



Williams/Fisher

RESOLUTION NO. 6463

WHEREAS, pursuant to Resolution No. 6006, adopted on June 19, 2014, the Board of Directors authorized management to refuel North Omaha Station Unit 4 and Unit 5 from coal to natural gas; and

WHEREAS, testing has confirmed that modifications are required to allow Units 4 and 5 to meet planned power output levels post fuel conversion and updates to the controls of both Units 4 and Unit 5 are needed to provide for the same capability as the units have on coal; and

WHEREAS, the District's Engineer has certified that the work to design and supply natural gas equipment and other controls is technically complex and the District will achieve a better result with direct negotiations with qualified Engineer, Procure and Construct (EPC) contractors; and

WHEREAS, for these reasons, the District's Engineer has certified that the use of sealed bidding would be impractical and not in the public interest; and

WHEREAS, pursuant to Nebraska Revised Statute Section 70-637 (as amended), and upon approval of the Engineer's Certification by the Board of Directors, the District may negotiate and enter into a contract or contracts related to such project without sealed bidding.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Omaha Public Power District that:

1. The Engineer's Certification requesting that the Board waive the sealed bid requirements, in accordance with Nebraska Revised Statutes Sections 70-637 through 70-639, is hereby approved.
2. Management is hereby authorized and directed to negotiate and enter into the necessary contract or contracts to provide Engineer, Procure and Construct (EPC) services for the design and supply of natural gas equipment and controls at the North Omaha Station for Units 4 and 5, subject to review and approval of the final contract(s) by the District's General Counsel.
3. The notice required by Nebraska Revised Statutes Section 70-637 shall be published in the Omaha World Herald, or other similar newspaper of general circulation.



Board Action

BOARD OF DIRECTORS

October 19, 2021

ITEM

North Omaha Station Units 4 and 5 Gas Conversion Engineer & Procure Contract

PURPOSE

Provide services for the design and supply of natural gas equipment and controls for North Omaha Station Units 4 and 5.

FACTS

- a. Per Resolution No. 6006, the Board of Directors authorized management to refuel North Omaha Station Units 4 and 5 to natural gas. Testing has confirmed that modifications are required to allow Unit 5 to meet planned power output levels post fuel conversion. Updates to the controls of both Unit 4 and Unit 5 are also needed to provide for the same capability as the units have on coal.
- b. The District's engineer has certified the complex nature of the work and that use of the sealed bid process is impractical and not in the public's best interest.
- c. The District will solicit competitive proposals from qualified contractors for the work. A negotiated contract process will provide more time for potential contractors to develop a detailed work plan with optimized project schedule, pricing, and risk mitigation.
- d. The Unit 5 natural gas combustion and associated equipment are long lead delivery items. A contract for installation will be awarded separately. The installation will occur in the spring of 2024 during scheduled unit outages.

ACTION

Approval of the Engineer's Certification and authorization for management to negotiate and enter into contracts for the design and supply of natural gas equipment and controls at the North Omaha Station for Units 4 and 5.

RECOMMENDED:

DocuSigned by:

Mary J. Fisher

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Mary J. Fisher
Vice President – Energy Production and
Nuclear Decommissioning

APPROVED FOR BOARD CONSIDERATION:

DocuSigned by:

L. Javier Fernandez

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L. Javier Fernandez
President and Chief Executive Officer

SAE

Attachments: Letter of Recommendation
Engineer's Certificate
Legal Opinion
Resolution



MEMORANDUM

DATE: October 6, 2021 EPND-2021-08
FROM: S.A. Eidem
TO: M.J. Fisher
SUBJECT: North Omaha Station Units 4 and 5 Gas Conversion Engineer and procure Contract

1.0 GENERAL

Per Omaha Public Power District (OPPD) Board of Directors' Resolution No. 6006, North Omaha Station Unit 4 (NO4) and Unit 5 (NO5) will be refueled from coal to natural gas. Post fuel conversion, NO4 and NO5 are needed to have a combined minimum turbine generator output of 278 MW net to meet resource planning requirements. Based upon previously completed 2010 testing, NO4 can achieve the planned generation of 106 MW net on natural gas without any modifications. In July 2020, testing showed that a maximum NO5 turbine generator output of approximately 72 MW net could be achieved using only natural gas firing in the current configuration. NO5 will require burner and support system modifications to achieve the planned generation of 172 MW net on natural gas.

In March 2020, a vendor provided a high level feasibility study to convert NO5 from coal to natural gas firing and concluded the unit to be a good candidate for coal-to-natural gas conversion. Preliminary full load performance calculations predicted small changes in unit efficiency and other operating parameters, including changes in emissions that will need to be confirmed through further detailed analysis. Boiler pressure part modifications are not expected to be required for this natural gas fuel conversion to obtain the desired unit output, but will be verified as part of the proposed contract.

OPPD plans to complete detailed full thermal/hydraulic modeling of the boiler for the determination of the scope of burner and natural gas system modifications, as well as final emissions predictions. OPPD will conduct a Prevention of Significant Deterioration (PSD) netting study as well as 3rd party boiler thermal computational fluid dynamic modeling for the consideration of emission profiles. OPPD will evaluate burner/igniter dual fuel (natural gas and No. 2 fuel oil) capability and improved operational characteristics during the gas conversion contracting process to optimize unit performance. This project will also include controls automation for NO4 and NO5 to facilitate automatic generation control for these units when firing using natural gas as neither of the units are currently automated using that fuel.

2.0 CONTRACTING APPROACH

The District's contracting method for this project is to utilize the Engineer's Certification process for the engineer, procurement, and commissioning (material supply) contract(s) on the basis of the project being technologically complex and unique. Therefore, it is in the District's and public's best interest to forego the sealed bidding process. Instead competitive bids will be sought through a publically available Request for Proposal (RFP) and detailed negotiation process with capable bidders. The contract(s) will be awarded to the contractor with the lowest and best evaluated bid.

The process leading to the award of the engineer and procurement contract will consist of two phases; indicative bidding and short list negotiations. The District's General Counsel will be involved in the review and approval of the final contract documents. A firm price contract award is anticipated to be in the spring of 2022.

Additionally, the District will utilize a multiple contracting approach (engineer and procure contract, installation contract, controls contract, and simulator contract) with an owner's engineer and a separate boiler thermal modeling company for this project. This approach provides the necessary boiler characteristics to the burner suppliers to facilitate and establish firm prices upfront with guarantees, incentives, and liquidated damages clearly defined. It provides opportunities for design innovations that integrate engineering, materials, and construction to get the best value and optimize risk mitigation. It allows OPPD to select the most qualified material suppliers and installation companies separately and enables OPPD to work directly with the controls and simulator vendors to incorporate changes to their systems. It is anticipated that the bids from a separate labor RFP for installation of the associated equipment will be presented to the board for approval in the spring of 2023.

3.0 RECOMMENDATION

An Engineer's Certification of the above has been prepared. Approval of that Certification is recommended. We request the Board of Directors approve the Engineer's Certification and to authorize management to negotiate and enter into contracts to furnish and automate natural gas combustion equipment at North Omaha Station Unit 5 and to automate existing natural gas combustion equipment at North Omaha Station Unit 4.

Scott A. Eidem

S.A. Eidem, P.E.
Director, Engineering Services
Energy Production and Nuclear Decommissioning

ENGINEER'S CERTIFICATE

Per Omaha Public Power District (OPPD) Board of Directors' Resolution to. 6006, North Omaha Station Unit Nos. 4 and 5 will be refueled to natural gas. Converting from coal to a low-nitrogen / low-sulfur content fuel such as natural gas is an effective technique for the reduction of NO_x and SO_x emissions. Post conversion, units 4 and 5 are planned to have a combined minimum turbine generator output of 300 megawatts (MW) or 278 MW net. Unit 5 will require burner modifications and a resultant increase of approximately 100 MW net to achieve the planned generation output levels.

OPPD intends to enter into a contract to engineer and furnish low emission combustion equipment which will allow Unit 5 to reach planned MW output levels on natural gas post fuel conversion. This contract will include automatic generation control (AGC) to automate the existing Unit 4 and 5 manual controls during natural gas operation. The replacement of the existing Unit 5 equipment requires intricate re-design to meet the required thermal and maintenance performance within physical constraints. The new design requires integration with other plant systems in order to maximize performance and sustain guarantees. For these and other reasons as explained and certified in this Engineer's Certificate, OPPD Management seeks approval from the Board of Directors to enter into the necessary contract(s) for this project without using the statutory sealed bid process.

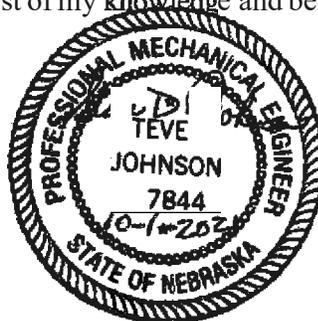
The undersigned, a Nebraska professional engineer employed by OPPD, certifies that compliance with the sealed bidding requirements of Nebraska statutes, Neb. Rev. Stat. 70-637 to 70-641, is impractical and not in the public interest for the following reasons:

- The burners, controls, and associated supporting systems are technically complex and must be integrated with other plant systems to optimize performance and obtain equipment performance guarantees.
- A wide range of potential design solutions exist with different balance of plant issues for each technology and variable cost benefits for variable unit characteristics, requiring careful discussions that cannot be conducted feasibly with sealed bidding.
- A negotiated contract provides the proper mechanism to develop terms and conditions with acceptable risk mitigation and also maintains the viability of the major burner suppliers throughout the contracting process.

Pursuant to Section 70-637 of the Nebraska Revised Statutes, as amended, the Board of Directors is requested to approve this Engineer's Certificate and authorize Management to negotiate and enter a contract to furnish and automate natural gas combustion equipment at North Omaha Station Unit 5 and to automate existing natural gas combustion equipment at North Omaha Station Unit 4 without compliance with Sections 70-637 to 74-641 of the Nebraska Revised Statutes.

I, Steve D. Johnson (registered Professional Engineer in the State of Nebraska), certify the above to be true and correct to the best of my knowledge and belief.


S. D. Johnson, P.E.



10-1-21
Date



FRASER STRYKER

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September 17, 2021

Omaha Public Power District
444 South 16th Street
Omaha, NE 68102

RE: North Omaha Station - Engineer's Certification for North Omaha Units 4 & 5 burners, burner controls, and supporting equipment

Ladies and Gentlemen:

We have reviewed the Engineer's Certification of Steve D. Johnson, P.E., a registered professional engineer in the State of Nebraska employed by the District. Mr. Johnson's Engineer's Certification states that the District intends to enter into a contract to engineer and supply low emission combustion equipment (burners) for North Omaha Unit 5 and controls and related equipment for Units 4 and 5, in connection with the refueling of North Omaha Station to natural gas, per Board Resolution No. 6006. The Certification states that replacement of the existing Unit 5 equipment requires intricate re-design to meet the required thermal and maintenance performance within physical constraints, and requires integration with other plant systems in order to maximize performance and sustain guarantees. Mr. Johnson further certifies that a wide range of potential design solutions exist with different balance of plant issues for each technology and variable cost benefits for variable unit characteristics, requiring careful discussions with potential contractors that cannot be conducted feasibly with sealed bidding. For these and other reasons set forth in the Certification, Mr. Johnson certifies that the use of sealed bidding for this scope of work would be impractical and not in the public interest.

Section 70-637 of the Nebraska Revised Statutes authorizes the District's Board of Directors, by a two-third vote, to approve an Engineer's Certification for technologically complex or unique projects, and to authorize the District to enter into a contract to complete the project. The District is required to advertise its intention to enter into any such contract in three (3) newspapers of general circulation within the District's service area, with not less than seven (7) days between issues. The contract cannot be entered into sooner than twenty (20) days after the last advertisement.

It is our opinion that Mr. Johnson's Engineer's Certification complies with Section 70-637 and is in a form that is appropriate for approval by the District's Board of Directors. Therefore, the Board of Directors may approve the Engineer's Certification and authorize Management to negotiate and enter into the necessary contract(s) for the North Omaha Units 4 & 5 burners, burner controls, and supporting equipment. We recommend that any such contract(s) be subject to review and approval by the District's General Counsel.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Stephen M. Bruckner". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Stephen M. Bruckner
FOR THE FIRM

SMB/sac
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