



Yoder/Fisher

RESOLUTION NO. 6359

WHEREAS, Nebraska City Station Unit 2 (“NC2”) utilizes a steam turbine generator controls system manufactured by Toshiba America Energy Systems Corporation (“Toshiba”); and

WHEREAS, the District’s Engineer has certified that OPPD must procure replacement hardware and software for the steam turbine generator controls system and that the components for the system are technically complex and unique; and

WHEREAS, the District’s Engineer also has certified that it is in the best interest of the District to migrate the steam turbine generator controls system from Toshiba to Emerson Process Management Power & Water Solutions, Inc. (“Emerson”), in order to have a common control system platform for NC2; 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 a contract or contracts with Emerson Process Management Power & Water Solutions, Inc. for the migration of the Nebraska City Unit 2 Steam Turbine Generator Controls System, 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

January 14, 2020

ITEM

Nebraska City Unit 2 Toshiba steam turbine generator controls migration to Ovation DCS

PURPOSE

Authorize management to negotiate and enter into a contract with Emerson Process Management Power & Water Solutions, Inc. (Emerson) to migrate the Nebraska City Unit 2 steam turbine generator controls.

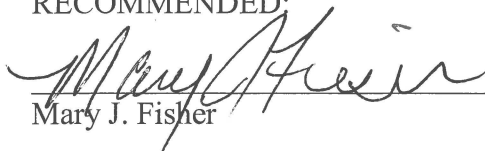
FACTS

- a. The steam turbine generator controls Human Machine Interfaces (HMI) are obsolete running the Windows 7 operating system. This system was installed in 2013 and supplied by the OEM, Toshiba America Energy Systems Corporation (Toshiba).
- b. The steam turbine generator controls are technically complex and unique. Both the Toshiba and Emerson controls are proprietary. It is in the best interest of the plant to have a common control system platform for the steam generator, balance of plant and the steam turbine generator. The steam generator and balance of plant equipment already are controlled with the Ovation DCS.
- c. The new controls are long lead delivery items; the installation will occur in the March 2021 scheduled unit outage.
- d. Compliance with sealed bidding provisions of the Nebraska Revised Statutes Section 70-637 is impractical and not in the public's best interest.

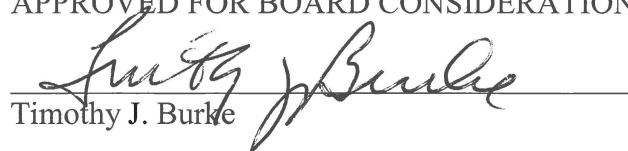
ACTION

Approval of the Engineer's Certification and authorization for management to negotiate and enter into a contract with Emerson to migrate the Nebraska City Station Unit 2 steam turbine generator controls.

RECOMMENDED:


Mary J. Fisher

APPROVED FOR BOARD CONSIDERATION:


Timothy J. Burke

MJF:rak

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



MEMORANDUM

DATE: December 19, 2019

PE&F-19-019

FROM: S. A. Eidem

TO: M. J. Fisher

SUBJECT: Request for Proposal No. 5681
NC2 Steam Turbine Generator Controls Migration to Ovation DCS
EC 69652

1.00 GENERAL

It is requested that the District negotiate and enter into a contract with Emerson Process Management Power & Water Solutions, Inc. (Emerson) for the Nebraska City Unit 2 (NC2) Steam Turbine Generator (STG) controls migration to the Ovation Distributed Control System (DCS).

The current STG control system Human Machine Interface (HMI) were installed in 2013. The HMI portion of the control system requires updating due to obsolescence of the operating system software for continued reliability and availability and for reduced cyber security vulnerability. Windows 7 will become unsupported by Microsoft in January 2020. The HMI hardware and operating system must be replaced.

The District's technical evaluation has determined it is best to replace the STG control system by performing a controls migration to the Ovation DCS. The system engineering, equipment and software required for this project are technically complex and unique and both the Toshiba and Ovation controls are proprietary systems. The Ovation DCS already is in use for the NC2 steam generator and balance of plant equipment and is in the best interest of the plant to have a common control system platform. The NC1 DCS is the common controls platform for its unit's steam generator, steam turbine generator and balance of plant equipment. The STG controls when migrated will have full compatibility with the existing NC2 Ovation DCS installed. By migrating the STG controls to the Ovation DCS, all Toshiba controls spare parts will be eliminated, the communication data link will no longer be required and several single points of failure will be corrected.

2.00 RECOMMENDATION

An Engineer's Certification to support this position has been prepared. Approval of that Certification is recommended. We request the Board of Directors to approve the Engineer's Certification and to authorize management to negotiate and enter into a contract with Emerson Process Management Power & Water Solutions, Inc. to migrate the Nebraska City Unit 2 steam turbine generator control system. ✓

S.A. Eidem, P.E.
Director – Engineering Services

ENGINEER'S CERTIFICATION

The District's Nebraska City Station Unit 2 (NC2) Steam Turbine Generator (STG) control system was manufactured by Toshiba America Energy Systems Corporation (Toshiba). The Human Machine Interface (HMI) hardware and software for the STG control system consist of computers running Windows 7. Due to obsolescence, the District must replace these HMI components of the STG control system. The District's evaluation has determined it is best to replace the STG control system by performing a controls migration to Emerson Process Management Power & Water Solutions, Inc.'s (Emerson) Ovation Distributed Control System (DCS). The District already uses an Ovation DCS for NC2 for the control system of the steam generator and balance of plant equipment.

The undersigned professional engineer employed by the District certifies that compliance with the sealed bidding requirements of Nebraska Revised Statutes Section 70-637 is impractical and not in the public interest for the following reasons:

- The system engineering, equipment, and software required for this project are technically complex and unique, and both the current Toshiba system and the Emerson Ovation DCS are proprietary systems.
- The District's technical evaluation has concluded that it is in the best interest of the plant to have a common control system platform for the steam generator, balance of plant equipment, and steam turbine generator, or STG. The steam generator and balance of plant equipment already are controlled with the Ovation DCS. The STG controls when migrated will have full compatibility with the existing Ovation DCS installed at NC2.
- This project requires a 52-week delivery lead-time and installation is scheduled during the maintenance outage beginning in February 2021.
- The Ovation DCS has the full compatibility to interface with the plant's existing installed equipment.
- By migrating to the Ovation DCS for the STG control system, all Toshiba STG controls required spare parts inventory will be eliminated. The existing Ovation DCS spare parts inventory also will be usable for the STG migrated controls equipment. A small number of STG unique Ovation DCS spare parts will be added to the inventory.
- The current Toshiba STG to Ovation DCS communication data link will no longer be required.
- Several Toshiba STG controls field measurement inputs have inherent single points of failure that can be corrected during this project with the Ovation DCS.
- Toshiba STG controls temperature input modules are obsolete and the available updated revision replacements require an out of service plant condition for installation.

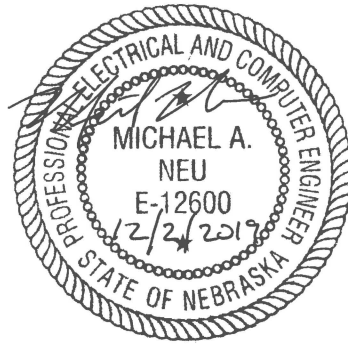
Pursuant to Section 70-637 of the Nebraska Revised Statutes, as amended, the Board of Directors is requested to approve this Engineer's Certification and authorize Management to negotiate and award a contract to Emerson to engineer and supply a an Ovation distributed control system for the NC2 steam turbine generator, without compliance with the statutory sealed bidding requirements.

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



Michael A. Neu, P.E.

12/2/2019
Date



FRASER STRYKER

PC LLO

LAWYERS

500 ENERGY PLAZA
409 SOUTH 17TH STREET
OMAHA, NEBRASKA 68102-2663
TELEPHONE 402.341.6000
FAX 402.341.8290
WWW.FRASERSTRYKER.COM

STEPHEN M. BRUCKNER
DIRECT DIAL: 402.978.5225
SBRUCKNER@FRASERSTRYKER.COM

December 2, 2019

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

RE: Purchase of Control System for Nebraska City Station Unit 2 Steam Turbine Generator

Ladies and Gentlemen:

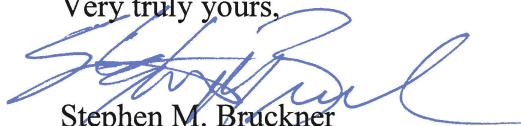
We have reviewed the Engineer's Certification of Michael A. Neu, P.E., a professional engineer employed by the District. Mr. Neu's Certification states that District Management has determined it is necessary to purchase Human Machine Interface hardware and software for the control system of the Steam Turbine Generator ("STG") at Nebraska City Station No. 2 ("NC2"). OPPD Management has identified Emerson Process Management Power & Water Solutions, Inc. ("Emerson") as the vendor best suited to supply the control system. Mr. Neu explains in his Certification that the system engineering, equipment, and software required for this project are technically complex and unique, and that both the current Toshiba system and the Emerson system are proprietary systems. He further certifies that the District's technical evaluation has concluded that it is in the best interest of the plant to have a common control system platform for the steam generator, balance of plant equipment, and steam turbine generator, or STG. The steam generator and balance of plant equipment already are controlled with the Emerson control system. The control system for the STG will have full compatibility with the existing Emerson control system installed at NC2. For these and other reasons set forth in the Engineer's Certification, Mr. Neu certifies that compliance with the sealed bidding requirements of Nebraska Revised Statutes Section 70-637 is impractical and not in the public interest.

Section 70-637 of the Nebraska Revised Statutes authorizes the District to enter into a contract without advertising for sealed bids if the contract involves a technologically complex or unique equipment contract and the District's Engineer has certified that compliance with the sealed bidding requirements would be impractical or not in the public interest. Section 70-637 requires the Engineer's Certification to be approved by a two-thirds vote of the District's Board of Directors. It is our opinion that Mr. Neu's Engineer's Certification meets the requirements of Section 70-637, and the District's Board may approve the Certification and authorize Management to negotiate and enter into a contract to procure the control system for the NC2 steam turbine generator from Emerson Automation Systems, without utilizing the sealed bidding process set forth in Section 70-637.

Section 70-637 requires that the District's intention to enter into this contract must be published three (3) times in a newspaper of general circulation, with not less than seven (7) days between issues. The contract may not be executed until twenty (20) days after the last advertisement. The advertisement process may begin before Board review.

Subject to the Board's approval of the Engineer's Certification and the advertisement process described above, the District may proceed to negotiate and enter into the referenced contract with Emerson without utilizing the Nebraska sealed bidding process. We recommend that the contract be reviewed and approved by the District's General Counsel.

Very truly yours,



Stephen M. Bruckner
FOR THE FIRM

SMB/sjc
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