



City of Grand Island

Tuesday, June 28, 2011

Council Session

Item I6

**#2011-163 - Approving Bid Award - Uranium Removal System
Equipment**

Staff Contact: Tim Luchsinger

Council Agenda Memo

From: Tim Luchsinger, Utilities Director
Jason Eley, Asst. City Attorney/Purchasing

Meeting: June 28, 2011

Subject: Uranium Removal System Equipment

Item #'s: I-6

Presenter(s): Tim Luchsinger, Utilities Director

Background

In 2003, a new EPA regulation established a Maximum Contaminate Level (MCL) for uranium in drinking water. Uranium is a naturally occurring element in the aquifers of Nebraska and other states across the nation. Implementation of the new MCL began with sampling of the state's municipal water systems in accordance with the EPA specified testing protocol. Samples of the Grand Island water supply for regulatory compliance were first taken in 2004. The sampling protocol requires testing on a rolling average, quarterly basis with the average of the most recent four tests being the number by which compliance is determined.

Sampling and testing of the Grand Island water system thus far show full compliance with the EPA regulation. Uranium is naturally occurring in the aquifer in central Nebraska. Uranium is not an acute concern but rather is a concern over a lifetime of exposure. According to the *Neb-Guide from the University of Nebraska*, "...uranium in water supplies produces very little radioactivity, the health effects from exposure to uranium are primarily thought to be associated with the chemical properties of soluble uranium. Studies suggest that ingestion of high levels of uranium may be associated with an increased risk of kidney damage...Exposure to soluble uranium in drinking water has not been shown to increase the risk of developing cancer."

The City's municipal water system is supplied primarily from its Platte River Well Field. This well field is comprised of 21 wells and a pumping station. Testing for State regulatory requirements indicated composite uranium levels to be approaching the Maximum Containment Level (MCL) established by the EPA. Testing of individual wells for uranium has indicated most wells exceed this MCL. To allow use of these wells during high water system demand periods, additional piping was installed in the past year for blending with lower uranium concentration wells.

In case uranium levels could be controlled below the new MCL by well blending, the Department, with our consultant for this project, HDR Engineering of Lincoln, had undertaken a more detailed investigation to determine uranium removal methods and evaluate those best suited for the Grand Island system. Factors in the evaluation included; the review of available technologies; amount of uranium removal; capital costs; operational costs; and waste disposal.

HDR completed this evaluation of treatment options. The evaluation screened known water treatment methods and focused on coagulation/filtration, ion exchange, and adsorptive media as the most viable options for radionuclide removal. The recommendation of the evaluation was an adsorptive media system, and this was presented at a meeting with Nebraska Health and Human Services, Nebraska Department of Environmental Quality, HDR, and City Utilities Staff in attendance. The use of this type of technology has been shown to be very effective in radionuclide removal, but its use has not been used in an application as large as would be required to treat Grand Island's water demand. The consensus at the meeting was that it may be useful to perform a large scale pilot program on selected wells at the Platte River Well Field. It is anticipated that a full capacity treatment system, if required, would be comprised of several modules the size of a pilot plant, utilization of the pilot plant could be therefore incorporated into the final design solution. Recent testing of uranium concentrations in the wells indicated a trend towards increasing levels, reducing the effectiveness of well blending to reduce overall levels, therefore, based on Department recommendations, the Utilities Department was authorized by Council on February 22, 2011 to proceed with the procurement and installation of the large-scale pilot uranium removal system. Based on the multiple phase structure of the uranium engineering services RFP, HDR was requested to provide a proposal for preparing specifications to issue for bids for an adsorptive media pilot plant. These specifications are for the components and accessories of an integrated treatment system designed to meet specified performance parameters.

Discussion

Specifications for the Uranium Removal System - Equipment Procurement were advertised and issued for bid in accordance with the City Purchasing Code. The specifications included two pricing elements. Schedule A is the price for furnishing the uranium removal system equipment in accordance with the specifications. Schedule B is the present value cost of providing ten years of maintenance and support for operation of the system, subject to adjustment annually based on the Consumer Price Index. This includes monitoring operation of the system, furnishing replacement treatment media, disposal of spent media at licensed facilities, maintaining compliance with a radioactive materials license, and decommissioning of the system. The price is based on a specified annual quantity of water to be treated, with a unit price for adjustment of water quantities above the specified amount. Two bidders responded as listed below. The engineer's estimate for this project was \$2,500,000 for Schedule A and \$7,722,000 for Schedule B.

Bidder	Bid Price
Water Remediation Technology Of Wheat Ridge, Colorado	Schedule A: \$2,049,050.00 Schedule B: \$6,072,966.90
Total A & B:	\$8,122,016.90
Environgen Technologies Of Kingwood, TX	Schedule A: \$1,852,000.00 Schedule B: -----
Total A & B:	\$1,852,000.00

Environgen took exception to providing Schedule B pricing and their bid was not further evaluated as being non-compliant. Utilities staff and HDR reviewed the Water Remediation Technology (WRT) for compliance. WRT included additional bonding not required by the specifications. City legal and utilities staff did not consider the additional bonding to be in the City's benefit and adjusted the bid price using the bond pricing included in the bid. WRT also proposed an alternative payment schedule, but otherwise had no exceptions. The Utilities Department recommends that WRT be awarded the contract for the Uranium Removal System – Equipment Procurement specifications for the Schedule A adjusted bid price of \$1,958,100 and the Schedule B bid price of \$6,072,966.90, for a total bid price of \$8,031,066.90.

Subsequent to awarding the contract for procurement of the uranium removal equipment, Council will be required to consider the following items to complete the uranium removal project.

- Detailed engineering services for installation of the uranium removal system
- Installation of the uranium removal system
- Financing of capital expenditures
- Rate increase for annual operating cost of uranium removal system

Upon receiving preliminary drawings from the equipment supplier, HDR will provide a not-to-exceed fee to provide detailed engineering to develop plans and specifications to be issued for bid to installation contractors. These specifications will include a building, foundations, and installation of the uranium removal system. The estimate for engineering and installation to complete the uranium removal system is \$1,000,000. Discussions for our bond underwriter, Ameritas, have considered several options of dovetailing or refinancing a short-term bond issue with an existing water department revenue bond which is scheduled to mature in 2014. These options would allow the future debt service obligation to remain relatively constant with the current obligation and minimize the capital effects of the uranium removal project to the water department budget. A rate increase will be needed, however, to fund the annual operations portion of the uranium removal system. A preliminary rate increase of 29% had been forecast, but by minimizing the debt service impact and using a contract price lower than the estimate, the current rate increase forecast is 20%. A table of current and projected water rates compared to other Nebraska communities is attached.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue

Recommendation

City Administration recommends that the Council approve the bid of Water Remediation Technologies of Wheat Ridge, CO in the amount of \$1,958,100 for Schedule A and \$6,072,966.90 for Schedule B for a total bid of \$8,031,066.90.

Sample Motion

Move to approve the bid of Water Remediation Technologies of Wheat Ridge, CO in the amount of \$1,958,100 for Schedule A and \$6,072,966.90 for Schedule B for a total bid of \$8,031,066.90.

WATER RATE COMPARISON

January 20, 2011

	Residential 1" Meter <small>Per 100 cubic feet (ccf)</small>		Commercial 2" Meter <small>Per 100 cubic feet (ccf)</small>	Industrial 6" Meter <small>Per 100 cubic feet (ccf)</small>		Industrial 10" Meter <small>Per 100 cubic feet (ccf)</small>	
	5	50	100	500	8,000	68,422	76,484
Lincoln	\$9.66	\$116.94	\$151.81	\$983.83	\$14,568.31	\$83,275.80	\$93,071.13
MUD -							
*Winter	\$19.62	\$64.57	\$134.66	\$721.58	\$7,866.33	\$60,051.90	\$66,977.16
*Summer	\$19.62	\$88.90	\$164.43	\$870.43	\$7,866.33	\$60,051.90	\$66,977.16
North Platte	\$16.60	\$76.52	\$192.60	\$814.39	\$7,837.85	\$63,614.24	\$71,043.52
Norfolk	\$14.50	\$69.97	\$152.39	\$733.83	\$7,558.83	\$62,542.85	\$69,879.27
Fremont	\$15.32	\$43.28	\$163.78	\$518.25	\$6,168.25	\$51,484.75	\$57,531.25
Hastings	\$16.35	\$62.25	\$110.07	\$626.74	\$6,176.74	\$50,889.02	\$56,854.90
Columbus	\$10.60	\$58.30	\$121.45	\$624.00	\$7,599.00	\$64,027.46	\$71,525.12
Kearney	\$13.25	\$69.50	\$135.00	\$674.91	\$10,049.91	\$85,619.31	\$95,696.81
Grand Island -	\$7.83	\$41.10	\$76.75	\$338.35	\$4,449.35	\$36,775.12	\$41,088.29
*Current rates							
*Increase \$0.16 per ccf	\$8.63	\$49.12	\$93.75	\$451.91	\$5,730.35	\$47,723.64	\$53,326.73
*Flat Increase (20%)	\$9.33	\$49.25	\$92.03	\$405.95	\$5,339.15	\$43,814.55	\$49,305.88
Greeley CO	\$23.71	\$133.94	\$245.74	\$945.01	\$13,960.21	\$118,836.93	\$132,803.33



Jason Eley, Purchasing Agent

*Working Together for a
Better Tomorrow, Today*

BID OPENING

BID OPENING DATE: May 5, 2011 at 2:00 p.m.
FOR: Uranium Removal System – Equipment Procurement
DEPARTMENT: Utilities
ESTIMATE: \$2,500,000.00
FUND/ACCOUNT: 520
PUBLICATION DATE: March 31, 2011
NO. POTENTIAL BIDDERS:

SUMMARY

Bidder:	<u>Water Remediation Technology</u> Wheat Ridge, CO	<u>Envirogen Technologies</u> Kingwood, TX
Bid Security:	\$102,452.50	Argnaut Insurance Co.
Exceptions:	None	Noted
Bid Price:		
Schedule A:	\$2,049,050.00	\$1,852,000.00
Schedule B:	<u>\$6,072,966.90</u>	-----,
Total A & B:	\$8,122,016.90	\$1,852,000.00

cc: Tim Luchsinger, Utilities Director
Jason Eley, Purchasing Agent
Mary Lou Brown, City Administrator
Karen Nagel, Utilities Secretary

Bob Smith, Assist. Utilities Director
Pat Gericke, Utilities Admin. Assist.
Lynn Mayhew, Plant Supt.

RESOLUTION 2011-163

WHEREAS, the City of Grand Island invited sealed bids for Uranium Removal System Equipment Procurement, according to plans and specifications on file with the Utilities Department; and

WHEREAS, on May 5, 2011, bids were received, opened and reviewed; and

WHEREAS, Water Remediation Technologies of Wheat Ridge, CO, submitted a bid in accordance with the terms of the advertisement of bids and plans and specifications and all other statutory requirements contained therein, such bid being in the amount of \$8,031,066.90; and

WHEREAS, the bid of Water Remediation Technologies is less than the estimate for the Uranium Removal System Equipment Procurement.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the bid of Water Remediation Technologies in the amount of \$8,031,066.90 for Uranium Removal System Equipment Procurement, is hereby approved as the lowest responsible bid.

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Adopted by the City Council of the City of Grand Island, Nebraska, June 28, 2011.

Jay Vavricek, Mayor

Attest:

RaNae Edwards, City Clerk

Approved as to Form	☐ _____
June 23, 2011	☐ City Attorney