applicable regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- If TLV of the product or any component is exceeded, a NIOSH/MSHA jointly approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators under specified conditions.

Ventilation: Provide sufficient mechanical (general and /or local exhaust) ventilation to maintain exposure below TLV(s).

Protective Gloves: Wear resistant gloves such as Neoprene, Nitrite rubber, Polyvinyl Chloride, Polyethylene.

Eye Protection -- Chemical splashes goggles and face shield.

Other: Wear impervious clothing and boots.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: N/A

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MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **LC-50 CAUSTIC SODA LIQUID 50%**
Chemical Name and Synonyms:
Proper Shipping Name: Sodium Hydroxide Solution
Hazard Class: Corrosive Material
ID Number: UN1824 PG:II
Label requirements: Corrosive
Reportable Quantity:

Health = 3
Fire = 0
Reactivity = 1

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
Sodium Hydroxide	50%	2 MG/M3 – Ceiling
Case # 1310-73-2		

****

Section III – Physical Data

Boiling Point: 288 F
Solubility in Water: Complete
Specific Gravity: 1.525
Appearance and Odor: Clear and colorless
Evaporation Rate: Slower than ether
Vapor Density: Heavier than air
pH (1% solution) –

****

Section IV – Fire and Explosion Hazard Data

Flash Point: Not applicable
Extinguishing Media:
Special Fire fighting procedures: Wear self-contained breathing apparatus with a full face-piece operated in pressure-demand or other positive pressure mode and full body protective clothing when fighting fires.
Unusual Fire and Explosion Hazards: Can react with chemically reactive metals such as aluminum, zinc, magnesium, copper, ect. To release hydrogen gas which can form explosive mixtures with air.

Section V – Health Hazard Data

Threshold Limit Value: 2 MG/M3 - Ceiling
Effects of Overexposure: EYES: Causes severe damage and even blindness very rapidly. SKIN: Causes burns, possible deep ulceration. BREATHING: Mist can cause damage to nasal and respiratory passages. SWALLOWING: Results in severe damage to mucous membranes and deep tissues.
Emergency and First Aid procedures: SKIN: Immediately flush exposed area with water for at least 15 minutes, get medical attention. Remove contaminated clothing. Launder contaminated clothing before re-use. Discard contaminated shoes. EYES: Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get immediate medical attention. If physician is not immediately available, continue flushing with water. Do not use chemical antidote. IF SWALLOWED: Do not induce vomiting. Vomiting will cause further damage to the throat. Dilute by giving water. Give milk of magnesia. Keep warm and quite. Get medical attention immediately. IF BREATHED: If affected remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Keep person warm, quiet and get medical attention.

MATERIAL SAFETY DATA SHEET - LC-50 CAUSTIC SODA LIQUID 50%

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)

Incompatibility – Avoid contact with strong mineral acids, reactive metals such as aluminum and magnesium, organic materials, water, strong organic acids, copper.
Hazardous decomposition products: N/A
Hazardous Polymerization -- | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Small spill: Neutralize and mop up solution. Large spill: Collect and add slowly to large volume of water. Persons not wearing protective equipment should be excluded from area of spill until cleanup is completed. Stop spill at source. Dike to prevent spreading. Pump to salvage tank.

Waste Disposal Method: Small Spill: dispose of in accordance with Local, State, and Federal regulations. Large spill: pour into a large tank of water and neutralize. Flush to drain with large excess of water in accordance with applicable regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- If TLV of the product or any component is exceeded, a NIOSH/MSHA jointly approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators under specified conditions.

Ventilation: Provide sufficient mechanical (general and /or local exhaust) ventilation to maintain exposure below TLV(s).

Protective Gloves: Wear resistant gloves such as Neoprene, Nitrite rubber, Polyvinyl Chloride, Polyethylene.

Eye Protection -- Chemical splashes goggles and face shield.

Other: Wear impervious clothing and boots.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Never store in unmarked containers.

****

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **PAC-50**
Chemical Name and Synonyms: Flocculent
Proper Shipping Name: Flocculent
Hazard Class: Non-Hazardous
ID Number: N/A
Label requirement: None
Reportable Quantity:
****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
None Listed		

****

Section III -- Physical Data

Boiling Point – N 100
Solubility in water: Complete
Specific Gravity – 1.34
Appearance and Odor -- Clear colorless liquid with no odor
pH*(1%)* - 4.5
****

Section IV – Fire and Explosion Hazard Data

Flash Point – None
Extinguishing Media – Non-Flammable Liquid
Special Fire Explosion Hazards – A self-contained breathing apparatus should be worn by fire fighting personnel.
Unusual Fire and Explosion Hazards -- N/A
****

Section V – Health Hazard Data

Threshold Limit Value – 2 MG/m3
Effects of Overexposure: Repeated or prolonged exposure may cause skin and eye irritation. Highly toxic if swallowed.

Emergency and First Aid Procedures – *Skin:* Remove contaminated clothing. Wash skin with soap and water for 5 minutes. *Eyes:* Flush eyes with copious amounts of water for at least 15 minutes.

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)
| Conditions to avoid:

Incompatibility: Avoid contact with alkalis. Precipitates aluminum hydroxide.

Hazardous Decompositon Products: At temperatures > 500 F, Hydrogen Chiloride gas will be liberated.

Hazardous Polymerization | May occur
| Will not occur (XX)

****

Section VII – Spill or leak Procedure

Steps To Be Taken In Case of Material Spilled or Released: Dike and absorb spill wilth inert material such as sand, earth, or vermiculite and transfer to a suitable container for disposal. Flush area with water.

Waste Disposal Method: Incinerate in a furnace or bury in an approved landfill according to state, local regulations. Dispose of as a hazardous waste in accordance with local, state and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- None required in normal use.

Ventilation -- Local exhaust is preferred

Protective Gloves: Rubber

Eye Protection --Face shield or chemical safety goggles

Other: Rubber apron and rubber boots

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing - Keep container closed when not in use. Wash hands thoroughly after handling chemical.

Other:

****

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Revised Date: November, 2003 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **SULFURIC ACID**
Chemical Name and Synonyms: Sulfuric Acid
Proper Shipping Name: Sulfuric Acid
Hazard Class: Corrosive Material (8)
ID Number: UN 1830 PG-II
Label requirements: Corrosive
Reportable Quantity:

Health = 3
Fire = 0
Reactivity = 2

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Hydrogen Sulfate	93%	OSHA 1 mg/m^3
Water Cas # 7664-93-9	7	AOGIH 1 mg/m^3

****

Section III -- Physical Data

Boiling Point –279 C
Solubility in water – Complete
Specific Gravity –H_2O=1 – 1.84
Appearance and Odor -- Colorless to light brown oily liquid. Odorless
Vapor Pressure @ 20 C essentially 0

****

Section IV – Fire and Explosion Hazard Data

Flash Point - N/A Flammable Limits: LEL * UEL *
Extinguishing Media – Dry chemical or carbon dioxide. Do not add water or other liquid to acid. Explosive hydrogen gas can be generated inside metal drums or storage tanks.
Special Fire fighting procedures: Wear full protective clothing. Wear self-contained breathing equipment.
Unusual Fire and Explosion Hazards: Cool exterior of storage tanks and drums of H_2SO_4 with water if exposed to fire to avoid rupture. Do not get water or other liquids in acid.

****

Section V – Health Hazard Data

Threshold Limit Value – 1 mg/m^3
Effects of Overexposure – INHALATION: Inhalation of fumes or mist can result in irritation or burns to the upper respiratory tract and lungs. Pulmonary edima can also occur. Ingestion of this material will burn the mouth, throat and stomach and can cause death. Eye or skin contact will result in serious burns and may cause blindness.
Chronic Overexposure: Erosion of the teeth, mouth inflammation, tracheobronchitis, and conjunctivitis and skin lesions.
Medical conditions generally aggravated by this material: Chronic respiratory disease.
This material is considered to be carcinogenic by: NTP? NO IARC? NO OSHA? NO
Emergency and First Aid Procedures – EYE CONTACT: Immediately flush eyes with a large amount of water. Remove clothing while under the safety shower. Call a physician immediately. INHALATION: Remove to fresh air. If breathing has stopped, perform artificial respiration. Call a physician immediately. INGESTION: Do not induce vomiting. If conscious, give several glasses of milk or water. Call a physician immediately. NOTE: Pulmonary edema may occur- monitor patient.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –

Incompatibility – With water, alkaline solutions, metals and strong oxidizing, reducing or combustible materials.
Hazardous Decomposition Products -- Contact with cyanides, carbides and sulfides will produce hazardous gases. Sulfuric acid will release sulfur dioxide at extremely high temperatures.
Hazardous Polymerization: | May occur
| Will not occur (X)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Neutralize with soda ash or lime. Adding soda ash will produce carbon dioxide – maintain adequate ventilation. Keep out of sewer.

Waste Disposal Method: Recover acid if possible. Dispose of in accordance with federal, state and local laws and regulations.

Other: This material was reported on the initial TSCA inventory.

****

Section VIII – Special Protection Information

Respiratory Protection -- When required use a NIOSH/MSHA approved respirator, elevated exposures may require the use of self-contained breathing equipment.

Ventilation: Use ventilation to maintain exposure levels of sulfuric acid mist or vapors within the OSHA limit.

Protective Gloves: Wear acid-resistant gauntlet gloves

Eye Protection: Wear chemical safety goggles and full-face plastic shield. For increased protection use supplied air acid hood. Do not wear contacts.

Other: Wear acid-resistant apron, protective clothing, boots and gauntlet gloves for routine use. Acid-resistant trousers and jacket will provide increased protection. Maintain eyewash fountains and safety showers where sulfuric acid is used or stored.

****

Section IX – Special Precautions

Precautions to be taken in Handling and storing: Vent metal containers weekly or move frequently in hot weather to prevent hydrogen gas build up. Store in a cool, ventilated area away from combustibles and reactive chemicals.

Other: Keep container closed when not in use.

****

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Revised Date: February, 1998 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **THERMAL-GUARD FG**
Chemical name and synonyms: THERMAL-GUARD FG
Proper Shipping Name: *Inhibited Propylene Glycol*
Hazard Class: None
ID Number: None
Label requirements: None Required
Reportable Quantity:

Health = 1
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
None listed		

****

Section III – Physical Data
Boiling Point – N/A
Solubility in water – Complete
Specific Gravity –1.04
Appearance and Odor -- Clear – faint organic odor
Evaporation rate—7.6

****

Section IV – Fire and Explosion Hazard Data

Flash Point – 218˚F
Extinguishing Media: Water fog, alcohol foam, CO2, dry chemical
Special Fire fighting procedures: Wear positive pressure self-contained breathing apparatus
Unusual Fire and Explosion Hazards: N/A

****

Section V – Health Hazard Data
Threshold Limit Value – N/A
Effects of Overexposure: -- EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. SKIN CONTACT: prolonged contact is essentially non-irritating to skin. Repeated exposure may cause slight flaking, tenderness, and softening of the skin. SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. INGESTION: Single dose oral toxicity is low. No hazards anticipated from ingestion. INHALATION: A single prolonged (hours) inhalation exposure is not likely to cause adverse effects. Mists are not likely to be hazardous. SYSTEMIC & OTHER EFFECTS: Repeated excessive ingestion may cause central nervous system effects. Did not cause cancer in long-term animal studies. Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effects on the fetus. In animal studies, has been shown not to interfere with reproduction. Results of in vitro ("TEST TUBE") mutagenicity tests have been negative. Results of mutagenicity tests in animals have been negative.
Emergency and First Aid Procedures: EYES: Irrigate immediately with water for at least 15 minutes. SKIN: Wash off in flowing water or shower. INGESTION: No adverse effects anticipated by this route of exposure. INHALATION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling. NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –
Incompatibility –Oxidizing material.
Hazardous decomposition products—Propionaldehyde, carbon monoxide in the presence of limited oxygen in a fire situation.
Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: SMALL SPILL: Cover with absorbent material, soak up and sweep into a drum. LARGE SPILLS: Dike around spill and pump into suitable containers.

Waste Disposal Method: Re-process or burn in an approved incinerator in accordance with all federal, state, and local requirements.

****

Section VIII – Special Protection Information

Respiratory Protection -- When airborne exposure guidelines and/or comfort levels may be exceeded, use an approved air-purifying respirator.

Ventilation: Good general ventilation should be sufficient.

Protective Gloves: Use impervious gloves when prolonged or frequently repeated contact should occur.

Eye Protection: Use safety glasses. Where contact with liquids is likely, chemical goggles are recommended because eye contact with this material may cause pain, even though it is unlikely to cause injury.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing – Exercise reasonable care and caution.

Other: Do not transfer to improperly marked containers.

****

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****

Revised Date: 10/2001 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

(Prepared According to 29 CFR 1910.1200)

PRODUCT NAME: **VEROX-8**

Stabilized Chlorine Dioxide

SECTION I - GENERAL INFORMATION

Manufacturer/Supplier Name:

The Verox Group, LLC
1220 Market Street, Suite 606
Wilmington, DE 19801

Phone: 603-773-5024

Emergency: 603-773-5685

Date prepared: 4/1/01

SECTION II - COMPONENT INFORMATION

Chemical Name	CAS REG. NO.	PERCENT	LD_{50}	LC_{50}
Stabilized Chlorine Dioxide	10049-04-4	8%	N/E	N/E

SECTION III - PHYSICAL PROPERTIES

FREEZE POINT (°C): -3
SPECIFIC GRAVITY(25°C):1.056 min.
VAPOR PRESSURE (mmHg) @ 25°C: 0.03
APPEARANCE & ODOR: Liquid, Pale Yellow, Odorless

pH (25°C): 11.8
EVAPORATION RATE (BuAC=1): 1
SOLUBILITY IN WATER: Complete

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (COC): None when diluted.
FLAMMABLE LIMITS: LOWER: N/E UPPER: N/E
EXTINGUISHING MEDIA: Foam, CO_2.
SPECIAL FIREFIGHTING PROCEDURES: Wear a self-contained breathing apparatus with personal protective equipment.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Contamination with other materials such as acids, toxic chlorine, organic chemicals, etc. may cause a chemical reaction.

SECTION V - REACTIVITY DATA

STABILITY: Stable.
INCOMPATIBILITY: Strong acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Contamination with other materials may cause a chemical reaction.

SECTION VI - HEALTH HAZARDS

ROUTE (S) OF ENTRY:EYE: ✓ INHALATION: ✓ SKIN: ✓ INGESTION: ✓

EYE:	Irritant to the eyes, causes burns.
INHALATION:	Can cause headache, nausea.
SKIN:	Slight irritant when overexposure occurs.
INGESTION:	Causes severe burns to the lungs.

SECTION VII - EMERGENCY AND FIRST AID PROCEDURES

EYE:	Flush with plenty of water for at least 15 minutes. Call a physician.
INHALATION:	Move victim to fresh air.
SKIN:	Wash affected areas with soap and water for at least 15 minutes. If irritation persists, call a physician. Wash clothing before re-use.
INGESTION:	DO NOT INDUCE VOMITING. Promptly drink a large quantity of water. Call a physician.

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY PROTECTION:	None required under normal use conditions.
VENTILATION REQUIREMENTS:	Adequate local exhaust. Specific needs should be addressed by supervisory or health/safety personnel.
PROTECTIVE GLOVES:	Neoprene.
EYE PROTECTION:	Safety glasses with chemical splash goggles, face shield.
OTHER PROTECTIVE CLOTHING:	Apron, coveralls, foot coverings as needed.

SECTION IX - SPILL OR LEAK HANDLING PROCEDURES

STEPS TO BE TAKEN IF RELEASED OR SPILLED: Dilute with a large quantity of water. Do not allow liquid to dry because this could present a fire hazard. In case of contamination, do not reseal container. Isolate in an open, well-ventilated area.

WASTE DISPOSAL METHODS: Dispose of in an approved waste facility according to Federal, State and Local regulations.

SECTION X - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
OXIDIZER! CORROSIVE! Handle with care. Store in closed container in well-ventilated area.

SECTION XI - TRANSPORTATION INFORMATION

Hazard Class or Division: 8
Identification: UN-1908
Label Codes: 8

The health hazards given on the Material Safety Data Sheet apply to this product in its concentrated form (as supplied) and may differ significantly at use dilution. The signs and symptoms of overexposure apply only to negligence in handling or misuse of the concentrated product and not to the routine exposure to the diluted product under conditions of ordinary use.

EXHIBIT F

METHOD OF PERFORMANCE

WLFT will present a written plan for performing the requirements specified in this Request for Proposal. In presenting such information, WLFT will specifically address each of the following issues:

1. WLFT's plan for removing and disposing of all empty delivery/shipping drums and containers every thirty (30) calendar days, in compliance with all regulations and laws promulgated in the State of Missouri Department of Natural Resources, Department of Health and Senior Services, and other applicable state, local, and federal agencies. The plan should include, but not be limited to, documented identification of all chemical containers to be shipped, used, and disposed of during a year, including construction type, size, contents, and DOT designation and specific unit identification.

WLFT Policy & Procedure for Tracking all Containers for RFP: B3Z14153

Every container (drums and barrels) remains property of WLFT. Every container leaving the possession of WLFT Staff will be monitored through our *Container Delivery and Retrieval* process (CDR). This means that all drums and barrels dropped off at each location are accounted for through careful attention to the CDR Form that is filled out by a delivery driver each and every time that containers are handled (SEE ATTACHED FORM: CDR). There will be a quarterly meeting between the Contract Manager and the state agency's Service Level Manager(s). At this meeting, the exact number of containers used during the process will be accounted for and the final destination of those containers will be exacted as well.

The CDR form is kept with all shipping papers and is further documented electronically by the Director of Operations after each delivery to each location. Such it is that at any time, upon request, WLFT will have knowledge with respect to the number of containers in any facility and how many have been retrieved at any given moment. The WLFT Security Plan states that all handling of containers must adhere to updated applicable laws and regulations by both the E.P.A and OSHA.

It is important to note that only WLFT will be handling both the drop-off and the pickup of all containers regardless if they reside inside the facility or on the delivery truck. The truck uses a lift gate regardless of weight and proper PPE is used during the handling process.

Moreover, all containers that are brought back to WLFT after use are properly cleaned outside and inside the container. Mild detergents are used to clean the containers and are also triple-rinsed and de-labeled before being sent to a recycling center based in Quincy, Illinois. At this facility, the container is shredded and recycled.

*** The CDR form includes the following: Construction Type; size; contents; DOT designation and specific unit identification; date received; dates used; date removed; and disposal documentation.

CDR System — Container Delivery Retrieval Form

IMPORTANT! READ CAREFULLY: By filling out this form, you must certify two things:
1) *Every HazMat has a MSDS accompaniment.*
2) *The material in the drums/barrels is indeed what this form says it is.*

Instructions for completing this form:
Use this form to request the delivery or retrieval of HazMat or the pick-up of empty containers with HazMat residue.
Walter Louis Fluid Technologies will not take possession unless form is filled out.

Request Date:	First Name:	Last Name:
Company:	Building:	Dept:

ID # (if any)	Service Request- Pick Up or Delivery	GENERATION LOCATION- List the building number or location where HazMat is picked up.	DESCRIPTION- Describe the material by its chemical or its trade Name. (Include DOT designation if necessary)	# of Containers	Quantity- (amount and units) ie. 40 gallons, 20 pieces, EC (empty)	CONTAINER DESCRIPTION- (capacity and type) Examples: 55 gallon drum 5 gallon Drum

This is to certify that the above named materials are properly classified, described, packed, marked, and labeled/placarded and are in proper condition for transportation according to applicable regulations of the Department of Transportation. All items will be properly disposed.

Certified by: Date:

Received by WLFT Staff: Date: WLFT 530 S. 5th Street Quincy, IL 62301

Walter Louis Fluid Technologies 530 S. 5th Street Quincy, IL 62301 (217) 223-2019

2. Provide examples of all required reports specifically including the Equipment/Systems Inspection report, Site Visit report and the Water Chemistry and Treatment Management report.

Please reference Water Treatment Manual separate submittal

3. Provide examples of the test procedure manual and water treatment program manual.
Please reference Water Treatment Manual separate submittal

4. Outline the proposed training for state agency facility personnel.

Please reference documents in the appendix

5. Provide a description of the laboratory facilities that will be available.
5) LABORATORY SERVICES:

EPA Approved Water Analysis Utilizing:
- UV Visible Spectrophotometer Analysis
- Atomic Adsorption
- Standard Wet techniques. Deposit analysis

utilizing:
- Using ICP Spectrophotometers
- Gravimetric extractions
- Microscopy. Microbiological

Analysis:
- Standard Plate Counts
- Slime deposit analysis
- ATP counts. Corrosion

Analysis:
- Testing
- Measurement
- Corrosion Coupon Studies

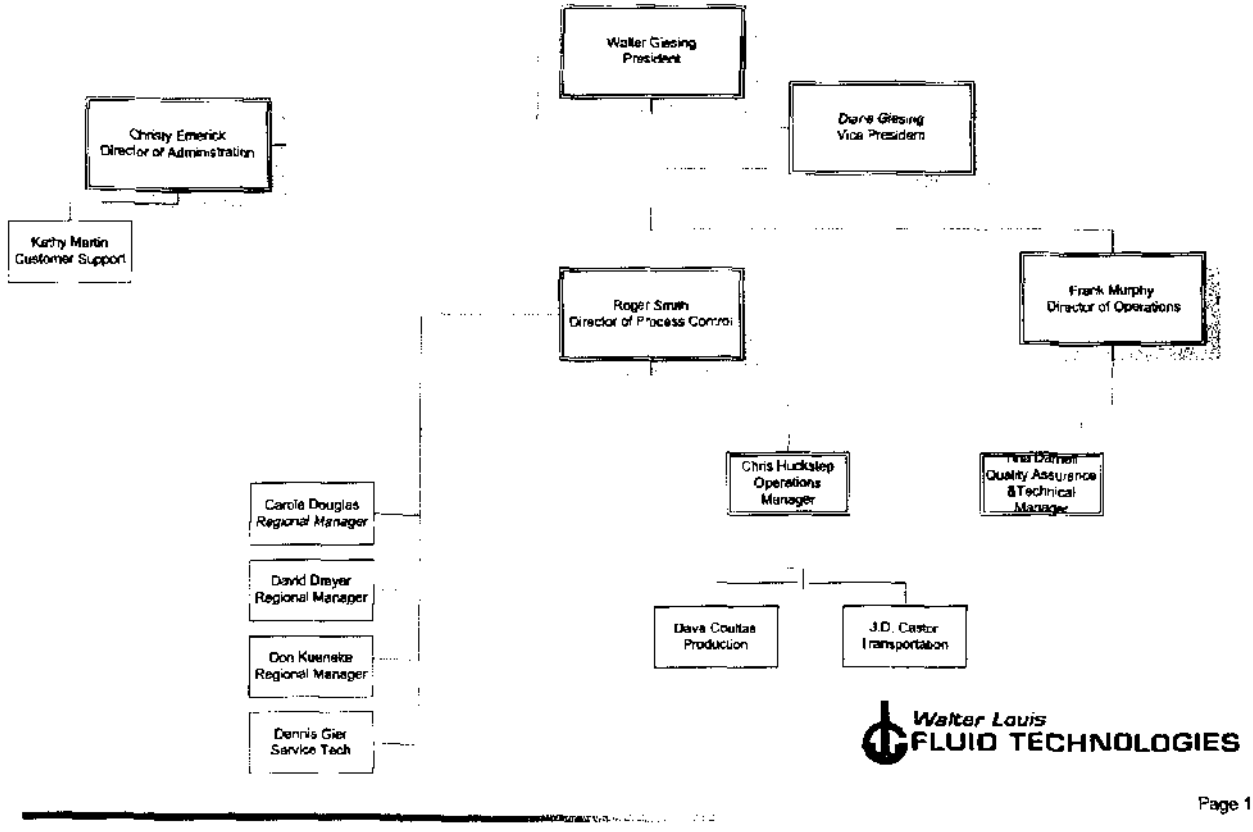
Additional Laboratory & Field Capabilities:

Differential polarization analysis
Fuel Oil Analysis.
"WATER CYCLE" Predictive Modeling
Pilot Cooling Towers for product development
Ultrasonic Pitting Analysis
Non Invasive Flow Metering/Measurement

6. Organizational Chart - WLFT will provide an organizational chart showing the staffing and lines of authority for the key personnel to be used. The organizational chart should include (1) The relationship of service personnel to management and support personnel, (2) The names of the personnel and the working titles of each, and (3) Any proposed WLFT subs including management, supervisory, and other key personnel.

- The organizational chart should outline the team proposed for this project and the relationship of those team members to each other and to the management structure of WLFT 's organization.

Organizational Chart



7. Along with a detailed organizational chart, WLFT will describe the following:

- How services of the contract will be managed, controlled, and supervised in order to ensure satisfactory contract performance.

- Total Personnel Resources - WLFT will provide information that documents the depth of resources to ensure completion of all requirements on time and on target. If WLFT has other ongoing contracts that also require personnel resources, WLFT should document how sufficient resources will be provided to the State of Missouri.

WLFT has no other contracts that would interfere with the execution of the Missouri OA Facilities contract. WLFT has been executing this contract for 16 years and this contract has been a major priority in the lives of every Walter Louis employee since 1998. We throw every resource we have into this contract. We have designated areas in our Plant, Shop, Office, and Lab for the entire contract. We specifically hired the Field Reps we have in order to execute this contract. Every time OA

amends the contract and makes it bigger, we increase our resources to meet demand. We even hire more people when its necessary and we fire people who don't execute this contract to near perfection. The depth of resources it takes to execute this contract are immense. However, in 16 years of providing service, we have only improved with time. That is why our current Quarterly Reports are solid and that is why the people at the top of the MO Office of Administration love working with us. You can ask any member of the OA team about how they feel about working with Walter Louis Fluid Technologies. The answer will be positive. We have strict policies with our delivery program. We are almost never late. We almost never have product imperfections. We have a 97% perfection record internally in terms of Quality of product and we have a 99% perfection record in terms of Quality of Product outside WLFT. Our resources are vast. We own our own trucks and equipment. We take enormous pride in our ability to service the entire state of Missouri. We have zero debt. We are a thriving full service water treatment facility and it makes us personally very happy to associate ourselves with the 100 facilities we currently service in the state of Missouri.

8. Economic Impact to Missouri - WLFT will describe the economic advantages that will be realized as a result of WLFT performing the required services. WLFT will respond to the following:

- Provide a description of the proposed services that will be performed and/or the proposed products that will be provided by Missourians and/or Missouri products.
- Provide a description of the economic impact returned to the State of Missouri through tax revenue obligations.
- Provide a description of the company's economic presence within the State of Missouri (e.g., type of facilities: sales offices; sales outlets; divisions; manufacturing; warehouse; other), including Missouri employee statistics.

Walter Louis Fluid Technologies (WLFT) has provided water treatment services to the State Missouri for nearly 20 years. This has included delivery of products as well as on site testing and consultation. Three primary service representatives as well as two office staff are residents of Missouri. In addition, all of WLFT's major raw material providers are headquartered in or have production or warehouse facilities within the State of Missouri. These include V.L Clark Co. Vertex Chemical, Harcross Chemical, Brentag Chemical, and Buckman Labs.

WLFT has a large customer base in the State of Missouri. All products are delivered on WLFT trucks generating significant fuel tax revenue. Walter Louis Fluid Technologies has three sales Offices and two employees residing in Missouri as well as the large amount of business conducted within Missouri. This combination of employee tax contribution and business generated revenue amount to a significant tax revenue to the State of Missouri. Walter Louis is currently doing site search to expand our production and distribution, in the State of Missouri.

EXHIBIT G
PARTICIPATION COMMITMENT

Minority Business Enterprise/Women Business Enterprise (MBE/WBE) and/or Organization for the Blind/Sheltered Workshop and/or Service-Disabled Veteran Business Enterprise (SDVE) Participation Commitment – If WLFT is committing to participation by or if WLFT is a qualified MBE/WBE and/or organization for the blind/sheltered workshop and/or a qualified SDVE, WLFT must provide the required information in the appropriate table(s) below for the organization proposed and must submit the completed exhibit with WLFT 's proposal.

For Minority Business Enterprise (MBE) and/or Woman Business Enterprise (WBE) Participation, if proposing an entity certified as both MBE and WBE, WLFT must either (1) enter the participation percentage under MBE or WBE, or must (2) divide the participation between both MBE and WBE. If dividing the participation, do not state the total participation on both the MBE and WBE Participation Commitment tables below. Instead, divide the total participation as proportionately appropriate between the tables below.

MBE Participation Commitment Table		
(The services performed or the products provided by the listed MBE must provide a commercially useful function related to the delivery of the contractually-required service/product in a manner that will constitute an added value to the contract and shall be performed/provided exclusive to the performance of the contract.)		
Name of Each Qualified Minority Business Enterprise (MBE) Proposed	**Committed Percentage of Participation for Each MBE** (% of the Actual Total Contract Value)	**Description of Products/Services to be Provided by Listed MBE** *WLFT should also include the paragraph number(s) from the RFP which requires the product/service the MBE is proposed to perform and describe how the proposed product/service constitutes added value and will be exclusive to the contract.*
1.NONE	%	Product/Service(s) proposed: RFP Paragraph References:
2.	%	Product/Service(s) proposed: RFP Paragraph References:
3.	%	Product/Service(s) proposed: RFP Paragraph References:
4.	%	Product/Service(s) proposed: RFP Paragraph References:
Total MBE Percentage:	**%**	

EXHIBIT G (continued)
PARTICIPATION COMMITMENT

WBE Participation Commitment Table (The services performed or the products provided by the listed WBE must provide a commercially useful function related to the delivery of the contractually-required service/product in a manner that will constitute an added value to the contract and shall be performed/provided exclusive to the performance of the contract.)		
Name of Each Qualified Women Business Enterprise (WBE) proposed	**Committed Percentage of Participation for Each WBE** (% of the Actual Total Contract Value)	**Description of Products/Services to be Provided by Listed WBE** *WLFT should also include the paragraph number(s) from the RFP which requires the product/service the WBE is proposed to perform and describe how the proposed product/service constitutes added value and will be exclusive to the contract.*
1. V.J.. Clark Chemical Co., Inc.	5%	Product/Service(s) proposed: Water Treatment Chemicals RFP Paragraph References:
2.	%	Product/Service(s) proposed: RFP Paragraph References:
3.	%	Product/Service(s) proposed: RFP Paragraph References:
4.	%	Product/Service(s) proposed: RFP Paragraph References:
Total WBE Percentage:	**5%**	

EXHIBIT G (continued)
PARTICIPATION COMMITMENT

Organization for the Blind/Sheltered Workshop Commitment Table		
(The services performed or the products provided by the listed Organization for the Blind/Sheltered Workshop must provide a commercially useful function related to the delivery of the contractually-required service/product in a manner that will constitute an added value to the contract and shall be performed/provided exclusive to the performance of the contract.)		
Name of Organization for the Blind or Sheltered Workshop Proposed	**Committed Participation** ($ amount or % of total value of contract)	**Description of Products/Services to be Provided by Listed Organization for the Blind/Sheltered Workshop** *WLFT should also include the paragraph number(s) from the RFP which requires the product/service the organization for the blind/sheltered workshop is proposed to perform and describe how the proposed product/service constitutes added value and will be exclusive to the contract.*
1. None		Product/Service(s) proposed: **Office Supply Products, Cleaners, etc.** RFP Paragraph References:
2.		Product/Service(s) proposed: RFP Paragraph References:

SDVE Participation Commitment Table		
(The services performed or the products provided by the listed SDVE must provide a commercially useful function related to the delivery of the contractually-required service/product in a manner that will constitute an added value to the contract and shall be performed/provided exclusive to the performance of the contract.)		
Name of Each Qualified Service-Disabled Veteran Business Enterprise (SDVE) Proposed	**Committed Percentage of Participation for Each SDVE** (% of the Actual Total Contract Value)	**Description of Products/Services to be Provided by Listed SDVE** *WLFT should also include the paragraph number(s) from the RFP which requires the product/service the SDVE is proposed to perform and describe how the proposed product/service constitutes added value and will be exclusive to the contract.*
1.NONE	%	Product/Service(s) proposed: RFP Paragraph References:
2.	%	Product/Service(s) proposed: RFP Paragraph References:
Total SDVE Percentage:	**%**	

EXHIBIT H

DOCUMENTATION OF INTENT TO PARTICIPATE

If the offeror is proposing to include the participation of a Minority Business Enterprise/Women Business Enterprise (MBE/WBE) and/or Organization for the Blind/Sheltered Workshop and/or qualified Service-Disabled Veteran Business Enterprise (SDVE) in the provision of the products/services required in the RFP, the offeror must either provide a recently dated letter of intent, signed and dated no earlier than the RFP issuance date, from each organization documenting the following information, or complete and provide this Exhibit with the offeror's proposal.

- Copy This Form For Each Organization Proposed -

Offeror Name: WALTER LOUIS FLUID TECHNOLOGIES

This Section To Be Completed by Participating Organization:

By completing and signing this form, the undersigned hereby confirms the intent of the named participating organization to provide the products/services identified herein for the offeror identified above.

Indicate appropriate business classification(s):

___ MBE X WBE ___ Organization for the Blind ___ Sheltered Workshop ___ SDVE

Name of Organization: V.L. CLARK CHEMICAL CO. INC.
(Name of MBE, WBE, Organization for the Blind, Sheltered Workshop, or SDVE)

Contact Name: ANN P. KASTENDIECK

Email: ANN@VLCLARK.COM

Address (If SDVE, provide MO Address): PO Box 87

Phone #: 636-583-4304

City: UNION

Fax #: 636-583-5218

State/Zip: MO 63084

Certification #: W02428

SDVE's Website Address:

Certification Expiration Date: 1/1/2016
(or attach copy of certification)

Service-Disabled Veteran's (SDV) Name:
(Please Print)

SDV's Signature:

PRODUCTS/SERVICES PARTICIPATING ORGANIZATION AGREED TO PROVIDE

Describe the products/services you *(as the participating organization)* have agreed to provide:
CHEMICALS FOR WATER TREATMENT

Authorized Signature:

Authorized Signature of Participating Organization (MBE, WBE, Organization for the Blind, Sheltered Workshop, or SDVE)

10/13/2014
Date (Dated no earlier than the RFP issuance date)

State of Missouri

Office of Administration
Office of Equal Opportunity

Doug Nelson
Acting Commissioner of Administration

Celeste Metcalf
Director

This is to certify **V. L. Clark Chemical Company, Inc.** qualifies as a Woman-Owned Business Enterprise that has met the eligibility criteria established by the State of Missouri, Office of Administration.

Celeste Metcalf

Celeste Metcalf, Director, Office of Equal Opportunity

Certification Number W02428 Date of Issue 1/8/2013 Date of Expiration 1/1/2016

EXHIBIT I, continued

AFFIDAVIT OF WORK AUTHORIZATION:

WLFT who meets the section 285.525, RSMo, definition of a business entity must complete and return the following Affidavit of Work Authorization.

Comes now Walter L. Giesing (Name of Business Entity Authorized Representative) as President (Position/Title) first being duly sworn on my oath, affirm Walter Louis Chemicals & Assoc. (Business Entity Name) is enrolled and will continue to participate in the E-Verify federal work authorization program with respect to employees hired after enrollment in the program who are proposed to work in connection with the services related to contract(s) with the State of Missouri for the duration of the contract(s), if awarded in accordance with subsection 2 of section 285.530, RSMo. I also affirm that Walter Louis Chemicals & Assoc. (Business Entity Name) does not and will not knowingly employ a person who is an unauthorized alien in connection with the contracted services provided under the contract(s) for the duration of the contract(s), if awarded.

In Affirmation thereof, the facts stated above are true and correct. (The undersigned understands that false statements made in this filing are subject to the penalties provided under section 575.040, RSMo.)

Authorized Representative's Signature	Walter L. Giesing Printed Name
President Title	7/11/2014 Date
wgiesing@walterlouis.com E-Mail Address	200950 E-Verify Company ID Number

Subscribed and sworn to before me this 11th (DAY) of July, 2014 (MONTH, YEAR). I am commissioned as a notary public within the County of Adams (NAME OF COUNTY), State of Illinois (NAME OF STATE), and my commission expires on 4-3-16 (DATE).

Signature of Notary *Date* 7-11-14

"OFFICIAL SEAL"
AMANDA DAGGETT
Notary Public, State of Illinois
My Commission Expires 04/03/16

E-Verify

Company ID Number: 200850

To be accepted as a participant in E-Verify, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify at 888-464-4218.

Employer Walter Louis Chemicals

Frank J Murphy	
Name (Please Type or Print)	Title
Electronically Signed	03/25/2009
Signature	Date

Department of Homeland Security – Verification Division

USCIS Verification Division	
Name (Please Type or Print)	Title
Electronically Signed	03/25/2009
Signature	Date

EXHIBIT I, continued

(Complete the following if you have the E-Verify documentation and a current Affidavit of Work Authorization already on file with the State of Missouri. If completing Box C, do not complete Box B.)

BOX C – AFFIDAVIT ON FILE - CURRENT BUSINESS ENTITY STATUS

I certify that Walter Louis Chemicals & Assoc . (*Business Entity Name*) ***MEETS*** the definition of a business entity as defined in section 285.525, RSMo pertaining to section 285.530, RSMo and have enrolled and currently participates in the E-Verify federal work authorization program with respect to the employees hired after enrollment in the program who are proposed to work in connection with the services related to contract(s) with the State of Missouri. We have previously provided documentation to a Missouri state agency or public university that affirms enrollment and participation in the E-Verify federal work authorization program. The documentation that was previously provided included the following.

- ✓ The E-Verify Employment Eligibility Verification page OR a page from the E-Verify Memorandum of Understanding (MOU) listing WLFT 's name and the MOU signature page completed and signed by WLFT and the Department of Homeland Security – Verification Division
- ✓ A current, notarized Affidavit of Work Authorization (must be completed, signed, and notarized within the past twelve months).

Name of **Missouri State Agency** or **Public University*** to Which Previous *E-Verify Documentation* Submitted: OA-MO State of Missouri Department of Purchasing

(*Public University includes the following five schools under chapter 34, RSMo: Harris-Stowe State University – St. Louis; Missouri Southern State University – Joplin; Missouri Western State University – St. Joseph; Northwest Missouri State University – Maryville; Southeast Missouri State University – Cape Girardeau.)

Date of Previous E-Verify Documentation Submission: 6/26/2012

Previous **Bid/Contract Number** for Which Previous E-Verify Documentation Submitted: B2Z09010(if known)

Frank Murphy Authorized Business Entity Representative's Name (Please Print)	*Authorized Business Entity Representative's Signature*
Walter Louis Chemicals & Assoc. Business Entity Name	7/11/2014 Date
frank@walterlouis.com E-Mail Address	200950 E-Verify MOU Company ID Number

FOR STATE OF MISSOURI USE ONLY

Documentation Verification Completed By:

Buyer	Date

EXHIBIT K

Certification Regarding
Debarment, Suspension, Ineligibility and Voluntary Exclusion
Lower Tier Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 29 CFR Part 98 Section 98.510, Participants' responsibilities. The regulations were published as Part VII of the May 26, 1988, Federal Register (pages 19160-19211).

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS FOR CERTIFICATION)

(1) The prospective recipient of Federal assistance funds certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective recipient of Federal assistance funds is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

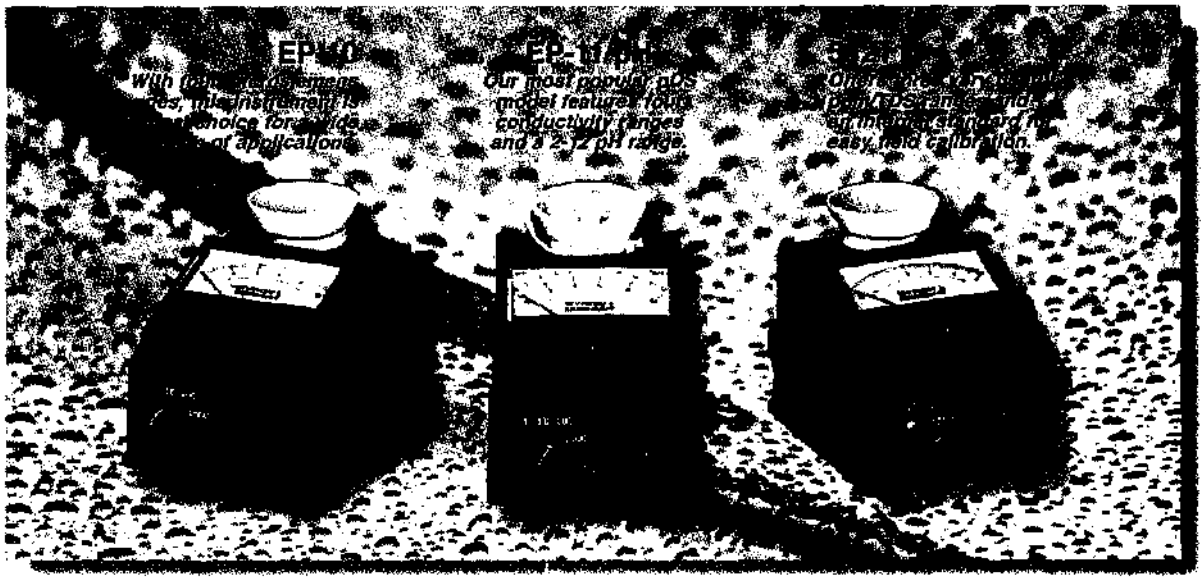
Walter Louis Chemicals & Assoc.	06-464-7928
Company Name	DUNS # (if known)
Walter L. Giesing	President
Authorized Representative's Printed Name	Authorized Representative's Title
Authorized Representative's Signature	7/11/2014
	Date

Instructions for Certification

1. By signing and submitting this proposal, the prospective recipient of Federal assistance funds is providing the certification as set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective recipient of Federal assistance funds knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Department of Labor (DOL) may pursue available remedies, including suspension and/or debarment.
3. The prospective recipient of Federal assistance funds shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective recipient of Federal assistance funds learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective recipient of Federal assistance funds agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the DOL.
6. The prospective recipient of Federal assistance funds further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may but is not required to check the List of Parties Excluded from Procurement or Nonprocurement Programs.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntary excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the DOL may pursue available remedies, including suspension and/or debarment.

DS and pDS METERS

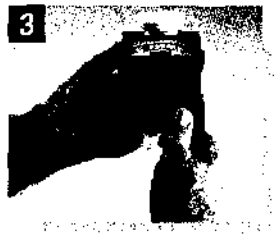
Conductivity and pH for Professionals



ACCURATE READINGS IN 3 EASY STEPS

Rinse and fill cell cup

Select conductivity/TDS range



Push button, take reading

APPLICATIONS

- *Boilers*
- *Cooling towers*
- *Deionization*
- *Reverse osmosis*
- *Chemical concentrations*
- *Printing fountain solutions*
- *Swimming pools*
- *Water pollution control*
- *Wastewater*

READINGS YOU CAN COUNT ON

No water supply is completely pure. Every industrial, commercial, or natural source contains dissolved solids or salts. These impurities contribute to scale, corrosion, poor taste, and environmental pollution that endanger animal and plant life.

Myron L Company has two proven ways to measure such impurities. Our DS Meters provide fast, accurate, on-the-spot measurement of total dissolved solids (TDS) or conductivity. pDS Meters test conductivity or TDS, plus pH. Readings from their highly stable circuitry help prevent equipment damage, assure product quality, and verify in-line instrumentation in a wide range of applications.

RELIABILITY BUILT IN

Breakage is one of the major causes of sensor failure in a typical pH or conductivity instrument. Myron L instruments provide maximum protection for both the pH and conductivity electrodes inside the cell cup. The user-replaceable pH electrode features a chemical resistant, liquid junction.

UNIQUE FIELD-TESTED DESIGN

Our unique, durable, field-tested design has evolved over more than 40 years, making Myron L instruments among the most reliable and popular of their kind in the world.

They're lightweight and compact, Yet Myron L's DS and pDS Meters are also tough, with rugged, taut-band meter movements.

Put our meters to the test. Even after years of rough field service, they'll surpass your expectations of accurate, reliable readings.

MYRON L COMPANY

Water Quality Instrumentation

Accuracy • Reliability • Simplicity

SPECIFICATIONS

Ranges Conductivity:	1, 3, 4 or 5 depending on model
pH:	2-12 pH (pDS Meters only) (see table below)
Readout:	2 1/2" taut-band shock resistant meter
Units of Measure*:	Choice of parts per million (ppm)/TDS or micromhos (μM) (microsiemens (μS)) conductivity
Accuracy Conductivity:	±2% full scale
pH:	±0.2 pH units
Repeatability:	±1%
Temperature Compensation:	Automatic (to 25°C) for conductivity samples between 50° and 160°F (10-71°C)
Calibration Controls:	Conductivity, pH Zero and pH Gain
Electrodes (built-in):	pH: KCl gel-filled, field replaceable Conductivity: Never need replatinizing
Cell Cup:	Chip and crack resistant polyethylene
Circuitry:	Very stable; requires minimal recalibration
Batteries:	One or two 9 volt batteries supplied; good for 2000 tests/1 year
Dimensions:	3.4"W x 4.5"D x 4.0"H (86 x 114 x 102 mm)
Weight:	One pound (0.45 kg)

** 1μM (micromho) = 1μS (microsiemen)*

DS METERS / pDS METERS

Model:	512T4*	512M5*	512T5*	512T10*	532M1*	532T1*	532T2*	EP-10	EP	T6/pH*	M6/pH	T2/pH*	EP11/pH
Range (s):	0-2500	0-5000	0-5000	0-10,000	0-50	0-50	0-25	0-10	0-0.5	2-12 pH	2-12 pH	2-12 pH	2-12 pH
					0-500	0-500	0-250	0-100	0-5	0-5000 ppm	0-5000 μS	0-50 ppm	0-10 μS
					0-5000	0-5000	0-2500	0-1000	0-50			0-500 ppm	0-100 μS
								0-10,000	0-500			0-5000 ppm	0-1000 μS
Units									0-5000				0-10,000 μS
Measured:	ppm**	μM	ppm	ppm**	μM	ppm	ppm	μM	μM, MΩ	pH, ppm	pH, μM	pH, ppm	pH, μM
Recommended NIST Standard Solutions: (All pDS Models Also Use 4, 7, 10 pH Buffers)													
Key (see below):		F	G	G	O	B,D,G	B,D,G	A,C,F	K,M,O	B,D,G	G	G	B,D,G K,M,O

** These models feature the internal Standard for easy field conductivity calibration and range doubling.* *** Also available in micromhos*

ACCESSORIES

NIST Standard Solutions & pH Buffers

All Myron L instruments are factory calibrated with standard solutions of known conductivity/TDS value and (when appropriate) with pH buffer values 4, 7, and 10. These solutions and buffers are traceable to the U.S. Government's National Institute of Standards and Technology primary solutions. Your instrument will be kept most accurate by periodic recalibration with the appropriate Conductivity Standard Solution and pH Buffers. See the table above for recommendations.

Porta-Kit with EP11/pH

Conductivity & Buffer Solutions

Note: pH 7 buffer is especially important and should be used every 1-2 weeks.

KEY - ORDER # - VALUES

(Specify Quarts or Gallons)

- **A** 442-15 (15 ppm/24 μS)
- **B** 442-30 (30 ppm/47 μS)
- **C** 442-150 (150 ppm/229 μS)
- **D** 442-300 (300 ppm/445 μS)
- **E** 442-1000 (1000 ppm/1417 μS)
- **F** 442-1500 (1500 ppm/2060 μS)*
- **G** 442-3000 (3000 ppm/3900 μS)*
- **H** 442-15,000 (15,000 ppm/16,630 μS)
- **I** 442-30,000 (30,000 ppm/30,100 μS)
- **J** KCl-18 (11 ppm/18 μS)
- **K** KCl-70 (45 ppm/70 μS)
- **L** KCl-180 (116 ppm/180 μS)
- **M** KCl-700 (478 ppm/700 μS)
- **N** KCl-1800 (1294 ppm/1800 μS)*
- **O** KCl-7000 (5687 ppm/7000 μS)*
- **P** KCl-18,000 (16,462 ppm/18,000 μS)

pH Buffers

- pH 4* (red)
- pH 7* (yellow)
- pH 10* (blue)
- pH Sensor Storage Solution*

**Available in 2 oz. bottles*

Range Extender: Model RE-10 increases the conductivity/TDS range 10 times when inserted into the sample-filled cell cup. Not available for model 512T10.

Porta-Kit: (pDS only). Sturdy foam-lined case with 2 oz. bottles of pH 4, 7 and 10 buffers and conductivity standard solution. (Order Model PK3 for models M6/pH, T2/pH and T6/pH; Model PK7 for model EP11/pH).

Porta-Pak Carrying Case: Model PTP can be used with all DS and pDS meters. Foam-lined and molded of sturdy ABS plastic. No solutions/buffers included.

Replacement pH Sensor: Model RPY is a unique non-refillable KCl gel-filled combination pH electrode, featuring a liquid junction.

NIST Certification: Certificates are available which confirm NIST traceability of an instrument (Order #MC) or standard solution/pH buffer (Order #SC). *Note:* Both MC Certificates and/or SC Solution Certificates must be specified when placing instrument/solution orders.

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Carlsbad, CA 92008-7226 USA
Tel: 760-438-2021
Fax: 800-869-7668 / 760-931-9189
www.myronl.com

Built On Trust. Founded in 1957, the Myron L Company is one of the world's leading manufacturers of water quality instruments. Because of our commitment to product improvement, changes in design and specifications are possible. You have our assurance any changes will be guided by our product philosophy: accuracy, reliability, and simplicity.

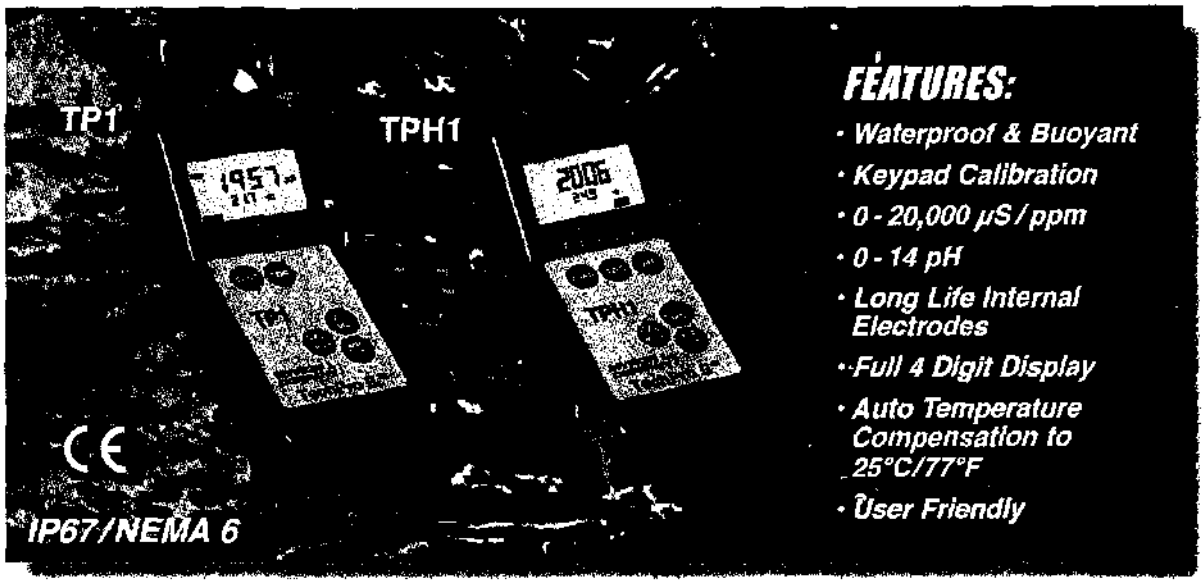
Water Quality Instrumentation
Accuracy • Reliability • Simplicity

Printed in U.S.A.

 DS/pDSDS 2-05

TECHPRO II™

Measuring Conductivity, TDS, pH and Temperature



FEATURES:

- Waterproof & Buoyant
- Keypad Calibration
- 0 - 20,000 µS / ppm
- 0 - 14 pH
- Long Life Internal Electrodes
- Full 4 Digit Display
- Auto Temperature Compensation to 25°C/77°F
- User Friendly

ACCURATE READINGS IN 2 EASY STEPS

1

Rinse and fill cell cup

2

Push button to display reading

APPLICATIONS:

- Boilers & Cooling Towers
- Reverse Osmosis
- Fountain Solutions
- Swimming Pools & Spas
- Plating and Parts Washing
- Pulp and Paper
- Plus many more!

MEASUREMENTS YOU CAN COUNT ON

Obtain reliable and accurate measurements of your water source with the value-priced TechPro II™. Ideal for water treatment testing as well as other industrial and commercial applications, these instruments reflect Myron L's 40-plus years experience designing and building quality conductivity, TDS and pH measuring instrumentation.

PORTABLE & EASY TO USE

The TechPro II is handheld, lightweight and simple to operate. Measuring conductivity, TDS, pH and temperature, the highly stable circuitry

delivers the accurate readings needed to assure product quality, prevent equipment damage or verify in-line instrumentation in a wide range of applications. The TPH1 is designed with an internal pH sensor to prevent breakage and prolong the sensor's useful life. The rugged, waterproof case on both models protects the electronics of the instrument and fits comfortably in your hand. This model also features auto shut-off to prolong battery life.

Industrial and commercial users all over the world rely on Myron L's proven quality instruments for their water measurement needs.

To find out more about TechPro II or locate the Myron L distributor nearest you, visit our website at:

www.myronl.com

MYRON L COMPANY

Water Quality Instrumentation

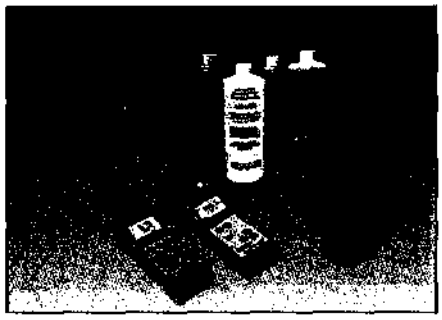
Accuracy • Reliability • Simplicity

SPECIFICATIONS

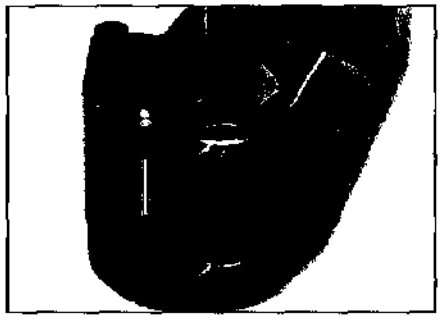
Display	4 Digit Liquid Crystal Display	**pH sensor well capacity**	1.2 ml/0.04 oz.
Dimensions	196 x 68 x 64 mm/7.7 x 2.7 x 2.5 in.	**Power**	9V alkaline battery
Weight	320 g/11.2 oz.	**Battery life**	>100 hours (5000 readings)
Case/Cell material	ABS	**Operating/storage Temperature**	0 – 55°C/32 – 132°F
Cond/TDS cell capacity	5 ml/0.2 oz.	**Protection ratings**	IP67/NEMA 6 WATERPROOF

PARAMETERS

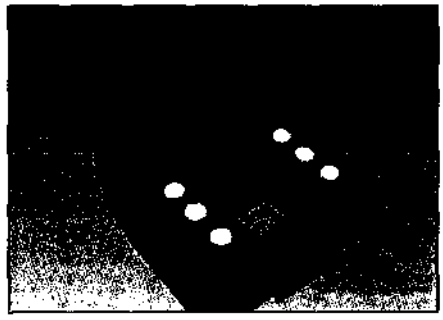
	RANGES				*ACCURACY*		
Model	**Conductivity**	**TDS**	**pH**	**TC - 25°C/77°F**	**Conductivity/TDS**	**pH**	**Temperature Reading**
TP1	0 – 9999 µS 10 – 20.00 mS	0 – 9999 ppm 10 – 20.00 ppt	—	0 – 71°C 32 – 160°F	±1% of reading	—	±0.1°C/F
TPH1	0 – 9999 µS 10 – 20.00 mS	0 – 9999 ppm 10 – 20.00 ppt	0 – 14	0 – 71°C 32 – 160°F	±1% of reading	±0.02 pH	±0.1°C/F



The TechPro Line of Accessories: pH Buffers, Standard Solution, Replacement pH Sensor, & choice of Soft or Hard Protective Carry Case



The pH sensor chamber protects a large-capacity, long life KCl reservoir.



This foam-lined case (model PKU) provides extra protection and portability, making it easier to carry your TechPro instrument in the field.

ACCESSORIES

Porta-Kit: (Above) This hard protective carry case is a rugged all plastic foam-lined case that includes 2 oz. each pH 4, 7, & 10 Buffers, pH Sensor Storage Solution, and 442-3000 and KCl-7000. *Model: PKU*

Hard Protective Case: Small protective carry case. *Model: UPP*

Soft Protective Case: Constructed of padded nylon and features a belt clip for hands-free mobility. *Models: UCC (Blue), UCCDT (Desert Tan)*

NIST Standard Solutions & pH Buffers: All Myron L Instruments are factory calibrated with Standard Solutions of known conductivity/TDS value and (when appropriate) with pH buffer values 4, 7, and 10. These solutions and buffers are traceable to the U.S. Government's National Institute of Standards and Technology. Periodic recalibration with the appropriate Conductivity Standard Solution and pH Buffers will help maintain the accuracy of your instrument. See the following list for recommendations.

Order # - Values:
(Specify Quarts or Gallons)

442-15 (15 ppm/24 µS)
442-30 (30 ppm/47 µS)
442-150 (150 ppm/229 µS)
442-300 (300 ppm/445 µS)
442-1000 (1000 ppm/1417 µS)
442-1500 (1500 ppm/2060 µS)
442-3000 (3000 ppm/3900 µS)*
442-15,000 (15,000 ppm/16,630 µS)
KCL-18 (18 µS/11 ppm)
KCL-70 (70 µS/45 ppm)
KCL-180 (180 µS/116 ppm)
KCL-700 (700 µS/478 ppm)
KCL-1800 (1800 µS/1294 ppm)
KCL-7000 (7000 µS/5687 ppm)*
KCL-18,000 (18.00 mS/16,462 ppm)
NACL-14.0 (14.0 mS/7864.7 ppm)

** Recommended value*

pH Buffers:
- pH 4
- pH 10
- pH 7
- pH Sensor Storage Solution

Replacement pH Sensor: Non-refillable KCl gel-filled combination pH sensor featuring a chemical resistant, porous liquid junction. *Model: RPG*

NIST Certification: Certificates are available that confirm NIST traceability. Instrument Certificate:
(Order #MC-TP1/MC-TPH1)

Standard Solution/pH Buffer Certificate:
(Order #SC-XX)

Note: Both MC instrument certificates and/or SC solution certificates must be specified when placing instrument/solution orders.

LIMITED WARRANTY
All Myron L TechPro II Instruments have a Two (2) Year Limited Warranty, excluding the pH sensors, which have a Six (6) Month Limited Warranty. Warranty is limited to the repair or replacement of the TechPro II Instrument only, at our discretion. The Myron L Company assumes no other responsibility or liability.

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Carlsbad, CA 92010-7226 USA
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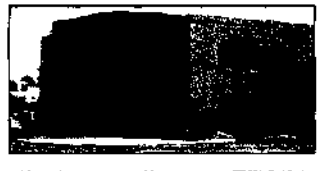
Fax: +1-800-869-7668 / +1-760-931-9189
www.myronl.com

Built On Trust. Founded in 1957, the Myron L Company is one of the world's leading manufacturers of water quality instruments. Because of our commitment to product improvement, changes in design and specifications are possible. You have our assurance any changes will be guided by our product philosophy: accuracy, reliability, and simplicity.



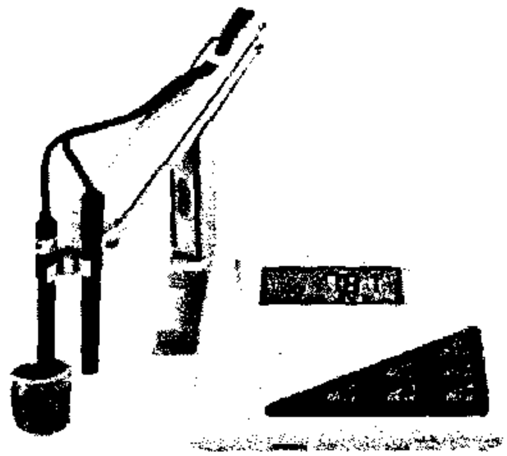
Printed in U.S.A.

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

Technical Data Bulletin

Benchtop Conductivity / TDS / Salinity Meter - 860032



Rugged housing with large LCD displaying the parameter being measured together with time, date and temperature (in °C or °F)

- Automatic or manual temperature compensation
- Automatic or manual ranging
- Automatic buffer recognition
- Digital and analog outputs
- Min/Max and 99 data points
- Data Hold
- 5 calibration points on Conductivity and TDS (total dissolved solids) and 2 for Salinity
- Electrode status indication

Operates on AC voltage (no batteries). Comes ready to use with ATC conductivity electrode, electrode holder arm, AC adaptor, computer cable and software.

Dimensions: 8½" x 7" x 2¼" (216 x 178 x 57 mm)
Dimensions with Holder Arm: 10" x 8" x 9" (254 x 203 x 229 mm)
Weight: 18.7 oz (530 g)

Optional Accessories:

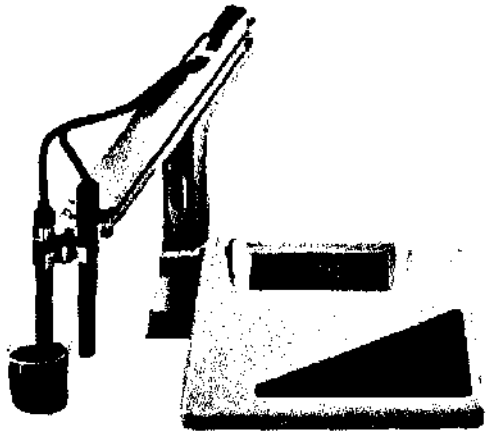
Conductivity Probe - [illegible]
RS232 to USB Adaptor Cable - [illegible]

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment Division

Technical Data Bulletion

Benchtop pH / MV Meter - 860031



Rugged housing with large LCD displaying the parameter being measured together with time, date and temperature (in °C or °F)

- Automatic or manual temperature compensation
- Automatic or manual ranging
- Automatic buffer recognition
- Digital and analog outputs
- Min/Max and 99 data points
- Data Hold
- 5 calibration points
- Electrode status indication

Operates on AC voltage (no batteries). Comes ready to use with ATC pH electrode, electrode holder arm, AC adaptor, computer cable and software. Also accepts any pH or ORP probe with a standard BNC connector.

Dimensions: 8½" × 7" × 2¼" (216 × 178 × 57 mm)
Dimensions with Holder Arm: 10" × 8" × 9" (254 × 203 × 229 mm)
Weight: 18.7 oz (530 g)

Walter Louis Fluid Technologies
530 South 5TH
Quincy, IL 62301

Phone: (217)223-2017
Fax:(217)223-1734
Email: sales@walterlouis.com

EXTECH INSTRUMENTS

Experience Advantage

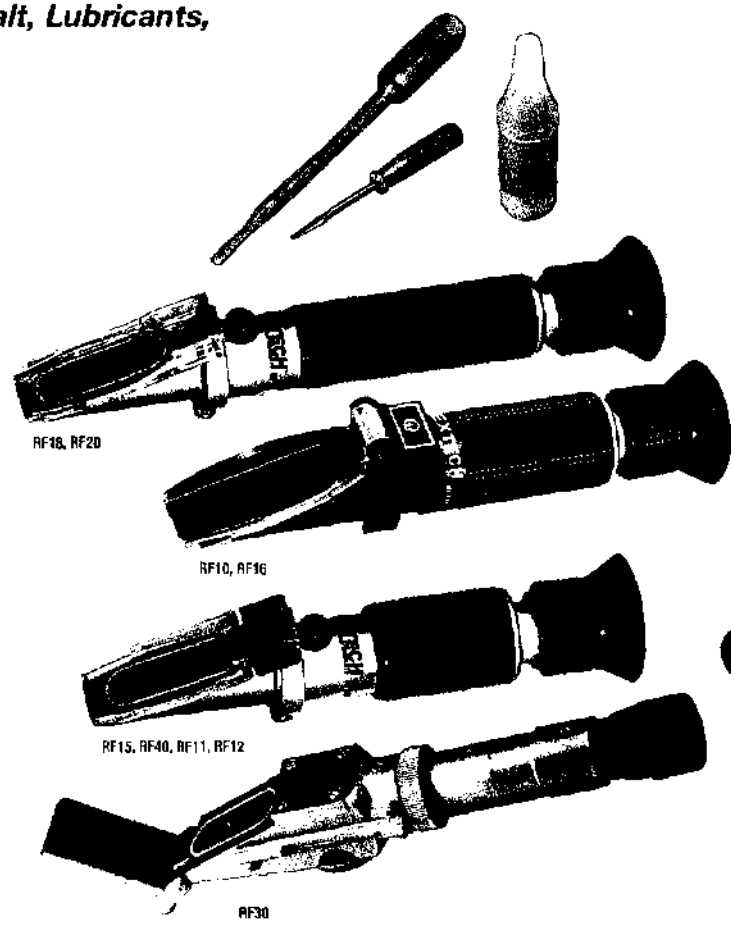
Portable Refractometers

Measure the concentration of Sugar, Salt, Lubricants, Antifreeze, Cutting Fluids & more

Available with or without Automatic Temperature Compensation

Features:

- Easy to operate refractometers provide accurate and repeatable measurements on easy to read scales
- Automatic temperature compensation models available for sugar, salt, lubricants, cutting fluids, and antifreeze
- Requires only 2 or 3 drops of solution
- The prism and lens with a simple focus adjustment provides repeatable results
- Complete with case, calibration screwdriver, and calibration solution

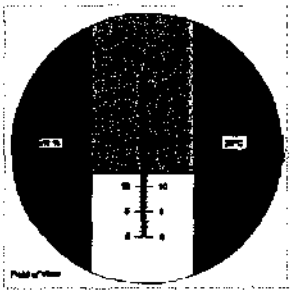


RF18, RF20

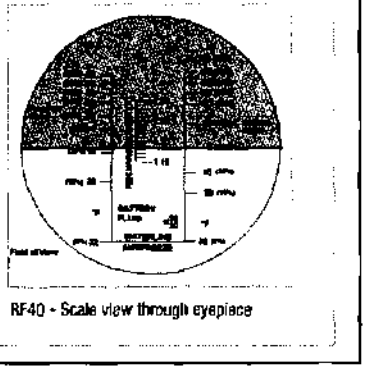
RF10, RF16

RF15, RF40, RF11, RF12

RF30



RF10, 15 - Scale view through eyepiece



RF40 - Scale view through eyepiece

Specifications Model	Type	Ranges	Resolution	Accuracy
RF16	Sucrose	0 to 10% Brix	0.1	±0.1%
RF11	Sucrose (ATC)	0 to 10% (10 to 30°C)	0.1	±0.1%
RF18	Lubricants/Cutting fluids	0 to 18% Brix	0.2	±0.2%
RF12	Lubricants/Cutting fluids (ATC)	0 to 18% Brix (10 to 30°C)	0.2	±0.2%
RF10	Sucrose	0 to 32% Brix	0.2	±0.2%
RF15	Sucrose (ATC)	0 to 32% Brix (10 to 30°C)	0.2	±0.2%
RF20	Salt (ATC)	0 to 100ppt (10 to 30°C)	0.001	±0.1‰
		1.000 to 1.070 Refractive Index		
RF40	Coolant (ATC)	-60 to 32°F Propylene Glycol freeze point	2°F	±2%
		-60 to 25°F Ethylene Glycol freeze point	2°F	±2%
		1.15 to 1.30 Specific Gravity of Battery Acid	0.01	
RF41	Coolant (ATC)	-50 to 0°C Propylene Glycol freeze point	1°C	±2%
		-50 to 0°C Ethylene Glycol freeze point	1°C	±2%
		1.15 to 1.30 Specific Gravity of Battery Acid	0.01	
RF30	Triple Range	0 to 41% Brix	0.2	±0.2%
	General Service	42 to 71% Brix	0.2	±0.2%
		72 to 90% Brix	0.2	±0.2%
Dimensions/Wt		RF10/RF15: 6.6 x 1.6 x 1.2" (170 x 40 x 30mm)/ 7oz (200g);		
		RF11/RF16: 7.5 x 1.6 x 1.2" (190 x 40 x 30mm)/ 6.5oz (185g);		
		RF12/RF18: 6.7 x 1.6 x 1.2" (170 x 40 x 30mm)/ 6.5oz (185g);		
		RF20: 7.6 x 1.5 x 1.5" (194 x 38 x 38mm)/ 8oz (227g);		
		RF40/RF41: 6.2 x 1.6 x 1.2" (160 x 40 x 30mm)/ 6.3oz (180g)		
		RF30: 7.9 x 1.5 x 1.1" (200 x 38 x 28mm)/ 21.86oz (620g)		

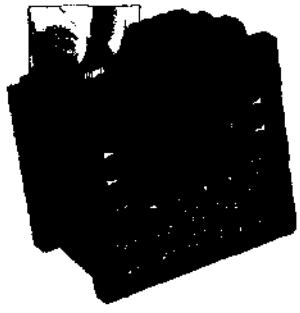
Ordering Information:

RF16 .....0 to 10% Brix Refractometer
RF11 .....0 to 10% Brix Refractometer with ATC
RF18 .....0 to 18% Brix Refractometer
RF12 .....0 to 18% Brix Refractometer with ATC
RF10 .....0 to 32% Brix Refractometer
RF15 .....0 to 32% Brix Refractometer with ATC
RF20 .....Salinity Refractometer with ATC
RF40 .....Battery Coolant/Glycol Refractometer with ATC (°F)
RF41 .....Battery Coolant/Glycol Refractometer with ATC (°C)
RF30 .....Triple Range General Service Brix Refractometer

Walter Louis
FLUID TECHNOLOGIES

Engineering & Equipment Division

Process Control Station



The WLFT Process Control Station (PCS) was created in order to provide water treatment professionals a single mechanism that can be programmed to handle a variety water treatment control parameters.

The PCS unit is based on a General Electric Operator Control Station, ships in a NEMA 4X fiberglass enclosure with a mix of analog (sensors & proportional control valves) and discreet (level switches & solenoid valves) I/O.

Minimum Capabilities

- 4 Analog sensor inputs (4-20mA)
- 8 On/Off inputs
- 8 On/Off Relay Outputs
- Nearly unlimited internal timers and control logic capabilites
- Monochrome backlit Screen with 20 customizable pushbuttons
- 2 GB MicroSD Card Slot for data-logging parameters (Excel® format)
- All components UL Certified
- Serial connection for external modem, MODBUS protocol *(allows for remote monitoring and connection to building automation systems)*

Due to adaptability of programming software and the wide availability of input sensors almost any process can be controlled and/or monitored

Sample Setup:
PCS configured for Boiler Chemistry Control
Model # PCS-B2
Contacting head water meter controlling inhibitor feed pump output
Conductivity sensor controlling Blowdown valve output and conductivity display
Outputs for automatic sample cooler operation
Port for external modem option allowing offsite monitoring and control

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Engineering Dept.

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Fax: (217) 223-7734
Email: sales@walterlouis.com
Web: www.walterlouis.com

PULSAFEEDER®

An IDEX Water & Wastewater Business IDEX

pulsafeeder.com

The Pulsatron Series A Plus offers manual function controls over stroke length and stroke rate as standard with the option to select external pace for automatic control.

Ten distinct models are available, having pressure capabilities to 250 PSIG (17 BAR) @ 12 GPD (1.9 lph), and flow capacities to 58 GPD (9.1 lph) @ 100 PSIG (7.0 BAR), with a standard turndown ratio of 100:1, and optional ratio of 1000:1. Metering performance is reproducible to within ± 3% of maximum capacity.

Features

- Manual Control by on-line adjustable stroke rate and stroke length.
- Highly Reliable timing circuit.
- Circuit Protection against voltage and current upsets.
- Solenoid Protection by thermal overload with auto-reset.
- Water Resistant, for outdoor and indoor applications.
- Internally Dampened To Reduce Noise.
- Guided Ball Check Valve Systems, to reduce back flow and enhance outstanding priming characteristics.
- Few Moving Parts and Wall Mountable.
- Safe & Easy Priming with durable leak-free bleed valve assembly (standard).
- Optional Control: External pace with auto/manual selection.

Controls

Manual Stroke Rate

Manual Stroke Length

External Pacing - Optional

External Pace With Stop - Optional (125 SPM only)

Controls Options		
Feature	Standard Configuration	Optional Configuration [1]
External Pacing	—	Auto / Manual Selection [2]
External Pace w/ Stop (125 SPM only)	—	Auto / Manual Selection [2]
Manual Stroke Rate	10:1 Ratio	100:1 Ratio
Manual Stroke Length	10:1 Ratio	10:1 Ratio
Total Turndown Ratio	100:1 Ratio	1000:1 Ratio

Note 1: On S2, S3 & S4 sizes only.

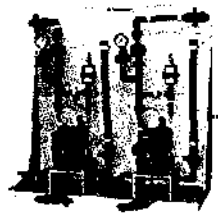
Note 2: Not available on 1000:1 turndown pumps.

Operating Benefits

- Reliable metering performance.
- Rated "hot" for continuous duty.
- High viscosity capability.
- Leak-free, sealless, liquid end.

Aftermarket

- KOPkits
- Gauges
- Dampeners
- Pressure Relief Valves
- Tanks
- Pre-Engineered Systems
- Process Controllers (PULSAblue, MicroVision)



PULSAtron® Series A Plus Electronic Metering Pumps

PULSAtron® Series A Plus

Specifications and Model Selection

MODEL			LBC2	LB02	LBC3	LB03	LB04	LB64	LBC4	LBS2	LBS3	LBS4
Capacity Nominal (max.)		GPH	0.25	0.25	0.42	0.50	1.00	1.25	2.00	0.50	1.38	2.42
		GPD	6	6	10	12	24	30	48	12	33	58
		LPH	0.9	0.9	1.6	1.9	3.8	4.7	7.6	1.9	5.2	9.14
Pressure[3] (max.)	GFPP, PVDF, 316SS or PVC (W code) w/TFE Seats)	PSIG (Bar)	250 (17)	150 (10)	250 (17)	150 (10)	100 (7)	100 (7)	50 (3.3)	250 (17)	150 (10)	100 (7)
	PVC (V code) Viton or CSPE Seats / Degas Liquid End		150 (10)							150 (10)		
Connections:		Tubing	1/4" ID X 3/8" OD						3/8" ID X 1/2" OD	1/4" ID X 3/8" OD		
		Piping	1/4" FNPT									
Strokes/Minute		SPM	125							250		

Note 3: Pumps with rated pressure above 150 PSI will be de-rated to 150 PSI Max. when selecting certain valve options, see Price Book for details.

Engineering Data

Pump Head Materials Available: GFPPL
PVC
PVDF
316 SS

Diaphragm: PTFE-faced CSPE-backed

Check Valves Materials Available:

Seats/O-Rings: PTFE
CSPE
Viton

Balls: Ceramic
PTFE
316 SS
Alloy C

Fittings Materials Available: GFPPL
PVC
PVDF

Bleed Valve: Same as fitting and check valve selected, except 316SS

Injection Valve & Foot Valve Assy: Same as fitting and check valve selected

Tubing: Clear PVC
White PE

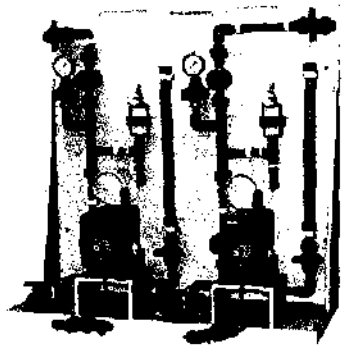
Important: Material Code - GFPPL=Glass-filled Polypropylene, PVC=Polyvinyl Chloride, PE=Polyethylene, PVDF=Polyvinylidene Fluoride, CSPE=Generic formulation of Hypalon, a registered trademark of E.I. DuPont Company. Viton is a registered trademark of E.I. DuPont Company. PVC wetted end recommended for sodium hypochlorite.

Engineering Data

Reproducibility: +/- 3% at maximum capacity
Viscosity Max CPS: 1000 CPS
Stroke Frequency Max SPM: 125 / 250 by Model
Stroke Frequency Turn-Down Ratio: 10:1 /100:1 by Model
Stroke Length Turn-Down Ratio: 10:1
Power Input: 115 VAC/50-60 HZ/1 ph
230 VAC/50-60 HZ/1 ph

Average Current Draw:
@ 115 VAC; Amps: 0.6 Amps
@ 230 VAC; Amps: 0.3 Amps
Peak Input Power: 130 Watts
Average Input Power @ Max SPM: 50 Watts

Custom Engineered Designs – Pre-Engineered Systems

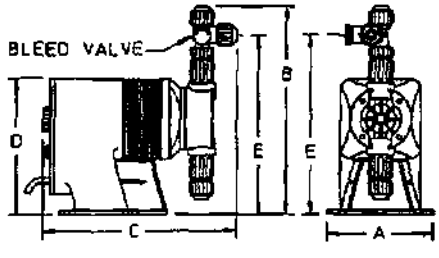


Pre-Engineered Systems
Pulsafeeder's Pre-Engineered Systems are designed to provide complete chemical feed solutions for all electronic metering applications. From stand alone simplex pH control applications to full featured, redundant sodium hypochlorite disinfection metering, these rugged fabricated assemblies offer turn-key simplicity and industrial-grade durability. The UV-stabilized, high-grade HDPE frame offers maximum chemical compatibility and structural rigidity. Each system is factory assembled and hydrostatically tested prior to shipment.

Dimensions

Series A PLUS Dimensions (inches)						
Model No.	A	B	C	D	E	Shipping Weight
LB02 / S2	5.0	9.6	9.5	6.5	8.2	10
LBC2	5.0	9.9	9.5	6.5	8.5	10
LBC3	5.0	9.9	9.5	6.5	8.5	10
LB03 / S3	5.0	9.9	9.5	6.5	8.5	10
LB04 /S4	5.0	9.9	9.5	6.5	8.5	10
LB64	5.0	9.9	9.5	6.5	8.5	10
LBC4	5.0	9.9	9.5	6.5	8.5	10

NOTE: Inches X 2.54 = cm



pulsafeeder.com

PULSAFEEDER
27101 Airport Rd
Punta Gorda, FL 33982
Phone: ++1(941) 575-3800
Fax: ++1(941) 575-4085

IDEX CORPORATION

An ISO 9001 and ISO 14001 Certified Company

EMP025 113

PEABODY engineering

No Boundaries.™

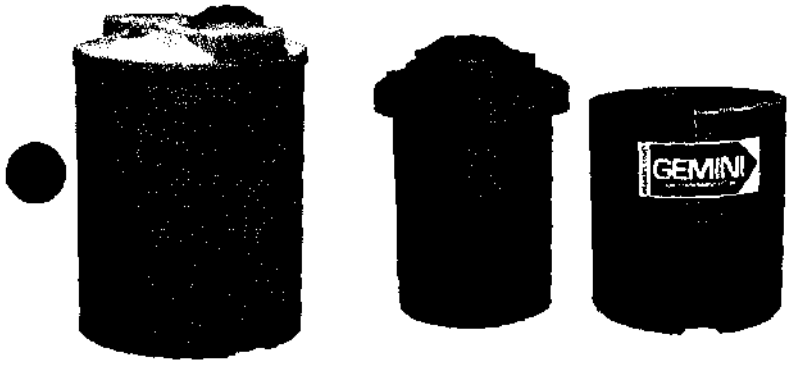
Gemini™ Tank Systems

Chemical Treatment Dual Containment Tank Systems

Features and Benefits of Gemini Tank System

- **Specifically designed for the Water Treatment Industry**
- **Linear polyethylene construction. Polypropylene, XLPE and PVDF available**
  Superior chemical resistance for acids, caustics, sodium hypochlorite, biocides, etc.
  Handles aggressive applications that stainless steel and crosslink polyethylene will not.
- **Heavy duty dual wall construction** - Rated for liquids of 1.5 or 2.0 specific gravity. "Tank in a Tank" designed for instances where the primary tank fails; the chemical will then be safely contained in secondary tank.
- **Integral pump mounting platform** - Lid has 240 pound rating allowing for use with metering pump or mixer mounted directly to tank lid. Sump reservoir collects and drains pump spilled liquid back to primary.
- **Pump pick-up tube port** - Install pump suction line with check valve quickly and easily. Once installed, tank contents are sealed from outside environment.
- **Integral mouse door** - Molded directly into most Gemini models, recessed mouse door allows for inexpensive installation of optional bottom bulkhead fitting for flooded suction connection or bottom fill.
- **Custom colors and mold-in graphics** - Custom colors available, subject to minimum order quantity. Private label mold-in graphic is molded directly into tank and wont weather, crack, peel, or deteriorate.

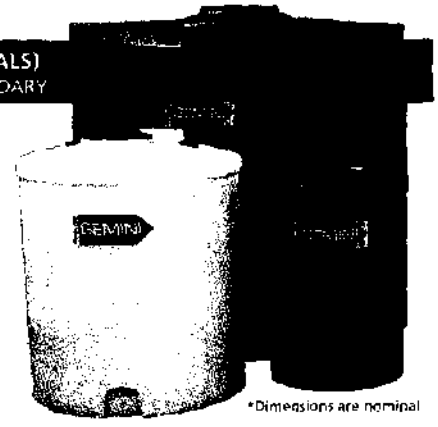
etanks.com



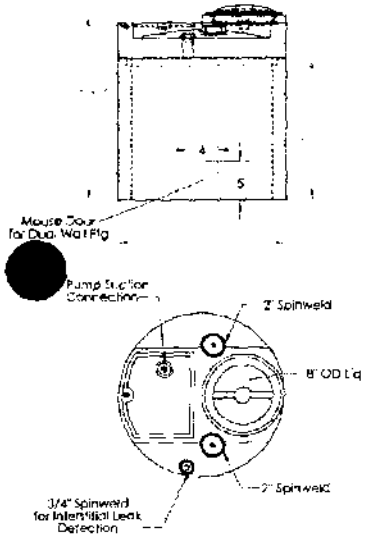
GEMINI
Dual Containment Tanks

Corrosion Resistant Construction

PART #	DIMENSIONS (DIA. x HT.)	DESCRIPTION	CAPACITY (GALS) PRIMARY/SECONDARY
01-28907	19.5" x 27"	15 Gallon Dual Containment Tank System	15/25
01-14871	22.25" x 25.5"	20 Gallon Dual Containment Tank System	20/28
01-14874	22.25" x 38.5"	40 Gallon Dual Containment Tank System	40/51
01-14877	25.5" x 37"	62 Gallon Dual Containment Tank System	62/73
01-14870	32.5" x 46"	120 Gallon Dual Containment Tank System	120/142
01-14872	48" x 48"	220 Gallon Dual Containment Tank System	220/278
01-14873	48" x 59"	300 Gallon Dual Containment Tank System	300/375
01-14876	61" x 64.5"	500 Gallon Dual Containment Tank System	500/650



*Dimensions are nominal



Typical top configuration. Some sizes vary. Full drawing details available on etanks.com

Wide Range of Sizes
Gemini Tanks are available from 15 to 500 gallon capacities. Other styles and sizes of Dual Containment Tanks are available up to 10,500 gallon capacities.

Standard Fittings
Gemini Tanks come standard with 8" vented twist lid. Pump suction pick up port and return drain built into pump mounting shelf and sump. Multiple connection fittings standard on lid top.

Common Accessories
Common attachments and accessories include pre fitted at-a-glance visual float gauge, quick coupler dry brake fill adapter, pumps, ultrasonic liquid level sensor, remote web-based ultrasonic sensor system Tank WATCH-IT, interstitial leak detectors and more.

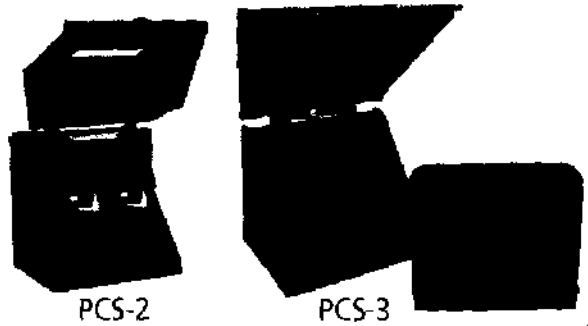
Light Weight and Durable
Easy to move without heavy equipment. Excellent impact resistance, built to last for many years of service. Strong dome lid handles heavy pumps and attachments.

- Simplified chemical handling
- Improved employee safety
- No drum disposal costs
- Continuous chemical feed
- Integrated molded-in features
- Private labeling option available
- Exceed's EPA secondary containment requirements (49 CFR)

For smaller footprint ask about our Gemini² Square Dual Containment Tanks...

Have you seen our Pump Containment Shelf?

Store 1, 2 or 3 pumps and safely contain accidental spray and discharges to prevent worker injury and chemical spills.

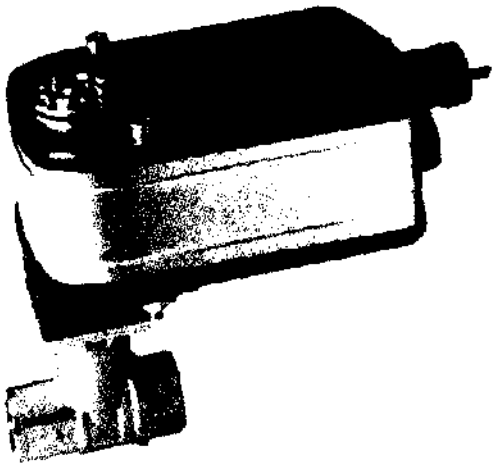


PCS-2 PCS-3

PEABODY engineering
No Boundaries...
13435 Estelle Street Corona, CA 92879
ph: 951-734-7711 | fx: 951-734-4111
www.etanks.com
sales@etanks.com

MBV Series (1/2" - 1")
Spring Return Motorized Ball Valve

QUANTROL INC



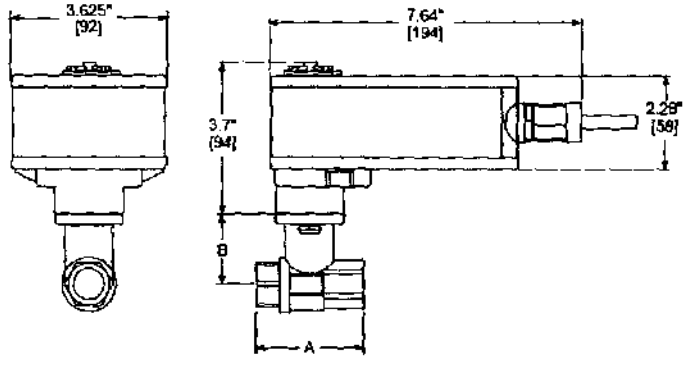
Application

Spring Return Motorized Ball Valves are highly recommended by Quantrol as an alternative to solenoid valves for cooling tower bleed off applications. These fully ported ball valves pass suspended particulate more efficiently than solenoid valves, thus are less likely to stick open or closed. Maintenance requirements are reduced and reliability is significantly increased.

The powerful LF Series actuator used on the 1/2, 3/4 and 1" valves creates 35 inch pounds of torque to ensure the valve opens and closes as required.

BELIMO

Dimensions with 2-Way Valve



	Nominal Size	Dimensions Inches (mm)	
Valve Body	Inches	A	B
MBVSR-1/2	1/2"	2.38" (60.4)	1.72" (43.7)
MBVSR-3/4	3/4"	2.73" (69.3)	1.81" (45.9)
MBVSR-1.0	1"	3.09" (78.4)	1.81" (45.9)

Actuator Technical Data

Control	On/Off
Power Supply LF120	120VAC +/- 10% 50/60 Hz 24 VAC / DC optional
Power Consumption LF120	 Running 5.5 W Holding 3.5 W
Transformer Sizing LF120	 7.5 VA, class 2 power source
Electrical connection	3 ft (1m), 18 GA appliance cord
Position indication	Visual indicator 0° to 90°
Running time motor spring	<40 to 75 sec. (on-off) <25 sec. @ -4° F to 122° F <60 sec. @ -22° F
Ambient temperature	-22° F to 122° F
Housing	NEMA 2
Agency listings	UL 873, CSA C22.2 No. 24 cert, CE
Quality standard	ISO 9001

Valve Technical Data

Service	Chilled or hot water, 60% glycol
Flow Characteristic	Full Port, Normally Closed
Sizes	1/2", 3/4", 1"
Type of end fitting	NPT female ends
Materials: Body Ball (1/2", 3/4") Stem (1/2", 3/4") Ball (1") Stem (1") Seats Characterizing disc Packing	 Forged brass, nickel plated Chrome plated brass Nickel plated brass Stainless steel Stainless steel PTFE Tefzel® 2 EPDM O-rings, lubricated
Body Pressure rating	600psi
Media temp. range	0° F to 212° F (-18° C to 100° C)
Close off pressure	200psi
Max differential pressure	30 psi for typical applications

Quantrol Inc. 9001 Hanslik Court, Naperville, IL 60564
Phone: (630) 355-3330 Fax: (630) 355-3568 www.quantrol.net

Walter Louis
FLUID TECHNOLOGIES

Specialists in Water Treatment
and
Process Automation

Let's face it...

you can buy water treatment products in a myriad of different ways. The question of *value* becomes one of reliability and service after the sale. Will it work in my situation and how do I know when it's not working? Is the company representative attentive to our needs and responsive if we have questions? Will they still be in business next year when I need them? All legitimate questions you need to be asking. Sure, price is important, but often it is not the single-most important factor when considering a water treatment company.

At Walter Louis Fluid Technologies, we are dedicated to providing solutions that help reduce operating costs, increase overall plant productivity, and meet environmental requirements. Our experience and common-sense approach to problems offers our customers solutions matched to their individual needs. Custom-designed water and wastewater treatment programs feature products and technology designed by our engineers and formulators for maximum performance, durability and ease of utilization.

Plus, over the course of the last thirty years, we have grown into a company poised to offer our customers many advantages our competitors only dream about, both in terms of products and services. How many can offer *you* stack gas analysis or burner tuning, burner repair or even total replacement? Whose representative can offer you chemicals for your cooling towers *and* build you a reverse osmosis pre-treatment system or a wastewater remediation system turn -key? We can...

I hope you'll take the time to read the information contained within this brochure. WLFT has developed a reputation as problem-solvers, and we put that reputation on the line every day. We're pleased to be able to offer you all the value-added services contained within. Let's talk... let us show you how we can help.

Walter Louis Fluid Technologies
530 South 5TH
Quincy, IL 62301
Engineering Dept.

Phone: (217)223-2017
Fax :(217)223-7734
Email: sales@walterlouis.com

Walter Louis FLUID TECHNOLOGIES

Field Service Capabilities

- On-Site lab testing of water supplies and industrial process water systems
- ATP and dip slide analysis for control of Legionella and biofouling organisms
- Inventory control and documentation
- System troubleshooting
- Comprehensive operator training
- Detailed test reporting and coordination of recommendations with on-site staff
- Equipment cleaning and preparation for storage
- Insuring that process monitoring and test equipment are operating properly
- Product dosage determination and audits
- Quick, accessible response and support

Boiler and Chiller Efficiency Analysis

- Boroscope and Ultrasound field service
- Combustion testing (O2, CO2, Stack temperatures, CO, SO2)
- Gas Handling Equipment Analysis and Leak Detection
- Fuel Oil Quality and Piping Analysis
- Burner Analysis and Start-Up
- Nitrous Oxide Analysis and CO2/O2 Ratios
- Corrosion coupon testing and analysis

Control Systems

- Design, installation, and programming of process automation systems
- Troubleshooting and debugging of existing control systems
- PLC programming for GE-Fanuc., Allen-Bradley, Automation Direct
- HMI programming in Microsoft Access, Cimplicity, InTouch, and LXF Track-2

Bulk Chemical Delivery & Equipment

- Chlorine
- Boiler and Cooling Tower Products
- *Thermal-Guard®* Glycol Heat Transfer Fluids

Custom Repair Services

- Refurbishing of existing equipment
- Repair & Refurbishing of control systems
- Custom metal fabrication
- Ion exchange carbon and filter media cleaning and replacement
- Consulting and engineering services
- Parts & Services for laboratory equipment
- "Zero Downtime" & "On the Fly" service capability

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Walter Louis FLUID TECHNOLOGIES

Manufacturing Processes

- Customized components- aluminum, stainless steel, carbon steel, and plastics.
- Lathe turning of small critical dimension components
- Hot-gas process polymer plastic welding
- Mechanical fusion process plastic welding
- Tungsten-Inert Gas (TIG) process metal welding
- Metal-Inert Gas (MIG) wire-feed process metal welding
- Conventional Stick (SMAW) process metal welding

Documentation & Support

- Technical service manual writing with CADD-generated schematics
- Field consulting and troubleshooting services
- Technical and Product Use Seminars

Equipment

Pumps:

- Ingersoll-Dresser centrifugal pumps
- Grundfos centrifugal pumps
- Pulsafeeder electronic metering pumps
- LMI electronic metering pumps
- Neptune hydraulic diaphragm pumps
- Wilden air-actuated diaphragm pumps

Controllers:

- Pulsafeeder Electronic Controls
- Liquid Metronics (LMI) Controls
- GE-Fanuc Programmable Logic Controllers
- Great Lakes Instruments

Miscellaneous:

- Fleck softeners & filters
- Autotrol softeners & filters
- Harmsco filters
- Barnstead-Thermolyne laboratory equipment
- Snyder polymer plastic storage tanks
- Structural Fibers & Raven fiberglass-reinforced plastic tanks
- Delta Cooling Towers
- ASCO solenoid valves
- Aquamatic diaphragm valves
- Worcester power-actuated ball & butterfly valves

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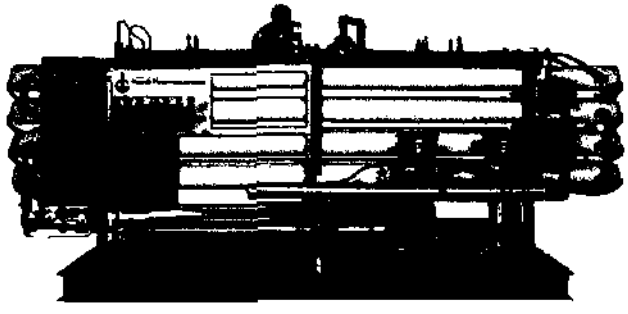
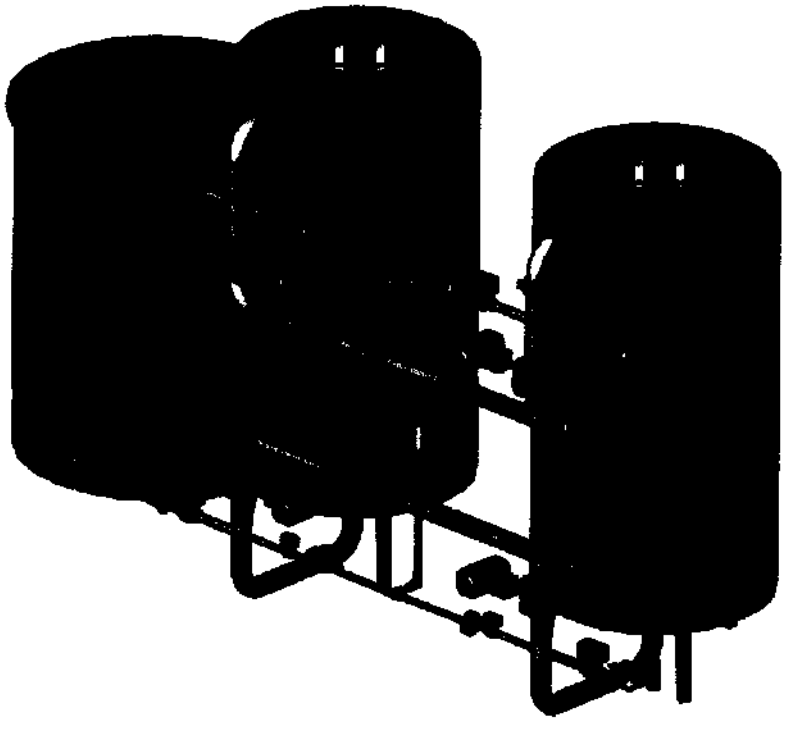
Email: sales@walterlouis.com

Walter Louis
FLUID TECHNOLOGIES

Custom-Built Equipment

- Resin-based systems (softeners, dealkalizers, deionizers)
- Reverse Osmosis systems
- Chemical containment, feed, & distribution piping systems
- Control, PLC & DCS monitoring packages, upgrades and rebuilds
- Turnkey equipment installation and upgrade





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Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment
Chemicals & Equipment

Experience and Reliability

Walter Louis Fluid Technologies (WLFT) originated in 1968 in Quincy, Illinois. Our founder, Walter J. Giesing, was the Director of Power for Packaging Corporation of America where he was responsible for the design and operation of five paper mill power plants. He developed a unique coking process utilizing "traveling grate stokers", and was recognized for his achievement as a recipient of a Power magazine award in 1962.

Upon his retirement, he established offices in Quincy, IL, and served as a consultant to the power and manufacturing industries with a specialization in water treatment chemical applications and services.

In the mid-1970's, under the name "Walter Louis Chemicals", our Quincy facilities manufactured customized water treatment equipment, initially focusing on water softening and filtration processes. Realizing a market niche, we expanded to include deionized water and reverse osmosis, as well as other specialized equipment applications.

As we grew, we expanded our chemical formulation capabilities, which led to the development and manufacture of acrylic polymers, the primary building blocks for a complete line of water and wastewater treatment chemicals for commercial and industrial applications.

In 1987, we underwent a plant expansion at our Quincy manufacturing facility, resulting in the development of a unique process to synthesize organic phosphonate. With these developments, Walter Louis Chemicals could now effectively produce a fully competitive line of water treatment chemicals and chemical feed equipment.

During the 1990's we once again expanded our manufacturing and technical service departments. Some key features:

-- Modified our product delivery system to include 'tote-tank" (mini-bulk) and bulk storage capabilities. This reduced our customers' handling of hazardous chemicals and ensured an economically consistent supply of water treatment products.

-- Upgraded our technical services department to include computer design capabilities. This resulted in a major contract awarded by the U.S. Navy for mobile deionization systems for shore-based support of nuclear warships, followed closely by contracts for two high output reverse osmosis units for industries in the South.

-- Expanding our manufacturing capabilities to include design manufacture and install "Turnkey" projects, Walter Louis manufactured and installed a sea water Reverse Osmosis system For the Kingdom of Saudi Arabia on the Persian gulf

-- Implemented our WLFT "Full Service Program" as a commitment to provide our customers with the highest level of technical services possible, including:

-- On-call service for critical applications [24 hrs/7 day a week]
-- After the sale warranty and service
-- Commitment to ongoing training and education
-- Implementation of technological advancements such as Water Cycle®, predictive modeling software for cooling water scaling potential, corrosion rate, and inhibitor dosing.

530 South 5th St. * Quincy IL 62301-4896 * Phone: (217)223-2017 * Fax: (217)223-7734 * Email: sales@walterlouis.com

As Walter Louis entered the 21st Century our products and capabilities continued to evolve. After a successful installation of a DCS computer based control system at the USDA Research center In Ames Iowa, three years ago. WLFT was specified as the vendor for a second system which is now being finished. Walter Louis has already been specified as the vendor for a third system scheduled to be started next year.

Our diversity and attention to customer needs became the cornerstone of our reputation, as evidenced by our growing customer base and our success as manufacturers' representatives. Our mission statement was, is, and always will be to provide the highest quality products and services at the lowest possible price.

Our first contract with the Department of Correction initiated the *Mini Bulk* program. After years of purchasing chemical by the drum, Walter Louis transitioned the DOC to the program that is still successfully in use today
During the last 12 years, WLFT has been awarded two competitive contracts and 7 individual yearly renewals. We have obtained excellent overall results, and maintained a professional working relationship with DOC personnel.

The Problems with Low Bids:

All state-supported water treatment programs in Illinois are administered by the Illinois Water survey in Champaign. WLFT has provided boiler, cooling water and closed system inhibitor products to Illinois Water Survey for over 20 years. Previous to our association with them, the Water Survey struggled with poor quality products provided by competitive vendors based entirely on low bid evaluations. WLFT has a proven track record of providing uniform quality materials at the lowest possible price and our relationship with Illinois Water Survey is strong.

Training Requirements

WATER TREATMENT TRAINING AGENDA

SAFTY TRAINING
- Safety in Handling Water Treatment Chemicals
- Proper precautions and procedures in handling using storing and disposal of chemicals
- Proper OSHA EPA emergency measures

OVERVIEW
- HVAC SYSTEMS
- BASIC WATER CHEMISTRY
- Functions of each chemical
- Calculation to determine proper dosage
- APPLYING WATER CHEMISTRY TO HVAC SYSTEMS
  - (A) CLOSED WATER SYSTEMS
  - (B) STEAM BOILERS
  - (C) CHILLERS
  - (D) DOMESTIC WATER SYSTEMS
  - (E) WASTEWATER APPLICATIONS

WATER TREATMENT
- CHEMICAL TERMINOLOGY
- BASIC CHEMISTRY
- (A) SCALE FORMATION
- (B) CORROSION/PITTING/OXIDATIONS PROCESS
- Importance of pH in Condensate and closed systems
- Importance of pH calcium Balance in Cooling Water
- (C) BIOLOGICAL PROPERTIES
- Interpretation of Plate Counts
- Interpretation of ATP and other Biological indicators
- Importance of Tower Hygiene
- WLFT PRODUCT APPLICATIONS
- TROUBLESHOOTING

CHEMICAL TREATMENT – EQUIPMENT
- CHEMICAL FEED PUMPS
- BOILER BLOWDOWN CONTROLS
- CONDUCTICITY CONTROLLERS
- AUTOMATIC VS.MANUAL CONTROLS
- TROUBLESHOOTING

PRETREATMENT
- PURPOSE & METHODOLOGY
- TYPES:
- (A) ION EXCHANGE – SOFTENERS
- Operation and Maintenance
- (B) DEALKALIZATION
- Operation and maintenance
- (C) DEAERATION

ENERGY EFFICIENCY
- Methods of improving energy and operating efficiency
- How to calculate production and report energy efficiency
- Heat recovery
- Reverse Osmosis

TEST PROCEDURES
- WET CHEMISTRY
- Test procedures
- INSTRUMENTATION
- INTERPRETATION & TROUBLESHOOTING
- RECORDKEEPING
- ON LINE RECORD RETRVAL

TREND ANALYSIS

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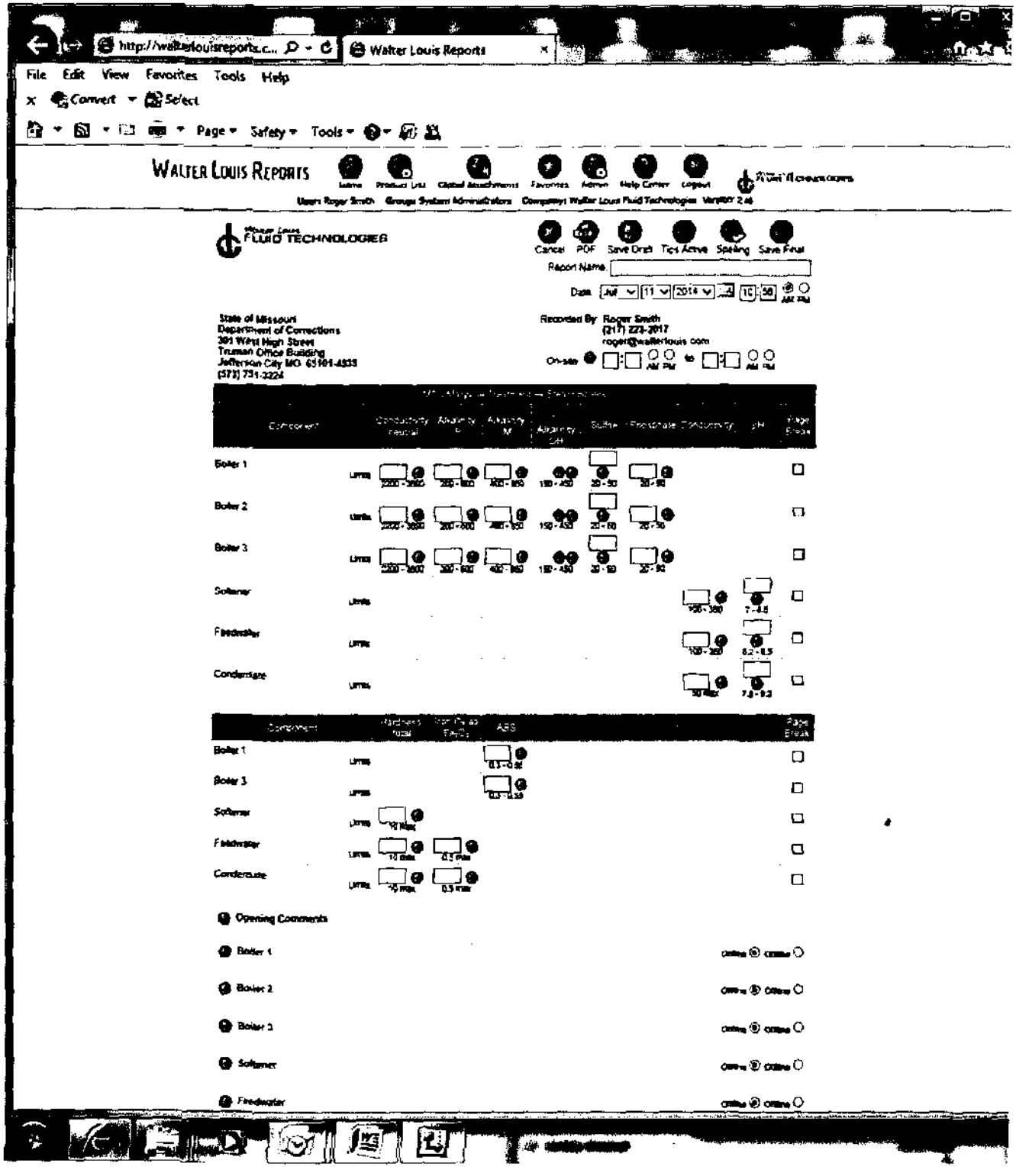
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(573) 751-2224
Recorded By Roger Smith
(217) 223-2017
roger@walterlouis.com
On-site
Boiler 1
Boiler 2
Boiler 3
Softener
Feedwater
Condensate
Opening Comments
Boiler 1
Boiler 2
Boiler 3
Softener
Feedwater

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/17/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER McGowan Insurance Group, Inc. 355 Indiana Avenue Suite 200 Indianapolis IN 46204	CONTACT NAME: Emily Colwell PHONE (A/C, No, Ext): (317)464-5000 FAX (A/C, No): (317)464-5001 E-MAIL ADDRESS: emilyc@mcgowaninc.com
INSURED Walter Louis Fluid Technologies 530 S. 5th Street Quincy IL 62301-4896	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A: State National Insurance — 12831 INSURER B: FEDERAL INSURANCE COMPANY — 20281 INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES CERTIFICATE NUMBER: 13 Casualty REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC			MEB0692657	12/17/2013	12/17/2014	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
B	UMBRELLA LIAB X OCCUR X EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 0			93637617	12/17/2013	12/17/2014	EACH OCCURRENCE AGGREGATE	$ 1,000,000 $ 1,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Blanket Additional Insured, including Completed Operations and Primary & Non-Contributory is applicable on General Liaiblity and Excess Liability, when required by written contract. Waiver of Subrogation is included on General Liability and Excess Liability.

CERTIFICATE HOLDER

State of Missouri/Office of Administratio
Div of Purchasing & Materials Management
Attn: Contract #B3Z14153
P O Box 809
Jefferson City, MO 65102

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Michael Highum/EMILY

WALTE-2 OP ID: JG

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 06/18/2014

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Winters Insurance Group LLP 201 S. 5th Street Quincy, IL 62301 Jeffray J. Tweedell	CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:
INSURED Walter Louis Chemical Company 530 South 5th Street Quincy, IL 62301	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Cincinnati Insurance Co — 10677 INSURER B : Cincinnati Casualty Company — 28665 INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC			EPP0111415	12/17/2013	12/17/2014	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG Emp Ben.	$ $ $ $ $ $ $ 1,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS			EPP0111415	12/17/2013	12/17/2014	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (PER ACCIDENT)	$ 1,000,000 $ $ $
A	UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ -0-			EPP0111415	12/17/2013	12/17/2014	EACH OCCURRENCE AGGREGATE	$ 1,000,000 $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WC8985749-13	12/17/2013	12/17/2014	X WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 100,000 $ 100,000 $ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

RE: CONTRACT #B3Z14153

CERTIFICATE HOLDER

STATEMI

STATE OF MISSOURI/OFFICE OF
ADMINSTRATION DIVISION OF
PURCHASING & MATERIALS MGT.
P.O. BOX 809
JEFFERSON CITY, MO 65102

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Jeffrey J. Tweedell

Referenced from 2.6.2, 2.9.4, 2.9.5

Policy & Procedure for Tracking all Containers for RFP: B3Z14153

Every container (drums and barrels) remains property of WLFT. Every container leaving the possession of WLFT Staff will be monitored through our *Container Delivery and Retrieval* process (CDR). This means that all drums and barrels dropped off at each location are accounted for through careful attention to the CDR Form that is filled out by a delivery driver each and every time that containers are handled (SEE ATTACHED FORM: CDR). There will be a quarterly meeting between the Contract Manager and the state agency's Service Level Manager(s). At this meeting, the exact number of containers used during the process will be accounted for and the final destination of those containers will be exacted as well.

The CDR form is kept with all shipping papers and is further documented electronically by the Director of Operations after each delivery to each location. Such it is that at any time, upon request, WLFT will have knowledge with respect to the number of containers in any facility and how many have been retrieved at any given moment. The WLFT Security Plan states that all handling of containers must adhere to updated applicable laws and regulations by both the E.P.A and OSHA.

It is important to note that only WLFT will be handling both the drop-off and the pickup of all containers regardless if they reside inside the facility or on the delivery truck. The truck uses a lift gate regardless of weight and proper PPE is used during the handling process.

Moreover, all containers that are brought back to WLFT after use are properly cleaned outside and inside the container. Mild detergents are used to clean the containers and are also triple-rinsed and de-labeled before being sent to a recycling center based in Quincy, Illinois. At this facility, the container is shredded and recycled.

*** The CDR form includes the following: Construction Type; size; contents; DOT designation and specific unit identification; date received; dates used; date removed; and disposal documentation.

IMPORTANT! READ CAREFULLY: By filling out this form, you must certify two things:
1) Every HazMat has a MSDS accompaniment.
2) The material in the drums/barrels is indeed what this form says it is.

Instructions for completing this form:
Use this form to request the delivery or retrieval of HazMat or the pick-up of empty containers with HazMat residue.
Walter Louis Fluid Technologies will not take possession unless form is filled out.

Request Date:	First Name:	Last Name:
Company:	Building:	Dept:

ID # (if any)	Service Request- Pick Up or Delivery	GENERATION LOCATION- List the building number or location where HazMat is picked up.	DESCRIPTION- Describe the material by its chemical or its trade name. (include DOT designation if necessary)	# of Containers	Quantity- (amount and units) ie. 40 gallons, 20 ounces, EC (empty)	CONTAINER DESCRIPTION- (capacity and type) Examples: 55 gallon drum 5 gallon Drum

This is to certify that the above named materials are properly classified, described, packed, marked, and labeled/placarded and are in proper condition for transportation according to applicable regulations of the Department of Transportation. All items will be properly disposed.

Certified by: **Date:**

Received by WLFT Staff: **Date:**

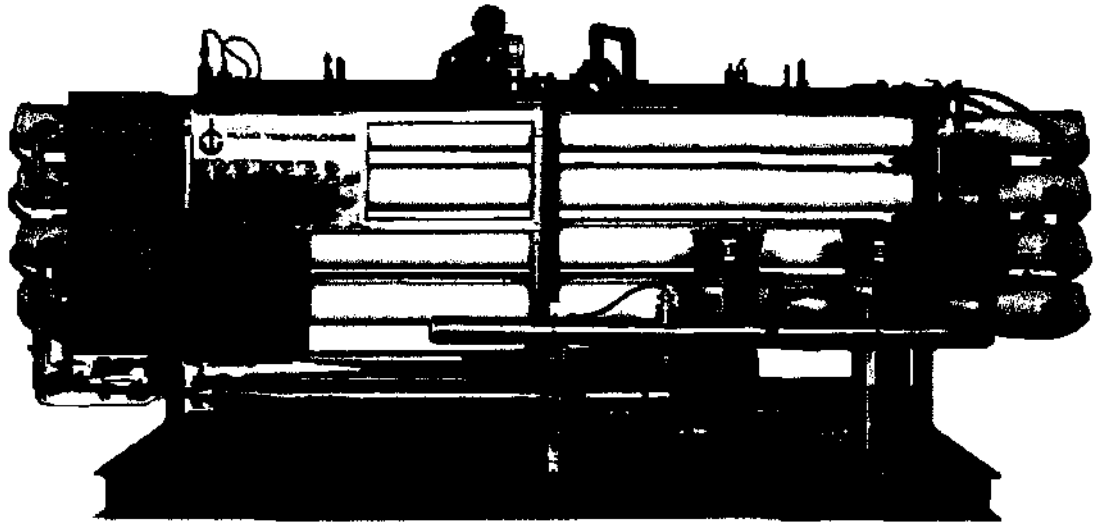
WLFT 530 S. 5th Street
Quincy, IL 62301

Walter Louis
FLUID TECHNOLOGIES

Engineering & Equipment Division

RO SYSTEMS

REVERSE OSMOSIS



Walter Louis Fluid Technologies
530 South 5th
Quincy, IL 62301-4836
Engineering Dept.

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THE RO PROCESS

Engineering & Equipment Division

Reverse Osmosis offers a separation technique for purification of many solvent—solute systems. By the application of pressure greater than the natural osmotic pressure of the solution, the fluid will flow through the membrane leaving behind the dissolved solids. The result is a pure stream essentially free of dissolved solids, colloids, and bacteria. Many fluids can be processed; however, the most common application is the purification of water. Because no regeneration chemicals are required, the high operating costs inherent in their use and disposal is avoided. Routine maintenance is minimal and can be preformed in very little time. The ability of R.O. to remove over 90% of dissolved minerals and organics, as well as colloidal matter bacteria, pyroxenes and most virus, results in many applications including:

- **Drinking water from brackish, or sea water**
- **Boiler feed water**
- **Waste water treatment (plating, rinse, cooling tower blowdown, etc.)**
- **As a component in ultra-pure water production**
- **Water for hemodialysis**

While the basic process of Reverse Osmosis appears simple, in actual operation many factors must be considered, including membrane configurations and material of construction. Walter Louis offers the standard cellulose and polyamide membranes in hollow fiber or spiral wrap configurations.

The reverse osmosis systems can be used as a stand alone process for producing low solids water or combined with other Water Louis equipment such as Ion Exchange and Ultrafiltration to produce the highest quality water.

TYPICAL R.O. SYSTEMS CONSIST OF THE FOLLOWING BASIC SECTIONS.

1. Pretreatment – The operation of the R.O. process may result in a large increase in the concentration of colloidal particles, calcium carbonate and various metallic oxide often present in the raw water. These contaminants can cause severe and often irreversible fouling of the membrane. This in turn causes a loss in output and a degeneration of the quality of the water that is produced.

2. Pressurization System - High pressure multistage centrifugal or positive displacement piston pumps of corrosion resistant stainless steel supply the driving force to overcome natural osmotic pressure and force the fluids through the membrane. Typically applied pressure ranges from 200 psi to 800 psi.

Flow rates increase with an increase in applied pressure. However, Walter Louis recognizes the cost of high pressure operations and often stipulates lower than rated pressure operation.

3. Membrane - As mentioned previously, various membrane materials and configurations are available. The choice is depended on variables such as quality of the raw fluid, pH and presence of components incompatible with the membrane and configuration is evaluated for each application.

4. Instrumentation and Control - Walter Louis offers the most extensive range of instrumentation and controls as standard equipment in the industry. All packaged systems are completely prewired and prepiped. Only one electrical hook up is required on all systems.

STANDARD FEATURES INCLUDE:

- Stainless steel and heavy wall plastic piping
- Epoxy coated steel frames and control panels
- Stainless steel pumps
- Cartridge pre-filter
- Chemical feed system
- pH and conductivity instrumentation
- Raw water and reject flow meter
- Automatic high and low pressure shut down

Walter Louis Fluid Technologies
530 South 5th
Quincy, IL 62301-4896
Engineering Dept.

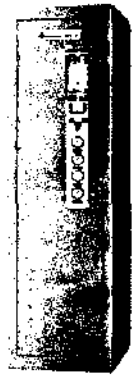
Walter Louis
FLUID TECHNOLOGIES

RO SYSTEMS

Engineering & Equipment Division

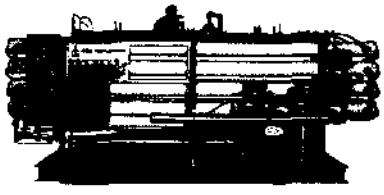
Model TE

500-20,000 GPD



These compact totally enclosed systems contains all of the features of large Walter Louis package reverse osmosis systems. All R.O. applications are possible with Model TE but the most common application include production of water of laboratory, hemodialysis and other small volume uses.

All brackish water systems are shipped ready to accept power and water supply. These systems are complete and if inlet water meets quality requirements for the given membrane they are ready to operate. If input water quality does not meet minimum standards Walter Louis can specify additional pretreatment systems to allow operation on most water supplies. Daily output for each Model is nominal and dependent on the particular membrane used and the pressure of operation. Special sizes and larger or smaller outputs are available.



System SM

20,40, & 75 GPM Modules

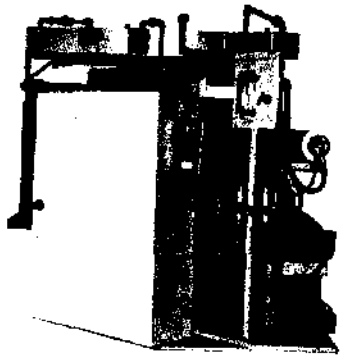
These systems are designed for easy set up operations and maintenance. All components are mounted on a single frame. Each frame can be expanded with additional modules. The modular system can be used as building blocks for very large systems.

Sea Water

From 1000 GPD

The development of membranes capable of ionic rejections of over 99% and the ability to operate at pressure greater than 800 psi have made see water desalination by Reverse Osmosis feasible. Such higher pressures are necessary to overcome the high osmotic pressure of sea water.

Reverse Osmosis offers significant advantages over competitive techniques such as evaporation-distillation. Because of the low temperature operation scale and corrosion are minimal. Pumping energy required is less than one third that of vapor compression and only one eighth of multistage flash distillation. All sea water systems include storage tanks for potable water. Contact factory for the specific size required. Additional models are available for larger outputs or with less extensive pretreatment equipment



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Walter Louis
FLUID TECHNOLOGIES

RO SYSTEMS

Engineering & Equipment Division

Chemical Equipment Services

Specialty Chemicals

- Cooling Water Corrosion & Scale Inhibitors
- Boiler Compounds
- Condensate Return Line Treatments
- Organic & Inorganic Flocculants for Water & Waste Water
- Industrial Microbiocides
- Fuel Additives
- Process Antifoams
- Oil Field Chemicals
- Chemical Intermediates

Fluid Process Equipment

- Membrane Process
- Ion Exchange
- Filtration
- Chemical Feed Systems
- Heat Recovery
- Package Water & Waste Water Systems
- Process Controllers
- Boiler Feed Systems

Analytical Services

- NPDES Monitoring
- Analytical Reagents
- Corrosion Analysis
- Laboratory Instrumentation
- Ultra Pure Water Systems

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Quarterly Report submitted for the State of Missouri (OA)
For the date of June 5, 2014

Missouri Veteran's Nursing Homes

Mexico Veteran's Nursing Home

Tower: All values are within the proper control ranges.

Closed Loop: Proper chemical levels in the loop.

St. James Veteran's Nursing Home

Tower: The chemical level was a little low (still using the old product from Quality Water), we checked the chemical feed pump which needed cleaning, put a replacement pump on line.

Missouri Veterans (Cape Girardeau):

Boilers/Chillers: WLFT products now in place for cooling tower. Closed loop (hot/chilled) water systems have an adequate inventory of closed system treatment from prior vendor. WLFT chemical treatment for cooling tower is in place as of May 2014. Training on test procedures in process.

Missouri Veterans Home (St Louis):

Tests on cooling tower have been fine.

Chilled Loop: nitrite level has been in range.

Hot Loop: nitrite level is low (400 ppm) – waiting for new pot-feeder to get ordered.

Missouri Veterans Home (Cameron)

Tower: We performed a partial cleaning to start removing scale. The chemical program for the tower is in place and designed to remove scale at a low rate.

Closed loop Nitrite levels are in range

Missouri Veterans Home (Mt. Vernon)

Tower : The tower chemical levels are low. The feed rate was increased to bring the numbers within range.

Chiller : Chemical levels are minimal. No chemical has been added to the chiller to date. The free Iron numbers are higher this time at .16.

Boiler : Chemical levels are minimal. No chemical has been added to the chiller to date. The free Iron numbers are higher this time at .54.

Note: Ron would like the decision on how to proceed to be made from Jefferson City. Do we flush the system to clean any residual of the Hydrazine used in the boilers and chillers, or do we add chemical without cleaning the system?

Missouri Veterans Home (Warrensburg)

Tower: I went in and installed a loaner controller. I replaced the tubing, foot valves, and injection quills the chemical in on line.

Chiller: Chemical levels are good the system is well protected.

Boiler: Chemical levels are good the system is well protected.

Note: The "Dolphin" system is running and is dumping water sporadically. Tim would like direct and definitive direction on what Jefferson City wants to do with regards to the Dolphin and whether to let it run or disconnect it?

Department of Social Services

Division of Youth Services

Hillsboro Treatment Center (Hillsboro) Area D

Hot Closed Loop: Always well within proper nitrite range.

Hogan Street Youth Center (St. Louis) Area D

Steam Boiler: offline

Missouri Hills Area D

Closed Loop: Nitrite levels are within range.

Fulton Treatment Center (Fulton) Area C

Closed Loop: All boilers are shut down,

Montgomery Treatment Center (Montgomery City)

Closed Loop: Boiler is shut down.

W.E. Sears Youth Center (Poplar Bluff) Area B

Closed Loop: Nitrite level (1200 ppm) sufficient. No water losses.

MO. STATE HIGHWAY PATROL

MSHP TROOP – A (Lee's Summit)

CHILLER: Corrosion levels and Glycol levels are good.

Highway Patrol Headquarters (Jefferson City)

Tower: All values are within the proper control ranges – no issues.

Closed Loop: Proper Nitrite levels in the closed loop.

Troop F (JEFFERSON CITY)

Closed Loop: Good Nitrite and Glycol levels in the closed loop.

Troop C (PARK HILLS)

Closed Loop: Nitrite and Glycol levels are within the proper control ranges.

Troop B (MACON)

Boilers: Proper Silica levels are being maintained in the boilers.
Chilled Loop: Proper Nitrite levels in the loop.

Troop I (ROLLA)

Closed Loop: Good Nitrite levels in the closed loop.

Crime Lab (SPRINGFIELD)

Closed Loop: Nitrite and Glycol values are within the proper control ranges.

State Office Facilities

Closed Loop: No Nitrite chemical in the loops

Fletcher Daniels Office Building (KANSAS CITY)

Chilled closed loop: Chilled loop is maintained within recommended limits

Towers: Tower is operating within recommendations.

KC DOLIR Building (KANSAS CITY)

Chilled closed loop: Chilled loop has a good level of corrosion inhibitor.
The glycol levels are at 15% which is lower than limits.

Saint Joseph Office Building (ST. JOSEPH)

Hot loop: Good level of corrosion inhibitor.

Chilled Loop: Glycol levels low. Nitrite levels are good.

Tower: The tower numbers are different due to the makeup water change. City water is being used rather that the softener. This is due to the white rust issues from when the tower was installed and no pacification was done.
A chemical change will be required for the season until the tower white rust issues are resolved

Saint Joseph Career Center (ST. JOSEPH)
Hot closed loop: Good level of corrosion inhibitor in the loop.

The loop has a high level of entrained air. This could be a sign of failing pressure release valves. Free iron is also high in the system at .36

Prince Hall

TOWER: Tower recently brought on line. Tests have been within proper ranges.

Boilers: offline
Closed Loops: nitrite levels have been in range.

Wainwright Building (ST. LOUIS)

Chilled Loops: Nitrite levels are always within proper ranges.

Tower: Tower recently on line. Charged and in range.

Boiler: The hot water boiler is in proper nitrite range

DEPT. OF ELEMENTARY AND SECONDARY EDUCATION FACILITIES - DESE

Mo. School for The Deaf (FULTON)

Chilled Loops: Nitrite levels are properly maintained in the following closed loops – Rice, Merklen, Vocational, Stark, Wheeler and Resource buildings.

Towers: Towers recently put on line, all values are within proper parameters.

B.W. Robinson (ROLLA)

Closed Loop: Proper Nitrite and Glycol levels in the closed loop.

Delmar Cobble School (COLUMBIA)

Closed Loop: No issues – good Nitrite levels.

Green Valley – (SPRINGFIELD)

Closed Loop: Nitrite level was within the proper control ranges – no issues.

Prairie View School (MARSHALL)

Boiler: The chemical levels are good in this system.

Rolling Meadows – (HIGGINSVILLE)
Hot Loop: The chemical levels are a little high. The chemical levels have dropped since my last visit.

MO School for the Blind (ST. LOUIS)

Boilers: Both off-line per seasonal standby (stored with WLFT Boiler Banking).

Pool Boiler:
Chemical values are well maintained. Boiler blow down monitored and logged daily.
Tower: Main bldg – new air cooled condenser now in place; 70 Ton cooling tower removed.

Tower: 50 Ton unit – Values very consistent.

Cedar Ridge School (NEVADA)

Closed loop: Chemical levels are low at 440ppm
Need to order 5 Gallons of 839

College View School (JOPLIN)
Closed Loop: Glycol is at 15%
Note: There is no chemical in the system. The water is very dirty.
I did not add the 5 gallon container to the chiller because the water is very dirty and the system may need to be drained and flushed.

Lakeview Woods School (LEE'S SUMMIT MO)

Closed loop: Good corrosion inhibitor level here.

Oakview School (MONETT)

Chiller: Chemical levels are good.

Hot Loop: Chemical levels are low in the hot loop.

Note: The PVC used to plumb in the pot feeder in the Hot Loop appears to be schedule 40 rather than the required Carbon Steel Adding chemical through this system while the boiler is running could cause serious problems at this facility. Once this is repaired we need to order and add 839.

Maple Valley School (KANSAS CITY)

Chilled closed loop: The chiller is down and in need of repair.
Erin said they had to put window units in the building

Trails West School (KANSAS CITY)

Closed Hot loop: Corrosion inhibitor levels are at a good level.

Tower: The chemical levels are good. The numbers are low at this time.
The system has not cycled up yet.

Verelle Peniston School (CHILLICOTHE)

Closed loops: Chilled loop was at recommended Nitrite Levels. Both Loops are high in conductivity and should be drained and flushed this summer

Boonslick State School (ST. CHARLES)

Closed Loop: Closed loop well within nitrite (1000 ppm) range.

Gateway State School (ST. LOUIS)

Closed Loop: Closed loop well within nitrite range (1100 ppm).

DEPT. OF MENTAL HEALTH

Albany Regional Office

Closed system: Nitrite Levels were on the low side, we added 3 gallons of 839. System has a lot of suspended solids. I recommend cleaning and flushing at end of cooling season.

Bellefontaine Habilitation Center

Cooling Tower: Recently brought online. Bryan was on vacation last week and the the conductivity was high. I manually bled the tower down to 2000 conductivity.

Boiler Systems:
Pool boiler was low on sulfite on last week,s visit, but all other tests were in line. Still no word on getting softeners.

Fulton State Hospital – (Fulton)

Boilers: Boiler #8 is on line, all values and blowdown are within the proper control ranges. Boiler #6 is off line and passed inspection, this boiler will be stored with lay-up corrosion inhibitor.

Towers: Hearnes and Biggs towers are on line, all chemical values are within the parameters. Hearnes is now on soft water make up ad Biggs is still on hard water make up and using acid. Cremer tower is off line and is in the process of being cleaned

Higginsville Habilitation Center

Ragland: Chemical levels are a little high in the boiler. The system will be drained in the next week.

Boiler # 1: Chemical levels are a little high in the boiler. The system will be drained in the next week.

Boiler # 2: Not on line

Softener: Maintained working well

Steam line: The steam line treatment is at the level required to protect the steam lines.

Marshall Habilitation Center

Boiler # 1: Chemical levels are good conductivity is in range.

Boiler # 2: Chemical levels are good conductivity is in range.

Softener: Maintained working well

Steam line: The steam line treatment is at the level required to protect the steam lines.

Joplin Regional Office

Closed Loop : Good chemical levels in the boiler.
The system went off line the end of May.

Nevada Habilitation Center

Boiler # 1: Chemical levels and Conductivity are good this month in boiler # 1. There is a leak in need of repair that has gotten worse over the past few months. Boiler #1 will be off line in the next week or two for repairs

Boiler # 2: Off line at this time.

Softener: Softener is working as designed.

Steam line: The steam line treatment numbers are off due to the steam trap over flowing. The free Iron counts are at .18.

Tower: The chemical levels are low. All the numbers are low at this time. The system has not cycled up yet.

Hannibal Regional Office

Closed Loop: Nitrite level (1100 ppm) well within range. No water losses.

Hawthorn Habilitation Center (St. Louis):
Nitrite levels usually within range. Because of a leak, the nitrite level was low on my last visit. 839 additions brought the nitrite levels in line.

KC Regional Office - New Prospects Office Building – Peery Apartments

Closed Loops: All closed loops are maintained within recommended guidelines.

Metropolitan St. Louis Psychiatric Center-(on Delmar)

Tower: Tower recently online, all levels within range.

Boiler: The nitrite level in the hot water boiler well within range.

Northwest Missouri Psychiatric Rehabilitation Center (in St. Joseph MO)

Tower was just put on line. All chemicals were in recommended ranges

Chilled loop: All chemicals were in recommended ranges

St. Charles Habilitation Center

Closed Loop: Nitrite (1000 ppm) well within range. No water losses.

St. Louis Psychiatric Rehabilitation Center- (on Arsenal)

Tower: Admin Bldg: Recently online, but chemical pump lost prime and polymer level was low. Pump is now fine and I manually added chemical

Dome Building

Tower: Recently online, polymer level well within range. No issues.

Boilers: The chemical levels in the hot water boilers are within range. No issues.
Steam boiler: offline

Southeast Missouri Mental Health Center -Sexual Offender Rehabilitative Treatment Services (in Farmington)

Closed Loop Hoctor: Nitrite level (900 ppm) within range. No losses.

Closed Loop Blair: Nitrite level (1100) within range. No losses

Southeast Missouri Mental Health Center – Acute Psychiatric Services (in Farmington)

Cooling Towers: Staples & Forensics

Staples:. Tower operating properly –well maintained/excellent record keeping.
Forensics: Same as above.
Closed Loops: Nitrite levels (hot/chilled) all well within range.(1000+ ppm nitrite).

Sikeston Regional Office

Closed Loops: Nitrite level (1200 ppm) well within range. No losses.

Center for Behavioral Medicine (in Kansas City)
Hot and Chilled loops: Chilled loop and Hot Loop are being maintained with recommended guidelines.
The chilled loop is showing 2.2 free Iron. It does not appear the system was flushed after it was service and the tubes were brushed. The chiller should be flushed and cleaned. Filtration or flushing should be considered.

Tower: The Tower chemical levels are good.

Domestic Softeners: Units are performing well.

Hot and Chilled loops: Chilled loop is good. Hot Loop is being maintained with recommended guidelines..

Tower: Tower is off and tubes have been brushed. System ready for Spring.

Domestic Softeners: New units are performing well.

DEPARTMENT OF CORRECTIONS

Algoa Correctional Center (ALGOA)

Tower: All chemical values are within the proper control ranges.
The water softener is still showing hard water, the maintenance operators will check the softener.

Eastern Reception & Diagnostic Correctional Center (BONNE TERRE)

Boilers: Logbook and on-site testing is properly maintained. All chemical and blowdown values are within the proper parameters.

Towers: The system is running inconsistently due to the cool weather – all chemical values are within the proper control ranges.

Closed Loops: Nitrite levels are within the proper control ranges.

Facility is in the process of switching over to a hard/soft (40 ppm) make up water for the entire facility.

Boonville Correctional Center (BOONVILLE)

Boilers: All chemical values are within the proper parameters, good reporting in the logbook. All boilers have recently been inspected and passed inspection.

Tower: Off line.

Fulton Reception & Diagnostic Correctional Center (FULTON)

Boilers: Proper nitrite levels have been maintained in the boilers.

Tower: New compressor was installed on the chiller, tower chemical values are within the proper control ranges.

Softeners: All four units were showing 0 hardness.

Fulton Community Service Center (FULTON)

Closed System: Proper levels of Nitrite in the closed loop.

Jefferson City Correctional Center (JEFFERSON CITY)

Steam Boilers: Boilers are being maintained within recommended control ranges and the logbook is in accordance with my report.

Condensate: Condensate system in conjunction with Aloga and Ameresco has been showing good pH levels (8.5), there are no issues with this system per the operators.

Tower: Tower values are within the proper control ranges – the system is now on a hard/soft water blend (40 ppm) instead of 100% soft make up water.

Closed Loops: Closed loops are maintained within recommended control range.

South Central Correctional Center (LICKING)

Steam Boiler: All chemical values and blowdown are properly being maintained. Logbook is kept up to date.

Hot Water Boiler (Wood Burning): Nitrite levels are within the proper control range.

Tower: Tower values are within the proper control ranges – no issues.

Missouri Vocational Enterprises (JEFFERSON CITY)

Hot Water Boilers: Proper maintenance and chemical values – no issues.

Tower: Tower is not on line.

Ozark Correctional Center (OZARK)

Steam Boilers: Steam boilers are maintained properly with adequate chemical and blowdown levels. Logbook is properly maintained.

Condensate Return System: pH runs a little high (9.3) due to a few leaks in the steamlines.

Tipton Correctional Center (TIPTON)

Steam Boilers: The summer steam boilers were recently put on line, values are within the proper control ranges. Logbook is in accordance with my reports.

Northeast Correctional Center (BOWLING GREEN)

Closed loop system water losses remain. Chemical additions (closed system treatment) on hold.

Women's Eastern Reception & Diagnostic Correctional Center (VANDALIA)
Tower: Chemical & disoolved solids levels well within range. Training session held for new operators.
Closed loops: Hot/chilled – nitrite levels well within parameters.
Steam boiler: All parameters well maintained; staff very attentive to details. Occasional softener inconsistencies.

Farmington Correctional Center (Farmington)

Power Plant: Steam boiler systems well maintained, monitored, recorded. Wet lay-up status excellent.

Cooling Tower (25 House): Start up mid-May; controller system well maintained/testing and record keeping intact.

Farmington Community Supervision Center (Farmington)

Closed Loop: Nitrite (1050 ppm) sufficient, well within range. No water losses, no issues.

Hannibal Community Supervision Center (HANNIBAL)

Closed Loops: Nitrite (1050 ppm) sufficient, well within range. No water losses, no issues.

Kennett Community Supervision Center (KENNETT)

Closed Loop: No water losses; nitrite level (1100 ppm) well within range.

Moberly Correctional Facility (MOBERLY)

Power Plant: Water losses sporadic. Currently 400 – 500 gallons per day.

Laundry: No issues; parameters well maintained, monitored, recorded. Inventory well controlled.

Ice Machine: No issues.

Admin Building: Offline at present (seasonal). Tower sump very clean.

Poplar Bluff Community Supervision Center (POPLAR BLUFF)

Closed Loop: Nitrite level (1100 ppm) well within range. No water losses.

St. Louis Community Release Center (ST. LOUIS)

Closed Loops: Nitrite levels are always in line.

Potosi Correctional Center (POTOSI)

Boiler: All boiler parameters well within range.

Condensate: Very good. Condensate less than 50 micromhos.

Tower: All parameters well within range. Testing and record keeping well maintained.

Closed Loop: Nitrite and conductivity within acceptable limits.

Softeners: Both softeners are operating properly.

Southeast Correctional Center (CHARLESTON)

Cooling Tower: Cooling tower parameters well within range. Testing and record keeping well maintained.

Hot Loop: Nitrite level well within range – very consistent.

Cold Loop: Nitrite level well within range.

Softener: Operating properly.

St. Louis Community Release Center (ST. LOUIS)

Closed Loops: Nitrite levels are always in line.

Western Reception Diagnostics and Correctional Center

(St. Joseph)

Towers: PowerHouse Towers #1, #2, #3 and 11 House #1 chemical levels are all within range.

Boilers: Boiler chemical levels are good.

Steam line: Chemical treatment is being maintained to protect the steam lines.

Softeners: Softeners are performing well

They are testing daily.

Chillicothe Correctional Center (Chillicothe)
Tower : Everything is within range. Hardness levels are at the top end. If they get any higher we will need to lower the control setpoint.

Both Loop are within range

Crossroads Correctional Center (Cameron)

Tower Is Online with chemical levels in range. Bleed meter is causing a restriction and may not be sufficient for High load bleed rate. They were going to see if is plugged

Chilled and Hot Loop in proper ranges

Maryville Treatment Center (MARYVILLE)

Steam boilers- Normal Operation Excellent Control
Bld. 2 Glycol Loop is at 14% Glycol.
14% Glycol has a Freeze Protection to about 25F and Burst protection to 15 F

Western Missouri Correctional Center (CAMERON)

Hot Closed Loop: See Crossroads

Laundry Steam Boiler: This boiler is now being used only for the Kitchen. Manual control is maintained by operators and electronic reporting is being done. The boiler is being turned OFF at night.

Company ID Number: 200950

To be accepted as a participant in E-Verify, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify at 888-464-4218.

Employer Walter Louis Chemicals

Frank J Murphy	
Name (Please Type or Print)	Title
Electronically Signed	03/25/2009
Signature	Date

Department of Homeland Security – Verification Division

USCIS Verification Division	
Name (Please Type or Print)	Title
Electronically Signed	03/25/2009
Signature	Date

Walter Louis
FLUID TECHNOLOGIES

WATER TREATMENT
&
TEST PROCEDURE
MANUAL

Maryville Treatment Center

July 2014

SAMPLE COPY
For format evaluation only

Per RFP NO.: B3Z14153 Exhibit E

Walter Louis Fluid Technologies
530 South 5th Street
Quincy, IL 62301

Water Treatment Manual

Maryville Treatment Center

Bld. 4 Steam Boilers

Basics

The two main objectives of Steam Boiler Water Treatment are to optimize thermal efficiency and prevent corrosion.

Thermal efficiency basically translates to the amount of heat transferred from the fire side to the water side before it goes out the stack. In a steam boiler, lost thermal efficiency is primarily caused by scale buildup on the water side of the boiler.

Corrosion in a steam system is caused by a combination of low pH and high oxygen levels in the water.

In order to achieve our objectives, we must do several things. We'll start with --

Pretreatment

Calcium is the major scale former in this part of the country. The best way to prevent scale formation in the boiler is to eliminate it before it is introduced into the steam system. All steam systems should use soft water as make up. A reliable water softener on the makeup side of the system is a must.

Oxygen is also present in the makeup water, and again, should be removed before being introduced into the boiler. This is primarily done by either a deareator (preferred) or a heated makeup tank. The higher the temperature of the feedwater, the less oxygen in it. This is the point in the process where Oxygen Scavenger (Sulfite, SO_3) is being injected.

Terms
Make-up *= Raw water from softener*
Feedwater *= Mixture of make-up and condensate, fed to the boiler*

Now that we have our makeup ready for the steam process, we will discuss the boiler.

Boiler

Several processes are going on at once in the boiler:

- Steam is produced and leaves the boiler. As this occurs, the level of dissolved solids (minerals in the water) raises. If steam or condensate is lost, then makeup water is needed to maintain the boiler operating level. This adds more solids to the mix. Once these solids reach a certain level, the boiler can start to carry over and/or scale will start to form on the tubes. To prevent this, the boiler must be "blown down". This is a process where water (not steam) is released from the boiler to drain, removing the solids.
- Oxygen Scavenger (Sulfite) is present (residual from pre-treatment) to remove any trace oxygen
- Boiler Compound is being injected. The boiler compound provides 3 functions:
    - Provide a scale inhibitor (i.e. phosphate)

- Provide a corrosion inhibitor (sodium hydroxide to raise pH and OH levels)
- Sludge Conditioner (phosphates and/or polymers) to keep solids from building in the bottom of the boiler

Steam and Condensate

Steam leaves the boiler carrying heat. That heat is discharged when the steam condenses back to water- condensate in boiler speak. The condensate is then returned to the deareator or makeup tank to be reused again. The treatment issue with steam system protection begins with the boiler water itself. Carbonates are present in all Midwestern water sources. When heated in the boiler, they decompose releasing carbon dioxide gas that mixes and leaves with the steam. When the steam condenses, the carbon dioxide gas forms carbonic acid that corrodes condensate return lines as well as the makeup tank. Thus, the reason for adding Steam Line Treatment. This is normally injected directly in the steam header, as close as possible to the boiler. This is a high pH/low boiling point material that condenses with the steam to neutralize the carbonic acid.

The success of this program is monitored by:

- Annual Boiler Inspections
- Comparing fuel usage to pounds of steam produced

Control of the chemical feeds is a direct result of daily testing. The daily tests and ranges recommended by WLFT for your system are as follows:

- Boiler Water
  - Sulfite 20-50 ppm
  - P Alkalinity 200 -500 ppm
  - M Alkalinity 400- 850 ppm
  - OH Alkalinity Calculated 2P – M
  - Phosphate 20 -50 ppm
  - Neutralized Conductivity 2200-3600 uS
- Feedwater
  - Conductivity 100-350 uS
  - pH 8.2-9.5
  - Iron .5 ppm Max
  - Hardness 5 ppm Max
- Condensate
  - Conductivity 50 uS Max

- pH 8.2-9.5
- Iron .5 ppm Max
- Hardness 5 ppm Max

- Softener
  - Conductivity 100-350 uS
  - pH 7.2-9.5
  - Hardness 5 ppm Max

Test procedures are included with this manual.
Test equipment and reagents are provided by WLFT.

Many things can affect your boiler that you have no control over. Makeup water quality and load are just two. As these vary, changes will have to be made. Your WLFT representative stands at the ready to assist you in making these changes to maintain a sound and efficient system.

Chemical Products

592-L Oxygen Scavenger

- Injected via chemical pump into the feed water tank
- Feed rate controlled by sulfite test result and parameters

1460 Boiler Compound

- Injected via chemical pump into feedwater line
- Feed rate controlled by phosphate test result and parameters

1535 Steamline Treatment

- Injected via chemical pump into the steam header
- Feed rate controlled by condensate pH test result and parameters

LC-25 Liquid Caustic Soda 25%

- Injected via chemical pump into feedwater line
- Feed rate controlled by OH alkalinity test result and parameters

Note: When adjusting feed rates, adjust in small increments and allow the system to stabilize before testing.

Product Delivery:
All of the chemical products delivered to this facility will be in 5 Gallon containers.
Method of Delivery (2 options)

- WLFT Delivery Truck
- LTL Motor Carrier Freight

Delivery Point

- West Side Loading Dock

Contact Information

Primary Service Representative

Roger Smith
217.653.7538 cell
roger@walterlouis.com

Alternate Service Representative

David Dreyer
913.972.2030 cell
david@walterlouis.com

WLFT Main Office

Phone 800.747.2019
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Billing Inquiries	Christy Emerick	christy@walterlouis.com
Shipment Inquiries	Chris Huckstep	chris@walterlouis.com
Lab Inquiries	Tina Darnell	tina@walterlouis.com

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Interpretation of Test Results:

It is important to keep in mind that the chemical levels in the boiler water are all related to the cycles of concentration and Total Dissolved Solids (TDS), as measured in the conductivity of the water. If the conductivity is low, the level of all the other chemicals in the water will be lowered by the same proportion.

The interpretations below are based on the assumption that the conductivity is within the desired range.

Avoid adding large slugs of chemical to systems that are fed with calibrated pumps, unless chemical balances are severely out of range, resulting from perhaps a chemical drum running dry and pumping no chemical at all for an extended period. Make small adjustments to the chemical injection pumps instead, in order to maintain consistent control and best economy.

Sulfite: If lower than the desired range, increase the feed rate of the oxygen scavenging chemical. If higher than desired, reduce the feed rate. Excess sulfite is not harmful, but will artificially raise the conductivity and reduce alkalinity if in great excess.

Inhibitors and Alkalinities: If lower than the desired range, increase the feed rate of the inhibitor chemical. If higher than desired, reduce the feed rate. Greatly excess alkalinity can cause foaming, priming, and carryover of boiler water into the steam side of the plumbing. Excess polymer, chelants, and phosphonates in the inhibitor are not harmful until dosages become very high. Walter Louis chemical technicians will reformulate the proportions of ingredients in the inhibitor to maintain correct chemical balances.

Nitrite Inhibitor: Closed loops are ordinarily very tight, with little or no makeup water added for extended periods of time. The makeup water line is often metered so as to detect a leak. The nitrite level should be stable, dropping only when diluted by makeup water. A dropping nitrite level in a chilled water loop with no makeup water consumption is a sign that nitrite-eating bacteria have established a colony within the plumbing. Add a recommended dosage of biocide to kill off the bacteria, then reinhibit the system. Bacteria usually cannot survive in hot water loops unless shut down and cooled for the summer.

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Conductivity: Adjust skimmer blowdown to maintain conductivity at the desired level. Open the skimmer blowdown valve wider to reduce conductivity, close tighter to increase conductivity.

In the condensate, increased conductivity means that something is contaminating the steam, perhaps a heat exchanger leaking city water into the condensate return. Foaming, priming, and carryover of boiler water will show up as high conductivity and alkalinity in the condensate.

In the softened water, conductivity that is higher than the incoming water means that a valve to the brine tank is leaking, drawing salt brine into the water. Confirm this by testing for Chlorides higher than the incoming water.

Chlorides: Chlorides are fairly stable compounds in boilers, and are useful in calculating cycles of concentration, percent makeup, and percent condensate return. As a softener regenerates with sodium chloride (salt), the chloride test can help diagnose a leaking brine valve in the softener.

Hardness: As all the makeup water to the feed and boilers is run through the softener, the appearance of hard water anywhere in the circuit is cause for concern.

Low levels of hardness in the feedwater may signal that the softener is exhausting and bypassing hard water before its regeneration clock switches tanks and regenerates.

Hard water in the boiler often shows up as a cloudy water sample, as the chemical additives work to bind up the calcium carbonate and prevent scaling. Cloudiness will show up long before a hardness test comes up positive. Many boilers have an emergency makeup water line than can feed water directly from the mains in case of feedwater equipment failure. Check this line for leaks if the feedwater is soft but the boiler water is showing signs of hardness.

Hard water in the condensate return is a sure sign that an exchanger is leaking, usually in the steam bundle on a hard water domestic water heater.

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pH: A pH reading of 7.0 is considered neutral, neither acid nor alkaline.

If the deaerator or feedwater heater is maintaining consistent high temperatures, the feedwater pH will be elevated to 8.0 or higher, due to the bicarbonate-to-carbonate-to hydroxide reaction discussed earlier in the manual.

One of the functions of the steamline treatment is to raise the pH of the condensate and prevent the formation of corrosive carbonic acid. If the pH of the condensate is lower than the desired range of 8.5 - 9.0, increase the feed rate of the steamline treatment. If the pH exceeds 9.0, reduce the feed rate. The steamline treatment can have a detergent-like effect at high doses, and can "scrub" contaminants and pre-existing corrosion products off the plumbing, transporting them back to the feedwater and boiler. While a slow clean-up is desired, a large amount of crud returning to the water-side at once is not so desirable.

Consulting: Please do not hesitate to pick up the phone and call for advice and assistance with running tests or interpreting the results of the tests. We at Walter Louis take pride in providing excellent service. We appreciate the trust placed in us to protect a sizable capital investment in steam-generating equipment, and we pledge to do everything possible to insure that it operates as efficiently as possible and as reliably as possible.

Walter Louis Fluid Technologies
Quincy, Illinois
1-217-223-2017 8am-5pm & Answering Service after hours
1-217-223-2019 Direct line to plant after hours
1-217-223-7734 Fax 24 hours

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Alkalinity Tests:
As boiler water alkalinity is quite concentrated, a 10 ml sample is of adequate size to get a good reading. 25 or 50 ml should be tested for non-boiler locations.

P-Alkalinity:

1. Measure sample into casserole dish.
2. Add 5 drops Phenolphthalein Indicator solution. The sample will turn dark pink if P-Alkalinity is present. If no color change, record P-Alkalinity as "0".
3. Fill the Standard Sulfuric Acid burette and allow it to drain back to zero.
4. Add the reagent drop by drop, stirring gently, until the pink color is gone. Read the burette, and multiply by the proper factor for the sample size to get ppm.
5. Record on test sheet.
6. Do not discard the sample if also running M-Alkalinity Test.
7. Do not refill the burette. Continue from the P-Alkalinity reading.

M-Alkalinity:

1. Continue with the same sample from the P-Alkalinity test.
2. Add 5 drops Mixed Indicator solution. The sample will turn blue.
3. Add the reagent drop by drop, stirring gently, until the blue color turns to orange with no trace of blue remaining.
4. Read the burette, and multiply by the proper factor for the sample size to get ppm.
5. Record on test sheet.
6. Rinse casserole dish and stirring rod.

Sample Size	Factor
10 ml	X 100
25ml	X 40
50 ml	X 20

Calculate OH- Concentration:

Multiply P-Alkalinity times Two. Subtract M-Alkalinity from this to get OH- in ppm.

Record on Test Sheet.

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Technical Data Bulletion

TOTAL HARDNESS (TH) TEST

Items required: Sample to be tested, casserole dish, stirring rod, Hardness Indicator Powder, small scoop, graduated cylinder, Hardness Titrating Solution burette assembly, Hardness Buffer Solution and log sheet.

PROCEDURE:

STEP 1: Prepare Hardness Titrating Solution burette for use by filling the burette and allowing it to drain back to the "0" mark at the top of the burette.

STEP 2: Measure a 25 ml sample of water to be tested. Add sample to casserole dish.

STEP 3: Add 13 drops "Hardness Buffer" to sample.

STEP 4: Add 1 small scoop Hardness Indicator. Presence of hardness will turn the sample to a purple color.

STEP 5: Place sample under "Hardness Titrating Solution" burette. Add the titrating solution slowly until sample changes form purple to blue (end point).

STEP 6: Record the amount of hardness titrating solution used to effect the blue color change and multiply that value by "40" to express total hardness.

STEP 7: Record the value obtained from Step 6 as parts per million (ppm) "TH" (total hardness).

STEP 7: Thoroughly rinse all glassware.

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Technical Data Bulletion

TOTAL HARDNESS (TH) TEST

SULFITE (SO3) TEST PROCEDURE

Items needed: Boiler sample (covered), casserole dish, graduated cylinder, stir rod, Potassium Iodide-Iodate Titrant, Dual Purpose Indicator, scoop.

Step 1: Measure 25 ml of boiler sample in graduated cylinder and pourinto casserole dish.

Step 2: Add one scoop of "Dual Purpose Indicator" to the casserole dish. Stir.

Step 3: "Zero" burette assembly containing Potassium Iodide Iodate.

Step 4: Place casserole dish under burette, add Potassium Iodide-Iodate slowly to the sample while stirring until sample turns blue (end point).

Step 5: Multiply "mls" of Potassium Iodide- Iodate used x "40" to give parts per million (ppm) sulfite (SO3).

Step 6: Log results.

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Technical Data Bulletion

Orthophosphate Test for Boiler Water:

The Phosphate test is a pre-packaged test manufactured by Hach (Hok) Company. It reads in a narrow range of 0-5 ppm. As the desired range in the boiler water is 40-80 ppm, the sample must first be diluted with distilled or deionized water in a 1:10 ratio.

Filtering:

The boiler water must first be filtered before testing, to remove Phosphates that have already reacted with Calcium, as it will distort the true reading of the test. In the test kit is a small funnel and filter paper.

Fold the circle of paper into fourths, then open one layer of the pie-shaped folded paper to make a cone. Place the cone of filter into the funnel, and the funnel into the 10 ml graduated cylinder.

Pour boiler water into the funnel until nearly full.

Watch the filtered water flow into the 10 ml graduated cylinder. When the bottom of the meniscus (the cup-shaped curve of the water line) touches the 5 ml mark, quickly remove the funnel and filter assembly and set aside.

Making the Dilution:

Add the 5 ml of filtered boiler water to the 50 ml graduated cylinder.

Fill the 50 ml graduated cylinder with distilled or deionized water. This is now a 1:10 dilution of boiler water.

Pour the diluted sample into the two test tubes of the Hach comparator. Set the remainder aside in case the test needs to be repeated.

Proceed to the next page, "Running the Test"

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Technical Data Bulletion

Orthophosphate Test, continued...

Running the Test:

Shake a packet of Hach Phos-Ver 3 Reagent powder to settle it to the bottom, tear open the top, and pour the powder into one tube of diluted sample. Cap the tube and invert several times to mix.

Set the sample aside for three minutes to allow the reaction to complete. The sample will turn blue if Orthophosphate is present.

Place the tubes of sample in the comparator, plain tube to the outside edge, colored sample in the inner hole.

Hold the comparator up to a well-lighted white surface. Turn the color wheel until the color of the wheel against the plain sample matches the color of the sample with reagent added.

Read the orthophosphate level in the window on the front of the comparator. It will read between 0.0 and 5.0.

Multiply by 10 to get the true orthophosphate reading, as the water tested was diluted 1:10. A reading from 0 to 50 will be calculated.

Record on test sheet.

Rinse test tubes, graduated cylinders, and filtering assembly. Replace in kit for storage.

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Iron Test (High Range, Ferro-Ver):

The Iron test is a pre-packaged test manufactured by the Hach (Hok) Company. It reads in the range of 0--5 ppm.

Iron in raw well water contaminates water softener Zeolite and reduces its ion exchange efficiency. It also forms sludge on the inside of pipes, clogs valves, and imparts a color and undesirable taste to the water. The EPA allows 0.3 ppm in drinking water.

Dissolved iron in boiler and condensate systems is a signal that there is corrosion actively occurring somewhere in the system. The usual culprit is inadequate steamline inhibitor feed, allowing the pH of the condensate to drop. Steamline treatment overfeed can also cause temporary high iron levels due to their detergent effect scrubbing pre-existing corrosion products off the inside of the plumbing and washing it back to the return tank.

Running the Test:

Pour the sample into the two test tubes of the Hach comparator.

Shake down a packet of Hach Ferro-Ver Reagent powder, tear open the top, and pour the powder into one tube of diluted sample. Cap the tube and invert several times to mix.

Set the sample aside for three minutes to allow the reaction to complete. The sample will turn orange if iron is present.

Place the tubes of sample in the comparator, plain tube to the outside edge, colored sample in the inner hole.

Hold the comparator up to a well-lighted white surface. Turn the color wheel until the color of the wheel against the plain sample matches the color of the sample with reagent added.

Read the iron level in the window on the front of the comparator. It will read between 0.0 and 5.0.

Record on test sheet.
Rinse test tubes, graduated cylinders, and filtering assembly. Replace in kit for storage.

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Testing with the Myron-L TPH1

Procedure for pH & Conductivity

1. Rinse the cell cup for the test to be done with DI or clean tap water.

2. Rinse the cell 3 times with the sample being analyzed.

3. Press the correct key for the test and read the the display.

4. Empty the sample cell and rinse at least 3 times with clean water.

5. Store the pH cell with 6023 pH Kcl Soak Soln. and cap.

6. The conductivity cell should be stored with DI water after rinsed or empty.

7. Calibration checks of both cells should be done periodically and if needed recalibrated with the appropriate solutions.

8. A schedule of once per month for conductivity and twice for pH is recommended by the manufacturer. Refer to the Operation manual for calibration and cleaning procedures.

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Procedure for Neutralized Conductivity/ TPH1

Items needed: Conductivity Meter, casserole dish, stirring rod and Neutralizing Solution.

1. Step 1: Pour 30-40 mls of water sample to be tested into casserole dish.

2. Add Neutralizing Solution to sample. Sample will turn pink if alkalinity is present. Continue to add neutralizing solution while stirring until sample returns to clear color.

3. Using neutralized sample pour sample into the conductivity cell of the meter and and depress the COND button. Read and record as neutralized conductivity.

4. Empty the sample cell and rinse at least 3 times with clean water.
5. Store the pH cell with 6023 pH KCl Soak Soln. and cap.

6. The conductivity cell should be stored with DI water after rinsed or empty.

7. Calibration checks of both cells should be done periodically and if needed recalibrated with the appropriate solutions.

8. A schedule of once per month for conductivity and twice for pH is recommended by the manufacturer. Refer to the Operation manual for calibration and cleaning procedures.

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Industrial Water Treatment Chemicals & Equipment

Technical Data Bulletin

WLFT 1535 STEAMLINE TREATMENT

Condensate multifunctional return line Corrosion Inhibitor

Product Use: Walter Louis 1535 Steamline Treatment is a blend of three amines formulated to protect large complex condensate return systems. For applications where multiple pressure sections may be present, corrosion protection is accomplished by the direct neutralization of carbon dioxide in the steam system.

Benefits:

- Reduces iron pickup
- Conveniently handled liquid
- Compatible with other treatments
- Minimizes corrosion levels
- Efficient in wide range of conditions
- Minimizes downtime

Dosage: In most industrial and institutional systems, use sufficient Walter Louis 1535 to maintain a condensate pH control range of 8.0 to 8.6. Condensate return rates, as well as type of deaerating heater used, affect dosage requirements due to the recycling of Walter Louis 1535. Subsequent dosages and dosage adjustments are based upon both pH and iron analysis performed regularly on the condensate. The dosage in each case should be established in cooperation with your Walter Louis water treatment specialist. Test kits for determining the residual of oxygen scavenger are also available.

Specifications

Flash Point: 150° F	Appearance: Dark Amber liquid
Freezing Point: 150° F	Odor: Mild Amine
Weight: 8.2 lbs/gal	Solubility: Highly miscible
pH: 11.0	Specific Gravity: 0.985

Handling: This product is for industrial use only and should be handled accordingly. Alkaline material – Do not take internally. If contact with skin occurs, wash with plenty of water. If eyes are affected, flush with water and get medical attention.

Packaging: 55 gallon poly drums – approximately 450 lbs.

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Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment Chemicals & Equipment

Technical Data Bulletin

WLFT #1460 BOILER COMPOUND

Concentrated Liquid Boiler Compound

Product Use: *WLFT#1460* is recommended for use in boilers of all pressure ranges to prevent calcium, magnesium and iron deposits in boilers using high quality zeolite softened water. *WLFT#1460* is a blend of phosphates, polymeric dispersants and sequesterants. An effective antifoam, *WLFT#1460* provides dependable means for controlling foaming and carryover. This will improve steam purity, permit faster load changes and allow higher TDS in the boiler. The dispersant blend includes terpolymers that are particularly effective in control of iron deposits. 1460 is particularly useful in low alkaline water or where a dealkalizer or reverse osmosis is used for make up water pre-treatment.

Benefits:

*Prevents boiler feedline deposits
*Conveniently handled liquid
*Highly compatible with other treatments
*Builds Hydroxide Alkalinity
*Permits higher TDS in boiler
*Minimizes foaming
*Improves steam purity

Dosage: Your Walter Louis water treatment specialist will recommend the proper dosage and residual for your specific application. Treatment feeding equipment should be made of corrosion resistant materials.

Specifications

* pH – 12.0-12.5
* Appearance & Odor - Amber to brown liquid, woody odor
* Specific Gravity – 1.22
* Flash Point: None
* Freezing Point: 10° F

Handling: If material contacts skin, wash with plenty of water. If eyes are affected, flush with plenty of water and get medical attention.

Packaging: 55 gallon poly drums – approximately 555 lbs.
15 gallon poly drums – approximately 150 lbs.
Bulk and Mini-bulk

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Industrial Water Treatment Chemicals & Equipment

Technical Data Bulletin

WLFT#592-L LIQUID OXYGEN SCAVENGER

PRODUCT USE: Dissolved oxygen is a serious cause of corrosion in steam generating systems. *WLFT#592L* liquid oxygen scavanger is recommended for the fast and complete removal of dissolved oxygen in feedwater and boiler water. This product is formulated especially for larger systems that return condensate to the boiler feedwater system and employ a deaerator. In addition to a special blend of sulfites that reduce alkalinity in the feedwater, a special sequesterant specifically for iron is added to transport iron through the system and aid in iron removal through blowdown.

BENEFITS:

* Ease of application
* Economical
* Pre-boiler protection
* Fast acting
* Helps transport iron
* Low Toxicity

DOSAGE: Your Walter Louis Treatment Specialist will establish proper dosage requirements and control range based upon your specific operating conditions.

FEEDING: May be added with other boiler treatment chemicals that are diluted in a chemical feed tank or pump directly from the drum to the feedwater reservoir with standard corrosion resistant equipment.

PHYSICAL DATA: Colorless to amber colored liquid, no flash or fire point, freeze point 10°F.

HANDLING: Harmful if swallowed. Avoid prolonged contact with skin. Wash with plenty of water. If eyes are affected, immediately flush with water for at least 10 minutes and get medical attention.

PACKAGING: 55 gallon drums, approximately 590 lbs.

530 South 5th St * Quincy IL 62301-4896 * Phone: (217)223-2017 * Fax: (217)223-7734 * Email: sales@walterlouis.com

Walter Louis
FLUID TECHNOLOGIES

Industrial Water Treatment Chemicals & Equipment

Technical Data Bulletin

WLFT# LC-25 LIQUID ALKALINITY BUILDER

Walter Louis LC-25 is a concentrated solution of Sodium Hydroxide. LC-25 is recommended for feedwater with high levels of Magnesium or for feedwater containing insufficient levels of natural alkalinity such as systems that utilize Reverse Osmosis or Dealkalization for pre-treatment. LC-25 is compatible with all boiler treatment products.

LC-25 is not prone to freezing in typical storage conditions.

APPLICATION: LC-25 should be fed at sufficient rates to maintain recommended Hydrate Alkalinity.

TYPICAL PRODUCT CHARACTERISTICS

Appearance	Clear liquid
Odor	Odorless
pH (1% soln)	12.7
Specific Gravity	1.28

530 South 5th St. * Quincy IL 62301-4896 * Phone: (217)223-2017 * Fax (217)223-7734 * Email: sales@walterlouis.com

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **LC-25 CAUSTIC SODA LIQUID 25%**
Chemical Name and Synonyms: Sodium Hydroxide
Proper Shipping Name: SODIUM HYDROXIDE SOLUTION
Hazard Class: Corrosive Material
ID Number: UN1824 PG:II
Label requirements: Corrosive
Reportable Quantity:

Health	= 3
Fire	= 0
Reactivity	= 1

****

Section II – Hazardous Ingredients

Ingredient	***Percent***	***TLV***
Sodium Hydroxide Case # 1310-73-2	25%	2 MG/M3 – Ceiling

****

Section III Physical Data

Boiling Point: 288 F
Solubility in Water: Complete
Specific Gravity: 1.28
Appearance and Odor: Clear and colorless
Evaporation Rate: Slower than ether
Vapor Density: Heavier than air
pH (1% solution) – 12.7

****

Section IV – Fire and Explosion Hazard Data

Flash Point: Not applicable
Extinguishing Media:
Special Fire fighting procedures: Wear self-contained breathing apparatus with a full face-piece operated in pressure-demand or other positive pressure mode and full body protective clothing when fighting fires.
Unusual Fire and Explosion Hazards: Can react with chemically reactive metals such as aluminum, zinc, magnesium, copper, ect. To release hydrogen gas which can form explosive mixtures with air.

Section V – Health Hazard Data

Threshold Limit Value: 2 MG/M3 - Ceiling
Effects of Overexposure: EYES: Causes severe damage and even blindness very rapidly. SKIN: Causes burns, possible deep ulceration. BREATHING: Mist can cause damage to nasal and respiratory passages. SWALLOWING: Results in severe damage to mucous membranes and deep tissues.
Emergency and First Aid procedures: SKIN: Immediately flush exposed area with water for at least 15 minutes, get medical attention. Remove contaminated clothing. Launder contaminated clothing before re-use. Discard contaminated shoes. EYES: Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get immediate medical attention. If physician is not immediately available, continue flushing with water. Do not use chemical antidote. IF SWALLOWED: Do not induce vomiting. Vomiting will cause further damage to the throat. Dilute by giving water. Give milk of magnesia. Keep warm and quite. Get medical attention immediately. IF BREATHED: If affected remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Keep person warm, quiet and get medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (X)

Incompatibility – Avoid contact with strong mineral acids, reactive metals such as aluminum and magnesium, organic materials, water, strong organic acids, copper.
Hazardous decomposition products: N/A
Hazardous Polymerization -- | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Small spill: Neutralize and mop up solution. Large spill: Collect and add slowly to large volume of water. Persons not wearing protective equipment should be excluded from area of spill until cleanup is completed. Stop spill at source. Dike to prevent spreading. Pump to salvage tank.

Waste Disposal Method: Small Spill: dispose of in accordance with Local, State, and Federal regulations. Large spill: pour into a large tank of water and neutralize. Flush to drain with large excess of water in accordance with applicable regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- If TLV of the product or any component is exceeded; a NIOSH/MSHA jointly approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators under specified conditions.

Ventilation: Provide sufficient mechanical (general and /or local exhaust) ventilation to maintain exposure below TLV(s).

Protective Gloves: Wear resistant gloves such as Neoprene, Nitrite rubber, Polyvinyl Chloride, Polyethylene.

Eye Protection -- Chemical splashes goggles and face shield.

Other: Wear impervious clothing and boots.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: N/A

****

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Revised Date: December, 2006 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1535 STEAMLINE TREATMENT**
Chemical Name and Synonyms: Proprietary Corrosion Inhibitor
Proper Shipping Name: Corrosive Liquid, Flammable N.O.S. (contains Diethylaminoethanol)
Hazardous class: Corrosive Material (8)
ID Number: UN2920 PG II
Label Requirements: Corrosive/Flammable
Reportable Quantity:

Health	= 3
Fire	= 2
Reactivity	= 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Cyclohexylamine CAS #108-91-8	15%	10 ppm
Diethylaminoethanol CAS #100-27-8	20%	10 ppm
Morpholine CAS #110-91-8	10%	

****

Section III – Physical Data

Boiling Point- *>212°*
Solubility in Water- *Complete*
Specific Gravity – 0.98
Appearance and Odor -- Clear liquid with pungent odor
pH (1% solution) –11.1

****

Section IV – Fire and Explosion Hazard Data

Flash Point *None*
Extinguishing Media – Water spray of fog: CO_2 foam
Special Fire fighting procedures: N/A
Unusual Fire and Explosion Hazards: None

****

Section V – Health Hazard Data

Threshold Limit Value: None listed
Effects of Overexposure: Liquid is irritating to the eyes. May be harmful if swallowed or absorbed through the skin.
Emergency and First Aid Procedure: EYES: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eye lids frequently. Call a physician. Continue flushing with water if medical attention is not immediately available. SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Call physician if irritation persists.

****

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid
Incompatibility: Strong oxidizing agents, strong acids.
Hazardous Decomposition Products: None

MATERIAL SAFETY DATA SHEET – 1535 STEAMLINE TREATMENT

Section VI – Reactivity Data (cont.)

Hazardous Polymerization: | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use. However, avoid breathing vapor or mist. Use NIOSH approved equipment when airborne exposure is excessive.

Ventilation: Maintain adequate ventilation. Local exhaust if dusty or misty conditions prevail.

Protective Gloves: Rubber

Eye Protection: Side shield safety glasses or chemical safety goggles. Do not wear contacts.

Other: Wear rubber apron and rubber boots if possibility of contact exits during use.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Avoid contact with eyes, skin, and clothing. Avoid breathing vapors.

Other: Do not transfer into improperly marked containers. Keep container closed when not in use.

****

The above information is accurate to the best or our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Walter Louis Chemicals makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

Revised Date: May, 2004 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL. 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **1460 BOILER COMPOUND**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Corrosive Liquid N.O.S. (contains Potassium Hydroxide Solution)
Hazard Class: Corrosive (8)
ID Number: UN 1760 PGII
Label Requirements: Corrosive

Health = 1
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
Potassium Hydroxide CAS #1310-58-3	20%	2 mg/m3

****

Section III – Physical Data

Boiling Point – >212°
Solubility in Water – Complete
Specific Gravity -- 1.205
Appearance and Odor -- Clear liquid - pungent odor
pH (1% solution) – 11.8

****

Section IV – Fire and Explosion Hazard Data

Flash Point -- Non-Flammable
Extinguishing Media – Water Spray or fog: CO_2 foam
Special Fire Fighting Procedures -- None required in normal use.
Unusual Fire and Explosion Hazards -- N/A

****

Section V – Health Hazard Data

Threshold Limit Value -- N/A
Effects of Overexposure -- INHALATION: Airborne concentrations of dust, mist, or spray can cause damage to the upper respiratory tract. EYES: May cause severe blindness resulting in damage to the eyes. SKIN: May irritate the skin if prolonged exposure exists.

Emergency and First Aid Procedures -- INHALATION: Remove person from contaminated area to fresh air. If breathing has stopped, give artificial respiration. EYES: Flush with copious amounts of water for at least 15 minutes period, periodically lifting upper and lower lids to ensure washing of the entire surface. Seek medical attention. SKIN: Immediately wash contaminated area with plenty of soap and water. If irritation persists, seek medical attention. INGESTION: DO NOT INDUCE VOMITING. Give large quantities of water or several glasses of milk if available. Never give anything by mouth to an unconscious person. Seek medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid – heat

Incompatibility – Strong oxidizing agents, strong acids

Hazardous Decomposition Products – N/A

Hazardous Polymerization | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case of Material Spilled or Released: Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Dispose of in accordance with all applicable local, state, and federal regulations.

****

Section VIII – Special Protection Information

Respiratory Protection -- None required in normal use. However, avoid breathing vapor or mist. Use NIOSH approved equipment when airborne exposure is excessive.

Ventilation -- Maintain adequate ventilation. Local exhaust if dusty or misty conditions prevail.

Protective Gloves: Rubber

Eye Protection -- Face shield or chemical safety goggles.

****

Section IX – Special Precautions

Precautions to be Taken in Handling and Storing -- Keep container closed when not in use. Avoid contact With skin, eyes, and clothing. Store away from heat, sparks and open flame.

Other -- Minimize skin contact. Wash with soap and water before eating, drinking, smoking, or using toilet facilities. Safety shower, eye bath and washing facilities should be available. Never transfer to improperly marked containers.

****

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Revised Date: May, 2004 Prepared By: MSDS Coordinator

MATERIAL SAFETY DATA SHEET

Section I

Walter Louis Chemicals
530 South 5th Street, Quincy, IL 62301-4896
Phone: 217/223-2017
CHEMTREC EMERGENCY: 800/424-9300

Trade Name and Synonyms: **592-L OXYGEN SCAVENGER**
Chemical Name and Synonyms: Proprietary Boiler Compound
Proper Shipping Name: Oxygen Scavenger
Hazard Class: Non-Hazardous
ID Number: None
Label Requirements: None

Health = 1
Fire = 0
Reactivity = 0

****

Section II – Hazardous Ingredients

Ingredient	*Percent*	*TLV*
None listed		

****

Section III – Physical Data

Boiling Point: 220 F
Solubility in Water: Complete
Specific Gravity: 1.19
Appearance and Odor: Purple liquid – no odor
pH (1% solution): 6.9

****

Section IV – Fire and Explosion Hazard Data

Flash Point -- None
Extinguishing Media – As appropriate to adjacent fire
Special Fire Fighting Procedures --Pressure demand self-contained breathing apparatus should be used by firefighters.
Unusual Fire and Explosion Hazards - Protective clothing for skin and eye protection should be worn to protect against this highly alkaline chemical.

****

Section V – Health Hazard Data

Threshold Limit Value: N/A
Effects of Overexposure: Inhalation: Liquid is irritating to eyes. May be harmful if swallowed or absorbed through skin.

Emergency and First Aid Procedures: Eyes: Flush eyes for 15 minutes and get medical attention. *Skin:* Wash thoroughly with soap and water and get medical attention if irritation or redness develops. Launder clothes before reuse. *Ingestion:* Give 2 or 3 glasses of water, induce vomiting by tickling back of throat with finger. Get medical attention.

Section VI – Reactivity Data

Stability | Unstable
| Stable (XX)
| Conditions to avoid –Keep away from sparks, heat, and open flame.

Incompatibility – Avoid contact with strong oxidizing agents and acids.

Hazardous Decomposition Products –

Hazardous Polymerization | May occur
| Will not occur (XX)

****

Section VII – Spill or Leak Procedure

Steps To Be Taken In Case Material is spilled or released: Extinguish all sources of ignition. Wash down with water or soak up on sand and dispose of in an approved landfill. Do not wash down with water where runoff will contaminate important water sources.

Waste Disposal Method: Incinerate in an incinerator equipped with an after-burner and scrubber or bury in an approved landfill.

****

Section VIII – Special Protection Information

Respiratory Protection: None required in normal use.

Ventilation: Use adequate local exhaust ventilation where mist, dust or spray may be generated.

Protective Gloves: Rubber

Eye Protection: Face shield or goggles

Other: Rubber boots and apron if possibility of contact during use exits.

****

Section IX – Special Precautions

Precautions to be taken in Handling and Storing: Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Store away from heat, sparks, and open flame.

Other: Do not transfer to improperly marked containers. Keep container closed when not in use.

****

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling abuse, or misuse, are beyond our control, Walter Louis Fluid Technologies makes no warranty, either express or implied with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. The user should satisfy himself that he has all current data relevant to his particular use.

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Revised Date: February, 1998 Prepared By: MSDS Coordinator

Walter Louis
FLUID TECHNOLOGIES

Service Report

Wednesday, May 7, 2014 7:47 PM CST

State of Missouri
Department of Corrections
301 West High Street
Truman Office Building
Jefferson City MO 65101-4539
(573) 751-3224

Report Number: **21646**
Recorded By: **Roger Smith**
(217) 223-2017
roger@walterlouis.com

MTC Maryville Treatment - Steam Boilers

Component	Conductivity, neutral	Alkalinity P	Alkalinity M	Alkalinity OH	Sulfite	Phosphate	Conductivity	pH
Boiler 1	3020	650	920	380.0	44	45		
Limits	2200 - 3600	200 - 600	400 - 850	150 - 450	20 - 50	20 - 50		
Boiler 3	2600	450	600	300.0	42	42		
Limits	2200 - 3600	200 - 600	400 - 850	150 - 450	20 - 50	20 - 50		
Softener							288	8.1
Limits							100 - 350	7 - 8.5
Feedwater							75	9
Limits							100 - 350	8.2 - 8.5
Condensate							60	8
Limits							50 max	7.8 - 9.2

Component	Hardness, total	Iron (% as Fe_2O_3	ABS					
Softener	0							
Limits	10 max							
Feedwater	0							
Limits	10 max							
Condensate	0	.8						
Limits	10 max	0.5 max						

Closing Comments

Everything looks good
I would increase Steamline treatment 5%

Sample Report
For Format evaluation only

Walter Louis
FLUID TECHNOLOGIES

Visit Report

Monday, May 19, 2014 12:56 PM CST

State of Missouri
Department of Corrections
301 West High Street
Truman Office Building
Jefferson City MO 65101-4539
(573) 751-3224

Report Number: **70**

Recorded By: **Roger Smith**
(217) 223-2017
roger@walterlouis.com

MTC Maryville Treatment - Steam Boilers

Please Review The attached Scale Analysis from the Sample you gave me.

The Silicon and Titanium Levels along with the low Calcium levels tell me that this is probably not your standard corrosion/scale sample.
It's not definitive but it sure doesn't rule out that this is what's left of some type of ceramic coating
If you have any questions give me a call @ 217.653.7538

Sample Report
For Format evaluation only

Equipment Inspection Report

Walter Louis FLUID TECHNOLOGIES

Facility Maryville Treatment Center

Date 7/10/2014

System Name Bld 4 Boilers

Controller Specs No Control Manual Blowdown

µS: Setpoint 3000 DeadBand N/A

Blowdown Method (include Bottom Blow Freq)

µS: Makeup 330 Cycles 9

Oxygen Scavenger 592-L

Feed Method

Based on Makeup
Tied to Fill valve on Feed Tank

Pump Model LMI P141

Pump %Stroke 75 %Speed 50

Feed Rate _____ ppm

Alkalinity Booster LC-25

Feed Method

Manual Feed By OH test result

Pump Model None

Pump %Stroke _____ %Speed _____

Feed Rate _____ ppm

Boiler Compound 1460

Feed Method

Feed Based on Load
Tied to Feedwater Pump

Pump Model LMI P141

Pump %Stroke 75 %Speed 50

Feed Rate _____ ppm

Steamline 1535

Feed Method

Continuous Feed

Pump Model LMI P141

Pump %Stroke 75 %Speed 50

Feed Rate _____ ppm

Comments/ Reccomendations

Sample Report
For Format evaluation only

WLFT Service Representative Roger Smith

Walter Louis
FLUID TECHNOLOGIES

Inventory Report

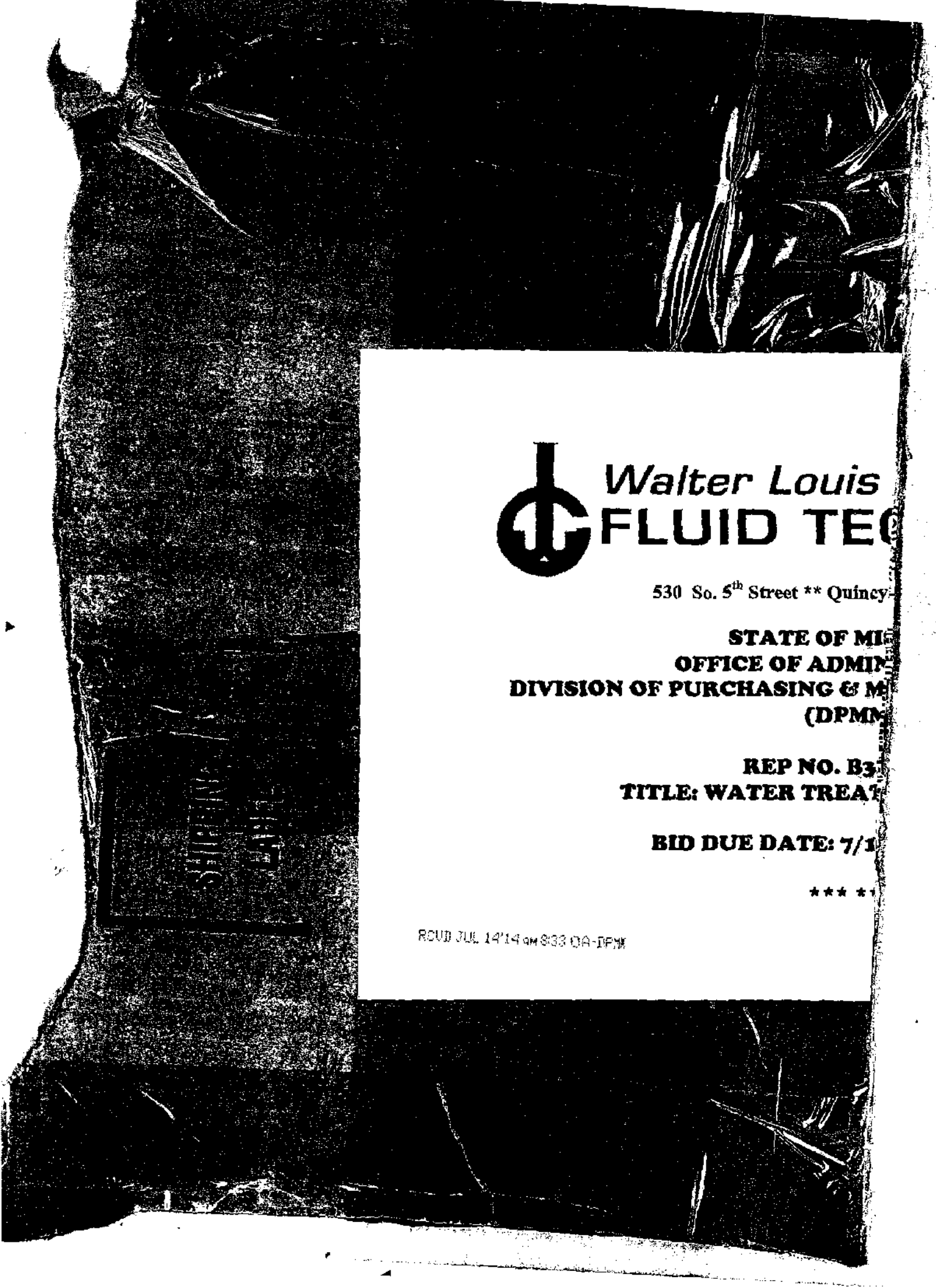
Thursday, July 10, 2014 9:24 AM CST

State of Missouri
Department of Corrections
301 West High Street
Truman Office Building
Jefferson City MO 65101-4539
(573) 751-3224

Report Number: **38**
Recorded By: **Roger Smith**
(217) 223-2017
roger@walterlouis.com

MTC Maryville Treatment - Steam Boilers			
Product	Location	Amount	Unit
592-L LIQUID OXYGEN SCAVENGER	Boiler Room	12.0 10	Gallons
1535 STEAMLINE TREATMENT	Boiler Room	18.0 10	GALLONS
1460 BOILER COMPOUND	Boiler Room	23.0 10	GALLONS
LC-25 LIQUID CAUSTIC SODA 25%	Boiler Room	14.0 10	GALLONS

Sample Report
For Format evaluation only



Walter Louis
FLUID TEC

530 So. 5th Street ** Quincy

STATE OF MI
OFFICE OF ADMIN
DIVISION OF PURCHASING & M
(DPMM

REP NO. B3
TITLE: WATER TREA

BID DUE DATE: 7/1

*** *

RCVD JUL 14'14 AM 8:33 DA-DPMM