



*Davis-Besse Nuclear Power Station
5501 N. State Route 2
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Terry J. Brown
Site Vice President, Davis-Besse Nuclear

419-321-7676

June 23, 2022
L-22-149

ATTN: Document Control Desk
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Subject: Davis-Besse Nuclear Power Station, Unit 1
Docket Number 50-346, License Number NPF-3
Post Accident Monitoring Report

The attached report is being submitted in accordance with Davis-Besse Nuclear Power Station (DBNPS) Technical Specifications 3.3.17 and 5.6.5. The report is required due to the inoperability of one DBNPS Containment High Range Radiation Monitor for a period in excess of the 30-day restoration time.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Robert W. Oesterle, Manager, Site Regulatory Compliance and Emergency Response, at (419) 321-7462.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry J. Brown", written over a horizontal line.

Terry J. Brown

GMW

Attachment: Davis-Besse Nuclear Power Station Post Accident Monitoring Report

cc: NRC Region III Administrator
NRC Senior Resident Inspector
NRR Project Manager
Utility Radiological Safety Board

Attachment
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Davis-Besse Nuclear Power Station Post Accident Monitoring Report

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This Report is being submitted for Davis-Besse Nuclear Power Station (DBNPS) per Technical Specification (TS) 5.6.5, "Post Accident Monitoring Report." TS Limiting Condition for Operation (LCO) 3.3.17, "Post Accident Monitoring (PAM) Instrumentation" requires that two channels of Containment High Range Radiation Monitor instruments be Operable during plant operation in Modes 1, 2, and 3. If TS 3.3.17 Condition A is not satisfied in 30 days, then TS 3.3.17 Condition B is entered, requiring initiation of action in accordance with TS 5.6.5.

This TS Administrative Controls Reporting Requirement 5.6.5 requires a report be submitted within the following 14 days outlining the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to Operable status.

Background

The primary purpose of the PAM instrumentation is to display unit variables that provide information required by the control room operators during accident situations. Containment High Range Radiation is a Category 1 variable provided to monitor the potential for significant radiation releases and to provide release assessment for use by operators in determining the need to invoke site emergency plans. Containment High Range Radiation instrumentation consists of two channels (RE4596A and RE4596B). Each channel consists of one gamma photon radiation detector with a calibrated range of 1 R/hr to 1E8 R/hr. Continuous indicators are provided in the PAM panel located in the Control Room.

Cause of Inoperability

On May 11, 2022, during performance of the quarterly functional test of the train 2/ train B Containment High Range Radiation Monitor RE4596B, a power supply issue was discovered that resulted in the monitor being declared inoperable per TS LCO 3.3.17 Condition A, which requires restoration to Operable status within 30 days.

Initial investigation revealed a damaged step-down resistor and transistor on the main circuit board. Due to lack of the exact subcomponents needed to repair the circuit board, a refurbished replacement module was obtained from stock. On June 8, 2022, during installation of the replacement module, it was noted the analog output on the replacement module was not working correctly, resulting in the module not being able to drive the remote indicator located in the main Control Room as well as the associated plant computer points.

After consultation with the equipment vendor, it was recommended to send both modules (the initial defective module identified on May 11 and the refurbished module attempted to be installed on June 8) back for further troubleshooting and repairs. No other modules are readily available.

Preplanned Alternate Method of Monitoring

The Containment High Range Radiation instrumentation consists of two redundant channels. The Train A monitor, RE4596A, remains Operable while the Train B monitor, RE4596B, is inoperable. Non-Safety Related Containment Wide Range Area Radiation Monitors, RE2387 and RE2389, and Safety Related Containment Atmospheric Radiation Monitors, RE4597AA (Train A) and RE4597BA (Train B), are available to satisfy the alternative monitoring provisions of TS LCO 3.3.17 if both of the specified Containment High Range Radiation Monitors RE4596A and RE4596B are inoperable.

The station has selected Containment Wide Range Area Radiation Monitor RE2389 to provide the required digital indication in place of the inoperable RE4596B radiation monitoring. The digital readout of RE2389 can also be used for Containment radiation level trending when needed.

Plans and Schedule for Restoring Functionality

Both the initial defective General Atomic RD-23 module as well as the refurbished module from stock were sent offsite for troubleshooting and repairs. One of the modules was repaired and returned to the site and installed in Containment High Range Radiation monitor RE4596B on June 22, 2022, restoring operability/functionality of the monitor.