



Williams/Fisher

RESOLUTION NO. 6454

WHEREAS, the Cass County Station Units 1 and 2 gas turbines have been evaluated and should be upgraded with a Direct Air Injection System to maintain reliability of each unit; and

WHEREAS, the District's Engineer has certified that Siemens Energy, Inc., the original equipment manufacturer for Cass County Station Units 1 and 2 gas turbines, is the only available source of supply for the Direct Air Injection System equipment; 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 that Siemens Energy, Inc., the original equipment manufacturer, is the only available source of supply for the Direct Air Injection System for Cass County Station Units 1 and 2 is hereby approved.
2. Management is hereby authorized and directed to negotiate and enter into the necessary contract or contracts with Siemens Energy, Inc. to design, supply and install the Direct Air Injection System for Cass County Station Units 1 and 2, 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

August 17, 2021

ITEM

Cass County Station Units 1 and 2 Direct Air Injection Systems

PURPOSE

Provide services for the design, supply and installation of a Direct Air Injection System for Cass County Station Units 1 and 2.

FACTS


- a. The Cass County Station Units 1 and 2 gas turbines have been evaluated and should be upgraded with a Direct Air Injection System to maintain reliability of each unit.
- b. The District's engineer has certified the complex nature of the work and that the Original Equipment Manufacturer ("OEM"), Siemens Energy, Inc., is the only available source of supply for the Direct Air Injection System.
- c. The District plans to solicit a sole source proposal from the OEM, Siemens Energy, Inc., for the work. A negotiated contract process will provide more time to develop a detailed work plan with optimized project schedule, pricing, and risk mitigation.
- d. Installation will be performed in the spring and fall of 2022 during scheduled maintenance outages for Units 2 and 1, respectively.

ACTION

Approval of the Engineer's Certification and authorization by management to negotiate and enter into a contract with Siemens Energy, Inc. for the supply of equipment and services for the design, supply and installation of Direct Air Injection Systems at the Cass County Station.

RECOMMENDED:

APPROVED FOR BOARD CONSIDERATION:

DocuSigned by:

C185DDBBB12A4BA...
 Mary J. Fisher
 Vice President – Energy Production and Nuclear Decommissioning

DocuSigned by:

AC399FDGE56247E...
 L. Javier Fernandez
 President and Chief Executive Officer

SAE:mb

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



MEMORANDUM

DATE: August 6, 2021 EPND-2021-06

FROM: S.A. Eidem

TO: M.J. Fisher

SUBJECT: Cass County Station Units 1 and 2 Direct Air Injection System

1.0 GENERAL

Siemens Energy, Inc. (Siemens) model W501FD2 gas turbines are installed in Cass County Station Units 1 (CC1) and 2 (CC2) with commercial operation beginning in 2003. These units are dispatched at times of peak demand and hot restart conditions may occur on a regular basis during these periods. "Hot restart" is a generic term given to the initiation of a restart following normal shutdown, prior to full cooling. On CC1 and CC2, blade rubbing has occurred where tight clearances are affected by thermal gradients that exist in the machine cooling period, while the unit is on its turning gear. Both CC1 and CC2 are approaching the Original Equipment Manufacturer's (OEM) recommended overhaul interval based on unit operating conditions and utilization. Regular borescope inspections performed in Fall of 2020 showed conditions that confirm a routine turbine major inspection and overhaul is required in the near future for both units. Both units are scheduled for hot gas path inspection and blade replacement and/or refurbishment during the scheduled 2022 Spring and Fall maintenance outages. Following the blade refurbishment or replacement work, clearances in both machines will approach previous newer conditions, before rubbing occurred.

Siemens currently recommends owners employ either full cooling delays or installation of a Direct Air Injection System (DAIS) for protection against blade rubbing due to hot restart. The DAIS system includes equipment designed to inject cooling air while on the turning gear, minimizing the thermal gradients. The equipment, controls, and logic associated with the upgrade is proprietary to Siemens and is unique to their equipment. The DAIS is Siemen's engineered solution to the blade rubbing issue.

Installation of the DAIS upgrade for CC1 and CC2 in the planned outages for 2022 will protect the refurbished or replaced blades from rubbing damage previously experienced. The upgraded units will have no hot restart cooling limitations to allow maximum operational flexibility and will be in conformance with Siemens recommendations for protection of the equipment. Each unit will have dedicated DAIS equipment, with a crosstie for redundancy.

Siemens is the only available source of supply for the DAIS due to the technical complexity of the upgrade. Contract negotiations will allow more time to develop a detailed work plan while optimizing the project schedule and reducing risk by having a better understanding of the project

August 6, 2021
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scope. A negotiated contract provides the proper mechanism to develop optimal pricing, terms and conditions with acceptable risk mitigation.

Therefore, it is in District and public's best interest to forgo the sealed bidding process. Instead a sole source proposal will be sought through a publically available Request for Proposal (RFP) and detailed negotiation process with the OEM, Siemens Energy, Inc.

2.0 RECOMMENDATION

An Engineer's Certificate of the above 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 Siemens Energy, Inc. to design, procure, and install direct air injection systems at the Cass County Station.

Scott A. Eidem

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

ENGINEER'S CERTIFICATION

The Omaha Public Power District (OPPD) Cass County Station, Units 1 and 2 (CC1 and CC2) were inspected during the Fall 2016 outage. Both units exhibited turbine blade rubbing damage. OPPD engineering and Siemens Energy (Siemens), the original equipment manufacturer (OEM), determined the blade damage is the result of hot restarts throughout the life of the units, a tendency Siemens has encountered with its W501FD2 machines. Both units are scheduled for hot gas path inspection and blade refurbishment and/or replacement during the scheduled 2022 Spring and Fall maintenance outages.

Siemens currently recommends installation of a Direct Air Injection System (DAIS) for protection of the new or refurbished turbine blades from hot restart conditions that can lead to blade rubbing damage. The Siemens DAIS equipment includes proprietary logic/controls and components unique to Siemens and specifically engineered for the DAIS upgrade. The system is Siemens' engineered solution to the blade rubbing issue.

The DAIS equipment is specifically designed by Siemens for the W501FD2 machines, such as CC1 and CC2, for the purpose of blade protection and unit availability for hot restart. Substitution of alternate manufacturer's equipment, controls, logic or related scope of supply may invalidate Siemens' performance guarantees and warranty for the modified equipment.

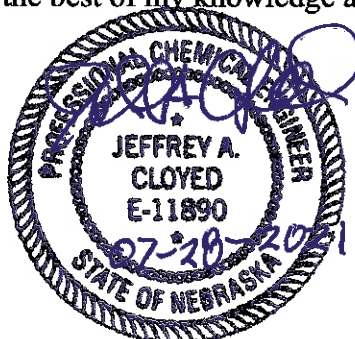
The undersigned, a Nebraska professional engineer employed by OPPD, certifies that Siemens is the only available source of supply for the DAIS equipment and procurement without sealed bidding is in compliance with standards established by the Board of Directors. The following statements support this certification:

- The Direct Air Injection System and associated supporting systems are technically complex and must be integrated with other plant systems to optimize performance and obtain equipment performance guarantees.
- Siemens, the OEM, is the only available source of supply for the DAIS upgrade because of the proprietary nature of the modification and the associated equipment, and the procurement would comply with prior standards of the Board.
- A negotiated contract provides the proper mechanism to develop optimal pricing, schedule and contract terms and conditions with acceptable risk mitigation.

Pursuant to Section 70-637 of the Revised Statutes of Nebraska, the Board of Directors is requested to approve this Engineer's Certificate and authorize Management to negotiate and enter into a contract for the supply of equipment and services for the design and installation of Direct Air Injection Systems at the Cass County Station Units 1 and 2 without compliance with the sealed bidding requirements of Sections 70-637 to 70-641 of the Revised Statutes of Nebraska.

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


Jeff A. Cloyed, P.E.



07-28-2021
Date



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July 22, 2021

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

RE: Cass County Station, Units 1 and 2 - Engineer's Certification for original equipment manufacturer; Direct Air Injection System equipment and services

Ladies and Gentlemen:

We have reviewed the Engineer's Certification of Jeff A. Cloyed, P.E., a registered professional engineer in the State of Nebraska employed by the District. Mr. Cloyed's Engineer's Certification states that Siemens Energy, the original equipment manufacturer for Cass County Units 1 and 2, has recommended the installation of a Direct Air Injection System ("DAIS") on the units to protect them from turbine blade rubbing damage. The Certification further states that DAIS equipment is specifically designed by Siemens for the Siemens' W501FD2 machines, such as CC1 and CC2, for the purpose of blade protection and unit availability for hot restart, and the installation of another manufacturer's equipment, controls, logic or related scope of supply may invalidate Siemens' performance guarantees and warranty for the modified equipment. Mr Cloyed certifies that Siemens is the only available source of supply for the DAIS equipment and procurement without sealed bidding is in compliance with standards established by the Board of Directors, and he provides additional support for his certification.

Section 70-637(6) of the Nebraska Revised Statutes authorizes the District's Board of Directors, by a two-thirds vote, to approve an Engineer's Certification to purchase parts or services for any generating unit from the original manufacturer of such equipment upon certification that such manufacturer is the only available source of supply for such parts or services and that such purchase is in compliance with standards established by the board. After receipt of such Certification, but not necessarily before Board review, the District is required to advertise notice of such purchase once a week for at least three consecutive weeks in one or more newspapers of general circulation in the District's service area.

It is our opinion that Mr. Cloyed'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 with Siemens, the original equipment manufacturer, for the Direct Air Injection Systems for Cass County Units 1 and 2. We recommend that any such contract 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 at the end.

Stephen M. Bruckner
FOR THE FIRM

SMB/sac
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