



**Nebraska Public Power District**

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21.21(d)(3)(ii)

NLS2025044

July 15, 2025

Attention: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Subject: 10 CFR Part 21 Report Regarding Diesel Generator Jacket Water Pump  
Cooper Nuclear Station, Docket No. 50-298, Renewed License No. DPR-46

The purpose of this letter is to provide the required written notification of a defect of a basic component in accordance with 10 CFR 21.21(d)(3)(ii). The attached notification pertains to the failure of a diesel generator jacket water pump used in a safety-related application at Cooper Nuclear Station. Event Notification #57770 was made on June 20, 2025.

This letter contains no regulatory commitments.

If you have any questions or require additional information, please contact Linda Dewhirst, Regulatory Affairs and Compliance Manager, at (402) 825-5416.

Sincerely,

Khalil Dia  
Site Vice President

/dv

Attachment: Part 21 Notification of Diesel Generator Jacket Water Pump

cc: Regional Administrator w/ attachment  
USNRC – Region IV

NPG Distribution w/ attachment

Cooper Project Manager w/ attachment  
USNRC – NRR Plant Licensing Branch IV

CNS Records w/ attachment

Senior Resident Inspector w/ attachment  
USNRC – CNS

**COOPER NUCLEAR STATION**

72676 648A Ave / P.O. Box 98 / Brownville, NE 68321  
<http://www.nppd.com>

ATTACHMENT

Part 21 NOTIFICATION OF DIESEL GENERATOR JACKET WATER PUMP

1. Name and address of individual informing the Commission.

Khalil Dia  
Nebraska Public Power District  
Site Vice President, Cooper Nuclear Station  
P.O. Box 98  
Brownville, NE 68321

2. Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

Cooper Nuclear Station  
Renewed License No. DPR-46  
Docket No. 50-298

Emergency Diesel Generator Engine Driven Jacket Water Pump  
Part number 2-09P-122-004, 11-3/8 inch impeller, 6 inch by 5 inch Type E pump,  
Allis-Chalmers curve A-6428-1

3. Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

Cooper-Bessemer  
Original Equipment Manufacturer, no address available.

4. Nature of the defect or failure to comply and the safety hazard which is created or could be created by such a defect or failure to comply.

Emergency diesel generator engine driven jacket water pump impeller bore was not provided in accordance with design drawing 2-09P-122. Due to the impeller bore dimensional deviation, the required 0.0017 inch interference fit was not achieved by following the vendor impeller installation instructions on drawing 2-09P-122 resulting in shaft rotational and torsional forces challenging the compromised interference fit until the connection failed. This condition resulted in loss of engine driven jacket water pump flow which resulted in a loss of engine cylinder cooling. This condition could have prevented the subject diesel generator from operating for its design and licensing basis mission time, and therefore was determined to be inoperable. This deviation resulted in a condition that could have prevented the fulfillment of a safety function, and thus was a defect that could create a substantial safety hazard if it were to remain uncorrected.

5. The date on which the information of such defect or failure to comply was obtained.

May 22, 2025

6. In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

At Cooper Nuclear Station (CNS), two defective components were installed in Diesel Generator #1 and Diesel Generator #2. No other known location of this impeller design, i.e. Allis-Chalmers bronze impeller with tapered bore mounted on Cooper-Bessemer machined KSV-16 tapered pump drive shaft.

7. The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

Nebraska Public Power District removed the failed impeller from CNS Diesel Generator #1. The impeller was repaired to include a new bore insert machined to the specifications shown on design drawing 2-09P-122. The Diesel Generator #2 impeller maintenance history has been reviewed to confirm the impeller is installed sufficiently on the shaft to support continuous reliable operation. Impeller installation instructions will be revised to validate impeller bore dimensions and confirmation of adequate interference fit with completion in approximately 60 days.

8. Any advice related to the defect or failure to comply about the facility, activity or basic component that has been, is being, or will be given to purchasers or licensees.

None.

9. In the case of an early site permit, the entities to whom an early site permit was transferred.

Not Applicable.