TOWN OF BLANDFORD
WATER DEPARTMENT
1 Russell Stage Rd
Blandford, MA 01008
413.848.4279 x 304

BLANDFORD WATER COMMISSION SPECIAL MEETING MINUTES Thursday, September 26, 2024 3:30 p.m.

1. OPEN SESSION

Meeting Opened at 3:40 PM
In attendance: Michael McMahon (Wright Pierce by phone), Brad Curry, Commissioner, Gordon Avery, Water Superintendent, Karen Shaw, Administrative Assistant. Pete Thayer, Commissioner, arrived at 4:10 p.m.

2. ACTION ITEMS

a. Ozone System Evaluation

Michael McMahon reported on this history of what is presently there and introduced the proposal by Xylem which has three options.

Option 1 and Option 2 are for replacement of the Ozone system. Please refer to the attached.

Option 3 is to rehab and repair the existing Ozone system and get it back up and running. As it is an older system parts and equipment may not be readily available.

Option 1 would meet the system needs and Option 2 is an additional system which does have redundancy. Would be used when the system requires maintenance or is down which would enable the system to stay on-line.

It was generally agreed it would be $85,000 to repair what is presently on site which is not a good option as the equipment is outdated. It is stated it would be $189,000 for Option 1 and $264,000 for Option 2. While Option 2 would be preferable, the cost may not be feasible. Gordon advised he will be having a meeting regarding the possible refinancing of the USDA loans which would free up approximately $85,000 should it go through.

After considerable discussion the Commission would like to pursue Option 1. This will need to go to the State for funding.

MOTION: Pete Thayer made a motion to accept and go forward with Option 1.

Brad Curry Seconded.
All in Favor

4. UNFINISHED BUSINESS FROM PRIOR MEETINGS:

n/a

5. NEW/OTHER BUSINESS:

n/a

6. MEETING ADJOURNED:

MOTION: Pete Thayer made a motion to adjourn.

Brad Curry Seconded.
All in Favor

Meeting adjourned at 4:25 p.m.

Respectfully Submitted,

Karen Shaw, Administrative Assistant
Water Department

WATER COMMISSION

Michael Keier, Chairman

Brad Curry, Clerk

Peter Thayer, Member

	Option 1		Option 2	
	Model	Cost	Model	Cost
Ozone System	PGS 70g/h	$75,100	MG-140 140g/h	$119,750
Oxygen Generator	AS-B Mini 45-55 SCFH	$14,250	AS-D Mini 80-90 SCFH	$15,000
Air Compressor	SX-5HP 21.2 CFM	$25,500	SX-5HP 21.2 CFM	$25,500
	Subtotal	**$114,850**		**$160,250**
	Construciton (40%)	$45,940		$64,100
	Construction Total	**$160,790**		**$224,350**
	Engineering (18%)	$28,942		$40,383
	Total Project Cost	**$189,732**		**$264,733**

Pacific Ozone
evoqua

Proposal # 24 OZ 124 KI1

August 21, 2024

Town of Blandford – Blandford Water Department
114 Otis Stage Road
Blandford, MA 01008

1.0 Ozone Packaged System Proposal

1.1 Proposal is based on the PGS Platform and defines the components needed for the integrated ozone generation, injection and delivery system.

2.0 The 4 Elements of an Ozone Delivery System

2.1 ***Feed Gas*** – Packaged systems are equipped with, or configured to receive, a feed gas source of >90% O_2 assuring high concentration ozone output. Feed gas systems can use plant air supplies when available that meet input quality standards.

2.2 ***Ozone*** – Pacific Ozone's patented, Floating Plate Technology™ (FPT™) ozone reactor cell. Components include titanium ceramic and stainless steel. Efficient by design, with minimal power consumption and heat generation that delivers concentrations from 4-8%.

2.3 ***Mass transfer*** – Highly efficient ozone mass transfer (typ.>90%) is achieved using our Enhanced Mass Transfer™ (EMT™) platforms. Ozone is dissolved into the water stream by venturi injection on a dedicated circuit to minimize gas to liquid mass transfer variables. Backflow prevention with automatic drain is included with ozone gas delivery as a safety system to protect the ozone generator. Gas management is completed by removing un-dissolved gas and safely decomposing any remaining ozone in a closed and secure heated catalytic ozone destruct device and proprietary liquid and off-gas separator with the EMT™ system.

2.4 ***Control*** – Packaged systems can be equipped with a DO3 analyzer and PID controller for automatic set-point control, or integrated into existing plant controls. An onboard ambient ozone detector is included as part of the safety system so in the event ambient ozone levels increase, the monitor is preprogrammed to warn at 0.1ppm and alarm and shut down the ozone generator when a level of 0.28ppm is reached.

3.0 Proposal Cost

3.1 Option 1: Packaged Generator System

PGS-Active-70	PGS Integrated Ozone Injection System 70g/h 480V, 3Ø, 50/60Hz, 304SS Frame 316SS wetted components and PVDF Injector Stainless Steel Control Panel, HMI Dissolved Ozone Analyzer, 1 channel Ambient Ozone Monitor, 1 channel Ethernet interface & Standard I/O	1	$75,100.82	$75,100.82
AS-B Mini	Oxygen Generator 45-55 SCFH @ 45-55 psig 120V ~+/- 10%, 50/60 Hz Reduced Size Oxygen Receiver and Accessory Kit	1	$14,261.00	$14,261.00
			Total	$89,361.82

3.2 Option 2: Generator and Injection Skid

MG-140 Injection Skid	MG Ozone System 140g/h 304SS Frame, Stainless Steel Control Panel, HMI Standalone Injection Skid 316SS wetted components and PVDF Injector Dissolved Ozone Analyzer, 1 channel Ambient Ozone Monitor, 1 channel Ethernet interface & Standard I/O	1	$119,724.00	$119,724.00
AS-D Mini	Oxygen Generator 80-90 SCFH @ 45-55 psig 120V ~+/- 10%, 50/60 Hz Reduced Size Oxygen Receiver and Accessory Kit	1	$14,974.00	$14,974.00
			Total	$134,698.00

3.3 Compressor for Either Option 1 or 2

SX-5	Compressor, 5hp, Simplex, 460V, 3Ø	1	$25,500.00	$25,500.00
			Total	$25,500.00

3.4 Tank for Either Option 1 or 2

	400-gallon ASME Tank	1	$50,308.33	$50,308.33
			Total	$50,308.33

3.5 Commissioning Service for Either Option 1 or 2

W3T497725	Commissioning Daily Rate	3	$1,500.00	$4,500.00
W3T497734	Travel Time, Daily Rate	2	$1,500.00	$3,000.00
W3T497621	Travel Expenses	1	$2,300.00	$2,300.00
			Total	$9,800.00

3.6 Existing System: SGA Repair Parts

W3T497470	OXY CONCENTRATOR,115/230V,CHASSIS MTD	8	$3,162.50	$25,300.00
W3T497608	REACTOR CELL OZONE,60G/HR	4	$6,641.25	$26,565.00
W3T497588	PS,230V, HIGH OUTPUT,ENCL,180F	4	$2,294.25	$9,177.00
W2T882241	AO3 DETR,SGL,SNSR,HRN,AUTOTST,PS,25'CBL	1	$3,148.95	$3,148.95
W2T883418	Sensor, DO3, VP Conn., Incl Membrane and Solution	1	$1,785.00	$1,785.00
W2T936676	INJECTOR, 3", SS	1	$6,061.33	$6,061.33
W3T496714	ASSY,BACKFLW PREV	2	$1,575.00	$3,150.00
	Service – 1 week onsite	1	$9,800.00	$9,800.00
			Total	$84,987.28

Service/Commissioning

Straight time is defined as time worked on a regular (non-holiday) schedule of ten (10) hours per calendar day between 7:00 a.m. and 6:00 p.m., Monday through Friday. Travel time shall be considered as straight time unless specifically quoted otherwise. Overtime is defined as time worked in excess of 10 hrs/day, Monday through Friday, or at times other than the regular straight time schedule

4.0 Equipment Selection

4.1 PGS-Active-70

PGS Integrated Ozone Injection System

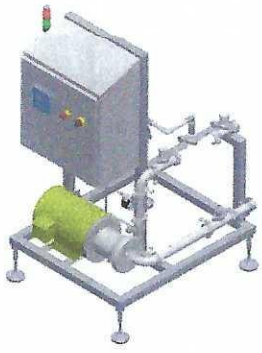
- Ozone/Oxygen System 70g/h (3.7lbs/day)
- 480V, 3Ø, 50/60Hz
- Stainless Steel Enclosure
- Air-Cooled
- Auto Start/Stop
- 304SS non-product contact surfaces
- 316SS & PVDF Product contact surfaces
- Sanitary injection pump
- Integrated backflow prevention
- Control panel
  - Stainless Steel Enclosure
  - HMI, 10"
  - DO3 analyzer, 1 channel
  - Ambient ozone monitor
  - Ethernet communication capabilities

4.2 MG-140

Ozone Generator

- Ozone System 140g/h (7.4lbs/day)
- 240V, 1Ø, 50/60Hz
- Stainless Steel Enclosure
- Air-Cooled
- Auto Start/Stop
- 304SS non-product contact surfaces
- HMI, 10"
- Ambient ozone monitor
- Ethernet communication capabilities

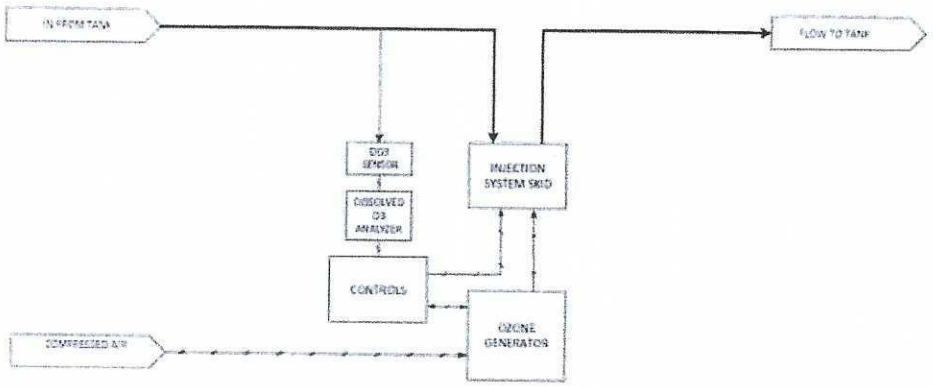
4.3 Injection Skid



Injection System

- 480V, 3Ø, 50/60Hz
- Stainless Steel Enclosure
- Auto Start/Stop
- 304SS non-product contact surfaces
- 316SS & PVDF Product contact surfaces
- Sanitary injection pump
- Integrated backflow prevention
- Control panel
  - Stainless Steel Enclosure
  - DO3 analyzer, 1 channel
  - Ambient ozone monitor
  - Ethernet communication capabilities

4.4 Process Flow Diagram



5.0 Service and Commissioning

5.1 All Pacific Ozone systems come fully tested from the factory with performance qualification available in our wet test facilities available with FAT services. A one-year comprehensive warranty is standard. The warranty is doubled to two years with a startup and commissioning service from Pacific Ozone field service technicians who travel to your facility. In addition to verifying the correct operation, calibrating all the instruments and checking for any issues that may compromise the performance of the machine, our technicians will train your designated employees on the operation of the system.

6.0 Utilities/Equipment provided by Customer

6.1	Electrical	PGS-Active: 480V, 3Ø, TBD amp circuit, surge protected
6.2	Air supply requirement	15scfm at 90psig
6.3	Compressed Air	Oil free and meet standards below - ISO 8573-1, Quality Class [1.2.1] - 0.01 micron Particulate Filtration - -40* F (-40*C) Dew Point - 0.08ppm (0.1mg/m3) Hydrocarbon Filtration

7.0 Installation

7.1 Not included in proposal, to be provided by others.

8.0 Terms and Conditions

8.1 All orders are extended under the Xylem Americas Standard Terms and Conditions of Sale. Click here to view.

8.2 All prices are good for 30 days from date of proposal.

8.3 All prices are quoted in US Dollars.

8.4 50% deposit with order, 25% with approved submittals, 25% prior to shipment, due Net 30 *on approved credit.*

8.5 Lead-time is 24 – 26 weeks, 2-3 weeks for submittals.

8.6 Please address your purchase order to:

Evoqua Water Technologies
2850 Cordelia Road, Suite 100
Fairfield, CA 94534