



City Council Report

Date: May 21, 2012
To: City Council
Through: Alex Deshuk, Manager of Technology and Innovation
From: Edward Quedens, MPA, CPM, CPPO, Business Services Director
John Albin, CPPO, CPPB, Acting Purchasing Administrator
Subject: Northwest Water Reclamation Plant Mixer Rehabilitation for the Water Resources Department (**Sole Source Agreement #2012161**)
"Citywide" Contract

Purpose and Recommendation

Council is requested to approve the contract for Northwest Water Reclamation Plant Mixer Rehabilitation as recommended. Sole source pricing was obtained and evaluated by the Water Resources Department and the Purchasing Division.

The Purchasing Division recommends awarding the contract to the manufacturer and sole source supplier, Philadelphia Mixing Solutions, Ltd. (PMSL) at \$327,259, based on estimated requirements.

Background/Discussion

This contract will provide for the repair, installation and purchase of components for two Philadelphia brand mixers at the Northwest Water Reclamation Plant (NWWRP). The two mixers were installed on the digester at the NWWRP in 2002. The rehabilitation is needed at this time to prevent partial or complete failure of aging mixers causing diversion to SROG (Sub-Regional Operating Group) facility.

The digester mixer at the plant is attached through a sealed housing unit that separates the exposed motor from the submerged lower impeller and shaft. The seal is critical in keeping methane and hydrogen sulfide gas from escaping. The impeller and shaft fit inside a large vertical draft tube within the digester that acts to funnel sludge through the tube when the mixer is on. The mixer can be operated in either direction to create an up flow or down flow through the draft tube. Flow rates through the draft tube are approximately 6,600 gallons per minute. The mixers are operated 24 hours per day with no down time. There is an emergency mixing pump, shared between the two digesters that can be used for short periods in the event that a mixer is not operational.

The use of the emergency mixing pump over several days has created some operational problems in the past. During its most recent use, excessive foaming was experienced, causing the foam to rise and flow through the overflow lines. Without a properly operating digester, some sludge could be diverted to the other digester but the remainder would have to be pumped to the 8th Street Interceptor which then flows to the City of Phoenix 91st Avenue Plant.

Water Resources has a strategy for the NWWRP rehabilitation:

1. Purchase the components needed to build a new mixer. The new mixer would then be installed at the same time that 1 of the 2 existing mixers is removed. This would take advantage of having the crane on site for removal and install.
2. The pulled mixer would then be shipped to PMSL for their analysis on the repair needed and what is covered by warranty. PMSL has provided a maximum repair price per mixer of \$71,977. When the first repaired mixer is returned, it will be installed at the same time that the second of the existing mixers is removed.
3. The second mixer will then be shipped to PMSL and when repaired and returned, it will serve as a rotational/emergency replacement for the NWWRP. The new assembly is expected to take 16 to 18 weeks ARO (after receipt of order) and each repair is expected to take 10 to 12 weeks ARO.

Alternatives

This agreement has been negotiated between the sole source manufacturer and supplier, PMSL and the City of Mesa. There are no alternatives to this purchase other than diverting the sludge from NWWRP to SROG at 91st Ave, at a cost of nearly \$10,000 per day, while the digester is re-engineered to work with a different brand or style of mixer.

Fiscal Impact

The total amount of \$327,259 is available in the Water Resources Department budget through their Capital Improvement Program.

Coordinated With

Water Resources Department – Water Utility

**CITY OF MESA
AWARD RECOMMENDATION
NORTHWEST WATER RECLAMATION PLANT REHABILITATION
(SOLE SOURCE AGREEMENT #2012161)**

**Philadelphia Mixing Solutions Ltd.
Palmyra, PA**

Description	Pricing
<p>Quantity 1 - Spare Digester with: Oil Cooler Assembly: 00ZZZ0606-E, Drive: PED-1D, Direct Drive, ANSI 36" x 125# Flange Mounted, Oil Lubricated, Motor Mounting Kit and Temp Switches Included; Water Seal: Monometer Seal housing with Mounting Flange and Plumbing, 304 Stainless Steel, Designed for 15" Water level, Max Pressure of +10" Water and Min Pressure of -6" Water Splash Shield Assembly Included; Dynamically Balanced Assembly and Freight to jobsite</p>	\$164,305.00
<p>Quantity 2 - Digester Repair with Replacement Oil Cooler: Complete Teardown and Inspection, Detailed report with photographs showing individual components roughly 2 weeks after receipt of equipment; New oil cooler assembly; Replacement of bearings and any other wear items which require replacement; Any necessary housing rework (major flaws such as large cracks in the housing which would require housing replacement are not considered in this max price); Repair/upgrade of water seal assembly; Dynamic balancing of repaired assembly (repair/upgrade of the water seal will be considered a warranty claim and is not to be included in price) (New motors are not included. Motors will be reused Maximum not to Exceed Price: / \$71,977 each</p>	\$143,954.00
<p>Quantity 2 - Start-up Assistance by Factory Representative (per job): Two (2) days start up assistance over one (1) trip providing a factory representative. / \$9,500 each</p>	<u>\$19,000.00</u>
<p>Total Contract Amount (This is a tax exempt purchase)</p>	\$327,259.00