



Nebraska Public Power District

"Always there when you need us"

21.21(d)(3)(ii)

NLS2023049
September 6, 2023

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

Subject: 10 CFR Part 21 Report Regarding HGA Relays
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

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 General Electric HGA relays used in safety-related applications at Cooper Nuclear Station.

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.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 9/6/2023
Date

Sincerely,

Khalil Dia
Site Vice President

/dv

Attachment: Part 21 Notification of General Electric HGA Relays

NLS2023049

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cc: Regional Administrator w/attachment
USNRC - Region IV

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

Senior Resident Inspector w/attachment
USNRC - CNS

NPG Distribution w/attachment

CNS Records w/attachment

ATTACHMENT

PART 21 NOTIFICATION OF GENERAL ELECTRIC HGA RELAYS

1. Name and address of the individual or individuals 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 Facility Operating License DPR-46
Docket No. 50-298

Basic Component: HGA Relay; Model Number 12HGA111A2F; Part Number 137C6183P001; 125 volt DC Century Coil; Standard Pickup; DC Coil Resistance = 3850 ohms; 2 Normally Closed/2 Normally Open Contacts; Hinged Armature; Semi-Flush Mounting; Back Connected with Studs; Cover with Glass Window

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

GE-Hitachi Nuclear Energy Americas LLC
PO Box 780
Wilmington, NC 28402

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

Inside dimension of the relay where the stationary portion of the armature is seated, was approximately 0.013 inches narrower than the other relays from the same batch. This prevented frictionless movement of the armature causing the relay to fail in the intermediate state and not return to its shelf state. Meaning, the normally closed contacts consistently failed to make contact when the relay was de-energized.

The relay was approved for use in 122 safety-related applications. Potentially affected systems are High Pressure Coolant Injection, Core Spray, Reactor Core Isolation Cooling, Residual Heat Removal (RHR), Electrical/Diesel Generators, and Main Steam. The majority of these applications are annunciation and indicating lights.

A substantial safety hazard exists due to the relay being approved for use in the RHR Logic for a Division 2 RHR injection valve. An HGA relay in this logic uses a normally closed contact to perform its safety function which is to provide a close signal to the injection valve on a group isolation signal.

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

July 5, 2023

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.

Fourteen HGA relays were received from GE-Hitachi on February 6, 2018, under a purchase order. Subsequently, twelve of these relays were installed in the facility for use in safety-related applications, i.e., the High Pressure Coolant Injection, Core Spray, Reactor Core Isolation Cooling, and Residual Heat Removal Systems. Two relays were not installed in the facility and kept as spares in the warehouse.

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.

The twelve relays purchased and installed under the purchase order have been replaced or are being replaced by Nebraska Public Power District. The two spare relays in the warehouse have been put on hold. Nine relay replacements have been completed, with three relay replacements of the twelve remaining. The normally closed contacts of these three HGA relays are not used in their applications so, therefore, do not impact safety function. Replacement of the three relays is scheduled to be completed no later than December 3, 2024, as some relays require a plant outage to support replacement.

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