



City of Grand Island

Tuesday, January 8, 2013

Council Session

Item I2

**#2013-13 - Consideration of Approving Bid Award for Platte
Generating Station Unit #1 Mercury & Air Toxic Standards
(MATS) Retrofit Project**

Staff Contact: Tim Luchsinger, Robert Sivick

Council Agenda Memo

From: Timothy Luchsinger, Utilities Director
Robert Sivick, City Attorney

Meeting: January 8, 2013

Subject: Bid Award for MATS Compliance Retrofit Project

Item #'s: I-2

Presenter(s): Timothy Luchsinger, Utilities Director

Background

On December 21, 2011, EPA released the Mercury and Air Toxics Standards (MATS), requiring the maximum achievable control technology for mercury and other hazardous pollutants from electric generating units, with a compliance date of March, 2015, although an additional one year for compliance may be granted by individual states.

To achieve long-term compliance for MATS, it was anticipated that the Department would need to install a fabric filter, carbon injection system, and, depending on the amount of reduction needed, either a dry sorbent injection or a dry scrubber at Platte Generating Station, along with associated by-product removal systems and disposal sites, in the next three to four years. It was estimated that these modifications would cost the utility approximately \$35 million and take 3 to 5 years for financing, design, and construction. Although this equipment will also result in additional operating costs that may affect rates, the City proceeded with refinancing of current electric bonds to reduce rate impacts due to debt service of capital expenditures. Current plans are to complete this installation during the last quarter of 2014 to coincide with a scheduled plant maintenance outage, with system startup and testing to continue into the first quarter of 2015. This will provide a margin for the implementation of the system and minimize plant downtime.

For large capital improvement projects of this type, the Department has traditionally used the Design-Build approach with multiple contracts, where proposals are solicited for a consulting engineer, who then proceeds with detailed design and developing specifications for bids to acquire equipment and contractors to complete the project. This type of approach can achieve more control of the details of the project, but can also take more time to complete and final project costs are not known until the final contract is awarded. A project approach being used more by utilities for capital projects is the

Engineer-Procure-Construct (EPC) method. Specifications are developed emphasizing final system performance and operating parameters instead of technical features, and consortiums of engineers, suppliers, and construction contractors then team together to provide bids for a total system package. The project is awarded to the lowest compliant bid, normally with provisions of penalties for not meeting guarantees or incentives for exceeding requirements. The EPC approach is recommended by the Department for the air emission control equipment project as we do not have a preference for the various air emission control technologies, and this method will allow for the market to determine the most cost effective and timely implementation. Project costs will also be known early and enable financing methods to be determined to minimize rate impacts to customers.

Utilities and other entities performing EPC projects normally retain the services of an Owner's Engineer to develop the EPC specifications and provide third party project administrative functions. On March 26, 2012, Kiewit Power Engineers was awarded the contract for providing engineering services for this project. The services for the Owner's Engineer included the following.

- A high level determination of emission reduction limits and system components.
- Preparation of specifications for bids.
- Evaluation of bids.
- Financial analysis and preparation of pro-formas for bond underwriters.
- Assistance in air emission permitting with EPA and NDEQ.
- Final system testing and determination of compliance with contract conditions.

In June, 2012, Kiewit completed a technical and economic evaluation of the two most recognized processes suitable for use at Platte to achieve the MATS requirements, dry sorbent injection (DSI) and a dry scrubber system. DSI processes are relatively new to the electric utility industry and can provide a low capital cost solution to applications requiring lower emission reduction rates. Dry scrubber systems are the current industry standard for power plants to meet sulfur dioxide emission standards and have been in use for over 20 years. Based on estimated capital and 20-year operating and maintenance costs, the processes were evaluated to have similar life cycle costs. With a similar life cycle cost, however, the potential for meeting future potential emission standards and the established history of dry scrubber systems resulted in a recommendation of a dry scrubber system for Platte. Department staff concurred with this recommendation and directed Kiewit to proceed with detailed specifications to be issued for bid. In order to provide a cost-effective solution to meet the MATS requirements, the specifications were drafted on a performance basis. A performance basis specification identifies the current conditions and the required end result, but not the specific method, which allows the various emission control industry engineers, suppliers, and contractors latitude to bid their best solution for our application. Included in the specification was a spreadsheet that would be used to evaluate the low bidder that included the factors used in the calculation of project capital financing and annual operating and maintenance costs for use by the vendors in determining their best solution for the lowest overall project cost. These specifications were issued for bid in accordance with City purchasing procedures.

Discussion

On November 2, 2012, the following bids for the MATS Retrofit compliance were received.

Bidder	Bid Amount	20-Year Life Cycle Evaluated Bid Amount
AMEC, Tucker, GA	\$ 41,189,331	\$ 100,146,273
Hayes Mechanical, Chicago, IL	\$ 39,970,000	\$ 104,533,161
Black & Veatch, Overland Park, KS	\$ 52,393,500	\$ 107,391,553
KBR, Birmingham, AL	\$ 45,779,843	\$ 107,873,867
Burns & McDonnell, Kansas City, MO	\$ 48,919,000	\$ 109,252,188
Babcock & Wilcox, Barberton, OH	\$ 57,124,037	\$ 110,851,160
Zachary Industrial, Inc. San Antonio, TX	\$ 58,495,815	\$ 115,855,244
Babcock Power Inc., Worchester, MA	\$ 65,280,488	\$ 123,077,751

Kiewit completed the evaluation using life cycle cost spreadsheet included in the specifications and those costs are included above.

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 award the contract for the MATS Compliance Retrofit Project at Platte Generating Station to the low evaluated bidder, AMEC of Tucker, Georgia, for the contract price of \$41,189,331.00.

Sample Motion

Move to approve the contract for the MATS Compliance Retrofit Project at Platte Generating Station to the low evaluated bidder, AMEC of Tucker, Georgia, for the contract price of \$41,189,331.00.



Jason Eley, Purchasing Agent

*Working Together for a
Better Tomorrow, Today*

BID OPENING

BID OPENING DATE: November 2, 2012 at 2:00 p.m.

FOR: Platte Generating Station Unit #1 MATS Compliance
Retrofit Project

DEPARTMENT: Utilities

ESTIMATE: \$49,284,669.00

FUND/ACCOUNT: 520

PUBLICATION DATE: August 14, 2012

NO. POTENTIAL BIDDERS: 9

SUMMARY

Bidder:	<u>Hayes Mechanical</u> Chicago, IL	<u>Babcock & Wilcox</u> Barberton, OH
Bid Security:	Great American Ins. Co.	Federal Ins. Co., et al
Exceptions:	Noted	Noted
Bid Price:		
Material:	\$17,015,876.00	\$23,983,522.00
Labor:	\$21,763,011.00	\$31,379,280.00
Sales Tax:	<u>\$ 1,191,113.00</u>	<u>\$ 1,761,235.00</u>
Total Bid:	\$39,970,000.00	\$57,124,037.00
Bidder:	<u>Burns & McDonnell</u> Kansas City, MO	<u>AMEC</u> Tucker, GA
Bid Security:	Fidelity & Deposit Co.	Ins. Co. of the State of PA
Exceptions:	Noted	Noted
Bid Price:		
Material:	\$19,783,000.00	\$23,170,124.00
Labor:	\$27,828,000.00	\$16,542,557.00
Sales Tax:	<u>\$ 1,308,000.00</u>	<u>\$ 1,476,650.00</u>
Total Bid:	\$48,919,000.00	\$41,189,331.00
Bidder:	<u>Babcock Power, Inc.</u>	<u>KBR</u>

Bid Security: Worcester, MA
Exceptions: National Union Fire Ins. Co.
Noted

Birmingham, AL
Federal Insurance Co.
Noted

Bid Price:
Material: \$50,542,012.00
Labor: \$13,774,277.00
Sales Tax: \$ 964,199.00
Total Bid: \$65,280,488.00

\$29,885,622.00
\$13,776,238.00
\$ 2,117,983.00
\$45,779,843.00

Bidder: Zachry Industrial, Inc.
San Antonio, TX
Bid Security: Travelers Casualty & Surety Co.
Exceptions: Noted

Black & Veatch
Overland Park, KS
Federal Insurance Co.
Noted

Bid Price:
Material: \$24,540,083.00
Labor: \$32,481,547.00
Sales Tax: \$ 1,474,185.00
Total Bid: \$58,495,815.00

\$32,932,342.00
\$17,768,658.00
\$ 1,692,500.00
\$52,393,500.00

cc: Tim Luchsinger, Utilities Director
Jason Eley, Purchasing Agent
Lynn Mayhew, Assist. Utilities Director

Bob Smith, Assist. Utilities Director
Pat Gericke, Utilities Admin. Assist.
Kurt Spiehs, Utilities Dept.

P1593

Mercury and Air Toxics Standard Compliance Retrofit Project

Utilities Department
Platte Generating Station
January 8, 2013

Mercury and Air Toxics Rule

- Original Mercury Rule vacated in 2008
- New MATS Rule to reduce mercury and acid gases
 - Published March 2012
 - Effective May 2015
 - One year extension approved by NDEQ

MATS Pollutants





- Mercury (>90.5% removal)
- Particulates (< 0.03 #/mmBtu, current 0.1 #/mmBtu)
 - Antimony Arsenic Beryllium
 - Cadmium Chromium Cobalt
 - Lead Manganese Nickel
 - Selenium
- Hydrogen Chloride (>83.6% removal)
 - Sulfur dioxide as surrogate

Owner's Engineer





- On March 26, 2012, Kiewit Power Engineers was awarded the contract for providing engineering services for this project
 - Regulatory Compliance Review
 - Conceptual Technology Selection
 - Bid Specification Development
 - Life Cycle Cost Bid Evaluation
 - Financial Pro-Forma
 - Acceptance Testing Review

MATS Prospective Technologies

Dry Sorbent Injection (DSI)

-  Sodium Bicarbonate reagent
-  Lower capital cost
-  Less efficient reagent usage
-  Minimal operating history

Dry Scrubber

-  Lime reagent
-  Higher capital cost
-  Established operating record (20 to 25 years)
-  Potential for additional compliance solutions

Final MATS Compliance Selection

- Activated Carbon Injection
- Dry Scrubber
- Pulse Jet Fabric Filter
- Auxiliary Equipment
 - Draft Booster Fan
 - Byproducts Removal System
 - Continuous Emission Monitoring System
 - Electrical/Controls

MATS Compliance Contract Format

- Engineer – Procure – Construct (EPC)
- Performance Specification
 - Low bid determined on 20-year life cycle cost analysis
 - Technology and participant selections by Contractor
- Project cost known at beginning of project

MATS Bid Tabulation

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MATS Project Summary

- \$42M capital cost
 - \$2M to \$2.5M annual O&M cost
 - \$4.5M to \$5M annual cost impact
 - 6 to 8 percent impact to annual budget
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- Revenue Bond financing for capital cost
 - Determination of future rate adjustments

Discussion



RESOLUTION 2013-13

WHEREAS, the City of Grand Island requested proposals for Mercury and Air Toxic Standards Retrofit Project at Platte Generating Station, according to plans and specifications on file with the Utilities Department; and

WHEREAS, on November 2, 2012, proposals were received, opened and reviewed; and

WHEREAS, AMEC, of Tucker, Georgia, submitted a proposal in accordance with the terms of the advertisement for proposals and plans and specifications and all other statutory requirements contained therein, such proposal being in the amount of \$41,189,331.00.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the proposal of AMEC, of Tucker, Georgia, in the amount of \$41,189,331.00, for the Mercury and Air Toxic Standards Retrofit Project at Platte Generating Station is hereby approved.

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Adopted by the City Council of the City of Grand Island, Nebraska, January 8, 2013.

Jay Vavricek, Mayor

Attest:

RaNae Edwards, City Clerk

Approved as to Form	▣ _____
January 4, 2013	▣ City Attorney