



TOWN OF JACKSON TOWN COUNCIL AGENDA DOCUMENTATION

PREPARATION DATE: April 11, 2018
MEETING DATE: April 16th, 2018

SUBMITTING DEPARTMENT: Public Works
DEPARTMENT DIRECTOR: Larry Pardee
PRESENTER: Johnny Ziem, Wastewater Manager

Bid #18-08

SUBJECT: Request Council authorization for the Design and Installation of a Wastewater Treatment Ultraviolet Disinfection System

STATEMENT/PURPOSE

The purpose of this item is to obtain Council authorization to complete the Design and Installation of the Wastewater Treatment Disinfection System (UV).

BACKGROUND/ALTERNATIVES

This project aims to replace an aging, 21 year old, Ultraviolet Disinfection (UV) system at the Wastewater Treatment Plant. The current UV system has reached the end of its life cycle and will be replaced using approved funds in the FY2018 Sewer Capital budget.

As per the Town's Wyoming Pollutant Discharge Elimination System (WYPDES) permit with the Department of Environmental Quality, disinfection of our treated wastewater is required for final discharge to the Snake River. Disinfection is considered to be the primary mechanism for the inactivation/destruction of pathogenic organisms to prevent the spread of waterborne diseases to downstream users and the environment. UV disinfection systems transfer electromagnetic energy from mercury arc lamps to an organism's genetic material (DNA and RNA). When UV radiation penetrates the cell wall of an organism, it destroys the cell's ability to reproduce. UV radiation, generated by an electrical discharge, penetrates the genetic material of microorganisms and impedes their ability to reproduce. Some common microorganisms found in domestic wastewater are: E. Coli, Leptospira, Salmonella, Giardia, and Cryptosporidium.

The project includes the removal of the existing UV system and the installation of a new UV system, complete with all components and accessories.

Through a public Request for Proposal (RFP) process, Water Technology Group was selected as the successful Respondent. A UV Review Committee was formed to review all submitted proposals received from our RFP process and was composed of a Town of Jackson: Wastewater Manager, Senior Wastewater Operator, Town Engineer, and two Associate Engineers. We received two responses from our RFP request and scored both based on thoroughness/quality of response, experience with UV system design/installation, cost effectiveness, and overall project value that will provide the Town with the best final product within our requirements.

ATTACHMENTS

Water Technology Group RFP Response

FISCAL IMPACT

UV System: Wastewater Plant

Sewer Budget

\$\$\$

UV System \$750,000

Expenditure

\$\$\$

Water Technology Group \$578,500

Proposal Costs

\$\$\$

Bonding \$6,000

Design \$2,000

Engineering \$2,000

Procurement \$498,000

Installation \$60,500

Start Up \$5,000

Training \$2,500

Warranty \$2,500

Total Cost: \$578,500

STAFF IMPACT

During the installation of the new UV system, Wastewater Operators will be involved in assisting with project management and construction coordination. The Wastewater team will also oversee that no disruption to our treatment process occurs during installation.

LEGAL REVIEW

The Town Attorney may provide a final review of the contract prior to execution by the Mayor.

RECOMMENDATION

That the Town Council approve the design and installation contract with Water Technology Group in the amount of \$ 578,500.00.

SUGGESTED MOTION

I move that the Town Council approve of the design and installation contract with Water Technology Group in the amount of \$ 578,500.00 and upon legal approval authorize the Mayor to execute all necessary contract Agreements.

Synopsis for PowerPoint (120 words max):

Background:



Town of Jackson, WY – UV Upgrades

March 12, 2018

Contact Info:

Jesse Kuntz
Water Technology Group
14452 W 44th Ave
Golden, CO 80403

303-886-8265
jkuntz@wtrgroup.com
<http://wtrgroup.com/>

Qualifications:

WTG has been a leading supplier and service center for municipalities in the Rocky Mountains since the early 1980s. WTG provided the existing UV system that is currently being used by Jackson in 1997. We have service facilities in Golden, CO, Casper, WY, and Billings, MT.

Primary Contacts:

Name: Jesse Kuntz
Company: Water Technology Group
Phone Number: 303-886-8265
Email: jkuntz@wtrgroup.com
Address:
Experience: 12 Years
Education: B.S. Missouri
Specialties: Wastewater Process & Pumps

Name: Sean Helmer
Company: Water Technology Group
Phone Number: 314-724-1269
Email: shelmer@cogentcompanies.com
Address:
Experience: 17 Years
Education: B.S. Missouri
Specialties: Wastewater Process & Pumps

Previous Litigation / Arbitration:

Water Technology Group has no litigation or arbitration in our history.

Reorganization of Debt History:

Water Technology Group has no chapter 11 filings in our history.

Recent High Profile Projects:

Aurora, CO – Sand Creek Reuse UV Project
Engineer: Carollo
Completed: 2017
Description: Two In-Channel UV systems with Controls and integration

Estes Park Sanitation District – Plant Upgrades
Engineer: TTG

Completed: 2016

Description: Dissolved Air Flotation Systems, Pumps, Controls

Cody, WY WWTP – Headworks Upgrades

Engineer: Engineering Associates

Completed: 2018

Description: Multi-Rake Bar Screen w/ Washer Compactor

Existing Clients:

Town of Casper, WY – Krista Johnston (307) 235-7535

Town of Cody, WY – James Keenan (307) 587-2958

Element Engineering – Nick Marcotte (303) 378-2969

Licenses:

C379 Contractors License (Delcon)

Subcontractors:

Delcon (Electrical) Licensed Electrical Contractor

Bonding & Insurance:

Water Technology Group will provide the required Bonding and Insurance.

Wyoming Contractor Preference:

Water Technology Group is offering this project utilizing the services of Delcon who is a local contractor to Jackson.

Waste Stream Plan:

All material will be disposed of in a responsible manner in accordance with the laws.

Installation Plan:

It is our intent to install the system during low flow conditions, we are also prepared to provide a temporary unit if required.



COGENT

PROPRIETARY AND CONFIDENTIAL

INFORMATION CONTAINED IN THIS DOCUMENT IS THE SOLE PROPERTY OF COGENT, INC. NO INFORMATION AS A WHOLE OR IN PART MAY BE TRANSFERRED, AMENDED, DISSIMILATED, OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM COGENT, INC.

DATE: 3/3/2016

BY: S. BULLA

TO: COGENT

CC:

REV. NO. 0

TITLE

COGENT SERVICE RESUME PORTFOLIO

FACILITIES & EQUIPMENT

Cogent has nine service facilities with more than 120,000 square feet of shop floor space. We have standard machining, welding, painting, testing, grinding, pressing, sand-blasting, balancing, and drafting capabilities.

We are a Factory Authorized Service Center utilizing the following qualifications:

- + Standardized Plan for disassembly and re-assembly of equipment
- + Document Control - standardized forms and IOM's
- + Standardized welding procedures, practices, and equipment inspections
- + Systematic certifications and calibrations on all micrometers, torque wrenches, gauges, and balance stand
- + All impellers balanced to a G-2.5 quality grade
- + Leak Testing - all pumps with seals are tested at 20 PSI for 20 minutes
- + All technicians are trained by factory authorized personnel

Machining capabilities: Lathes, vertical mills, drill presses, vertical and horizontal hydraulic presses, horizontal bandsaws, horizontal boring machines,
Lifting capabilities: 10 ton overhead plus 1 or 2 ton gantry type overhead cranes over work stations along with several forklifts.

Testing capabilities: 5,000 to 10,000 gallon test tanks with installed discharge elbows and re circulation piping. 460/230/208 volt 3 phase power supply with VFD to 100 hp for testing repaired equipment. Surge and hipot test equipment, meggers, and multimeters. We also have custom testing equipment (e.g. hot wire anemometers installed in custom piping for air flow testing).

Cleaning: Large indoor wash bay with permanent hotsy power washer, large outdoor wash bay portable kerosene gas driven power washer, automatic and manual sandblasters, and bake out oven.

Additional assets: Laser alignment machines, vibration analyzers, infrared cameras, ultrasonic units,

field balancers, 3D and 2D CAD software, environmentally friendly paint booths, and XRF material detectors.

REV	BY	DATE	DESCRIPTION



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DATE: 3/3/2016
BY: S. BULLA
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TITLE


COGENT SERVICE RESUME PORTFOLIO



VEHICLES

We have 18 boom trucks with 30' reach and 7,000# lifting capacity stocked with inventory for emergency repairs. We have heavy duty flatbed/pickup trucks and trailers, along with half-ton pickups and campers for controls and integration (also equipped and stocked with inventory).

REV	BY	DATE	DESCRIPTION

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<p>TITLE</p> <p align="center">COGENT SERVICE RESUME PORTFOLIO</p>		

Mark Hill has been with Cogent for 1 year with 27 years of experience on machining along with pump repairs and maintenance. Mark is factory trained and certified with:

- Milton Roy
- Seepex
- Sundyne P Series
- Rotalign, and Optalign laser alignments

Greg Hoggard has been with Cogent for 4 years with over 35 years of machining, welding, and rotating equipment experience. Greg is a shop foreman and is factory trained and certified with:

- Goulds
- Master machinist
- Warren Rupp
- Schenck balancing
- Flowserve seals
- Vibralign laser alignments

Jason Jakimauskas has been with Cogent for 1 year with 8 years of experience on submersible pump repairs, motor analysis, and mechanical systems. Jason is factory trained and certified with:

- Flygt
- Motor analysis
- Control panels
- Vibralign laser alignments

Nate Jaskot has been with Cogent for 2 years. He has 7 years of machining experience, 2.5 years of pump repair and maintenance. Nate is factory trained and certified with:

- Warren Rupp
- Schenck balancing
- Vibralign laser alignments

REV	BY	DATE	DESCRIPTION

Proposal:

Although the specification says 100 amp service, our system requires 480 VAC, 4 Wire + Ground Wye 65 amp power and 120 VAC 20 amp for controls.

Please note that the following is not part of our offering:

Lifting Crane.

Highlights of our offering include:

Allen Bradley CompactLogix PLC controls for the UV system control complete with an Allen Bradley Panel View 1000 graphic touch screen display. Our controls have the ability to send real time all of the information regarding UV system operation to the plant's SCADA system (integration, translation and software by others). UltraTech does not provide any PLC program creation software nor programming for SCADA integration. We only provide the PLC Tag/Register List.

UV System tested in our factory.

Low voltage (<24 volts) system controls.

UV Module construction of 316 SS for wetted metal parts.

Control Panel construction of 304 SS – Airconditioned and Heated.

Air Scour cleaning in all 6 UV modules

Pneumatic automatic wipers for 6 UV, air compressor to power wipers and 7 quick connect hoses

Blower assembly with motor starter, inlet filter Silencer.

SCOPE OF SUPPLY

UV DISINFECTION SYSTEM Town of Jackson, WY

Disinfection System Project 18-08



**Representative:
Water Technology Group
Jesse Kuntz
(303) 886-8265**

SYSTEM OVERVIEW

We are pleased to offer for your review and consideration a vertical modular UV disinfection system that in our opinion meets the intent of this project's specifications and plans. The UV system will treat (disinfect) continuously a secondary effluent at flows up to 9.6 MGD and shall reduce the Fecal Coliform count to less than 200/100ml geometric mean per 30 day period in a 65% or greater UV transmission effluent with T.S.S. that is to be less than 30 mg/l.

The UltraTech Terminator™ T4024i-HO UV system consists of 6 self-cleaning UV disinfection modules, 1 power distribution / control enclosure, 2 wire ways prewired for 3 UV modules each and 8 eye shields, factory start-up & training and spares necessary to disinfect up to the specified 9.6 MGD peak instantaneous flow.

The controls and instrumentation reside in UltraTech supplied floor standing 304 stainless steel NEMA 4X air conditioned and heated control / power distribution enclosures with UL 508 seal.

DESCRIPTION OF OFFERING

- 6 Terminator™ T4024i-HO - 40 lamp vertical UV disinfection modules with integral electronic ballasts, positive direct ventilated cooling and air scrub bases. The modules are for installation in dual parallel channels each with 3 UV modules in series.

- 1 304 SS remote NEMA 4X control / power distribution enclosure This enclosure contains control electronics, Allen Bradley CompactLogix PLC, and Allen Bradley 10" PanelView Touch Screen UV system display complete with sun shield. The monitoring, alarms, flow pacing, lamp on/off timer and control features are present in this enclosure. The enclosure will also control a blower and air solenoids - if present (by others) operation and report air blower status. Hand-Off-Auto Switches for 6 UV modules that bypass the PLC and HMI are present in the enclosure. The enclosure houses a Din Rail mounted UPS protecting the PLC and HMI. This control panel has UL 508 listing.

- 2 304 stainless steel wire ways - wired to service 3 UV modules.

- 8 304 SS Eye shield assemblies.

- 6 UV Intensity monitoring systems – 1 per UV module.

- 1 Spreader bar for lifting of a UV module with stainless hardware.

- 1 Lot of spares and safety equipment consisting of
 - 8 UV Lamps
 - 8 Quartz Jackets
 - 8 O-Rings
 - 2 Ballast Assemblies
 - 2 UV safety goggles
 - 2 area warning signs

- 7 Flexible hoses with quick connect valved fittings are provided to attach UV modules to air supply header (UltraTech does not provide the air source nor piping, header, nor any valves). 6 hoses for the modules in the channel the 7th hose for location at the existing cleaning tank.

- 1 Shop Drawing - Submittal package containing draft O&M manuals. Per specification 1 hard copy and 1 electronic PDF copy.

- 1 Final O&M manual. 1 hard copy and 1 electronic PDF copy.

- 1 Performance guarantee

- Lot Electrical Modifications to allow for wiring and integration of new UV system.

- Lot Electrical Installation and wiring of new UV system.

- Lot Removal of Existing UV system.

- Lot Installation of New UV system.

- Lot Start-up service & operator training.

Prices are exclusive of any tax, duty, custom or fee that may be imposed by federal, state or local government and do include freight to the job site.

The warranty of this system shall be for 12 months after start-up or 18 months after date of shipment whichever occurs first.

F.O.B.:

Factory, with full freight allowed to job site.

DELIVERY:

Submittal package excluding O&M manual:

4 Weeks after receipt and acceptance of formal purchase and deposit.

Equipment shipment (after acceptance of submittals and/or written release for fabrication): August 2018 based on a written release by May 15, 2018.

Note: Times for submittal preparation and delivery are approximate. Actual delivery is dependent upon when an order is placed. If accelerated delivery is necessary, please contact us.

INSTALLATION:

Removal of Existing & Installation of new UV system:

August 20th Start Removal and Install
Estimated Duration of Project: 1 – 2 weeks

EXCLUSIONS:

- (b) storage
- (o) future UV modules
- (r) performance testing - laboratory costs
- (i) effluent troughs and or grating
- (j) support stand for UV modules

CLARIFICATIONS:

Power feed to the UV system is to be 480VAC 65 amps where we will take the 277VAC legs and feed the electronic ballasts. In addition, the control panel requires 120VAC 1phase 20 amp service for the controls.

Flow pacing is accomplished by 20 UV lamp increments and requires a 4-20ma signal by others.

Proposal Costs:

Bonding	\$6,000
Design	\$2,000
Engineering	\$2,000
Product Procurement (Includes Freight)	\$498,000
Installation	\$60,500
Start up	\$5,000
Training	\$2,500
Warranty Period	\$2,500
Total	\$578,500

Total Price F.O.B. Factory Including Freight to Jobsite & Installation \$578,500