

**SULTAN CITY COUNCIL
AGENDA ITEM COVER SHEET**

DATE: September 10, 2009

ITEM: Consent C 5

SUBJECT: Rejection of All Bids Received and Re-advertise the Liquid Chlorine Project

CONTACT PERSON: Jon Stack, City Engineer

Issue:

The issue before the Council is to consider rejection of the bids received for the chlorine conversion. Three bids were received on June 4, 2009 and have expired, mostly due to my absence from the office for health reasons.

Staff Recommendation:

Request Council authorize re-advertising to solicit bids from specialty suppliers for necessary materials for the chlorine treatment conversion from gas to liquid. The installation of the new equipment will be completed by City Staff to reduce costs.

Summary:

The existing chlorine room at the water treatment plant has adequate space for the installation of a liquid application of chlorine to the treated water prepared for the City residents. This project is needed to increase the safety of City Workers while providing necessary water disinfectant as part of the water treatment required by the State Department of Health. A larger door is being installed in the existing chlorine room to facilitate installation of a larger liquid chlorine tank.

Background:

The existing chlorination system was installed at the construction of the original plant in 1979 with minor equipment repairs and replacements through the last 30 years.

Changes in technology and applications of liquid chlorine have become more of a standard practice and is much safer. Conditions of the existing chlorine facilities are in poor condition and will require an upgrade to change from gaseous to liquid application. Attached is a draft of the request for material bids (Attachment A).

Fiscal Impact:

A preliminary estimate for the necessary materials to complete the conversion was made for the 2009 budget of \$40,000.

Recommended Action:

Approve the request for authorization to reject all bids received and re-advertise to solicit written bids from specialty suppliers for the chlorine conversion from gas to liquid at the Water Treatment Plant.

Attachments: A. Materials Bid List Bid

REQUEST FOR MATERIAL BIDS

The City of Sultan is soliciting bids for materials and equipment to convert the existing gas chlorination treatment at the existing water treatment plant to liquid chlorine system (hypochlorite system). Plant is located at 31025 – 124th Street, Sultan, WA. Included with the material submittals will be the necessary design drawings showing where all of the necessary materials and equipment are proposed to be located and details of connections.

The City will provide the dimensions of the existing chlorination room at the water treatment plant and will conduct tours or site visits as necessary for potential bidders. Contact Mike Williams, Water System Manager, at 425-508-9120 to schedule an appointment. For technical questions regarding this material request, please contact Jon Stack, P.E., Sultan City Engineer, at 360-793-2262 or Cell Phone 206-930-7332.

It is the intent of the City to install the new treatment system in-house utilizing City Staff. The bidder shall be available to answer questions regarding his submittal that may arise during construction.

Specifically included in the Material Submittal Bid shall be the following:

1) Provide a 405 gallon and a 55 gallon tank, HDXLPE material, double wall containment, with flexible sidewall interconnect fittings. Provisions for off-gassing the 12.5% hypochlorite from the pump skid Auto Vent valve and pump PRV's with return line shall be provided.

a. Interconnection fitting with isolation valve and piping to manifold the two tanks together. This allows the two tanks to act as a single system for filling and level measurement. Provide valving to isolate either tank in case repairs are needed. This fitting can also be used as a tank drain line.

b. Attach a level sensor to the large tank, which since the tanks are interconnected will provide a 4-20 mA signal indicating the level in the combined tank system.

c. Equip each tank with a 2" vent which will be manifolded together and extend outside the west side of the building. This vent line shall end with a 90 degree elbow, facing down with a screen to protect against insect intrusion.

d. Equip the smaller tank with a ½" pipe for the return line from the pump's PRV and Auto Vent valve.

f. Provide earthquake tie-downs for each tank.

2) Provide a duplex pump system, pre-piped, to provide a maximum flow of 24 gpd with a duty and a back up pump. Pumps sizing to be shown on the pump skid drawing. Pumps shall have a 800:1 turndown to allow them to handle the max and the minimum expected plant flow rate. The pumps can be operated manually or electrically flow paced to plant flow rate (4-20 mA). As an option the system can be run in compound loop control utilizing the plant flow rate and the new Chlorine analyzer measurements.

a. Pumps shall be supplied with Dosing monitors and Auto Vent valves. Gas coming out of solution gets trapped in the pump and prevents the pump from operating correctly. The dosing monitor senses when the pump is gas bound when it is supposed to be pumping liquid. If it does not sense liquid it opens the Auto Vent valve allowing the trapped gas to return to the storage tank. Once liquid is present it closes the valve and allows normal operation. Pumps shall be Grundfos Duplex Pumps or equal.

b. The pumping system shall be provided on a PVC board for wall mounting with SCH 80 PVC pipe, True Union Ball Valves, both pumps, PRV's, Back Pressure Valve, Auto Vent Valve, Dosing Monitor, Calibration Chamber, Wye Strainer and pump Main/Standby switch.

c. The chlorine analyzer shall be an amperometric residual analyzer for free measurement, reagentless system, 0 to 2 ppm free chlorine. Panel mounted with flushing wye strainer, pressure regulator/surge and shut off valve. Enclosure is NEMA 4. Capital Controls, Series 1770 or approved equal.

Tank #1: 405 Gallon Safe tank, HDXLPE with 1.9 sg sidewall rating with nsf approval material including:

- 5" threaded lid
- 2" PVC Vent with pp screen
- 2" PVC fitting for Level
- 1" fitting for metering pump tubing at tank base with 1" tee and isolation ball valves (3 each).
- Seismic Restraints
- Flexible connection for metering pump fitting.

Tank #2: 55 Gallon Safe tank, HDXLPE with 1.9 sg sidewall rating with nsf approval material including:

- 5" threaded lid
- 2" PVC Vent
- 2" PVC fitting for Pump return
- 1" fitting for metering pump tubing
- Seismic Restraints

Duplex Metering Pump System for Sodium Hypochlorite

Duplex Metering Pump System mounted on a PVC board including:

- 2 each pumps with side mount control panel
- Acrylic dosing monitor
- Automatic Vent Valve
- 16 feet control cable with plug
- Ridged Suction Wand and Foot Valve for Tank Discharge
- ½" PVC Main Connection
- Wall brackets for mounting pump Calibration Column
- Back Pressure and Pressure Relief Valves
- Pre-piped Mounting panel for valves and pumps

All materials are resistant to any kind of corrosion from 12.5% chlorine liquid.

Materials Bid Proposal

Lump Sum Bid

- 1. 405 Gallon Tank , Complete With Piping, Valves, Fittings, etc. \$ _____
- 2. 55 Gallon Tank, Complete With Piping, Valves, Fittings, etc. \$ _____
- 3. Duplex Metering Pump System, Complete and Fully Assembled \$ _____
- 4. Chlorine Residual Analyzer, Capital Controls, Series 1770, or equal \$ _____
- 5. Technical Assistance During Construction \$ _____
- 6. Drafting of Construction Plan and 5 Copies \$ _____

SUBTOTAL, including freight and delivery costs \$ _____ to water treatment plant site.

State Sales Tax, 8.6% \$ _____

TOTAL AMOUNT BID \$ _____

BIDDERS NAME _____
BIDDERS ADDRESS _____
BIDDERS PHONE _____
DATE _____