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W3F1-2012-0079

September 20, 2012

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Special Report SR-12-002-00
Containment High Range Radiation Monitor ARMIRE5400 A Inoperable for
Greater Than 7 Days
Waterford Steam Electric Station, Unit 3
Docket No. 50-382
License No. NPF-38

Dear Sir or Madam:

Attached is Special Report Number SR-12-002-00 for Waterford Steam Electric Station, Unit 3. This Special Report is submitted per Technical Specification 3.3.3.1 and Technical Specification 6.9.2.

If you have any questions concerning this submittal, please contact Michael E. Mason at (504) 739-6673.

There are no new commitments contained in this submittal.

Sincerely,

A handwritten signature in black ink that reads "Michael E. Mason".

MEM/RJP

Attachment: Special Report SR-12-002-00

cc: Mr. Elmo E. Collins, Jr.
Regional Administrator
U. S. NRC Region IV

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Attachment

W3F1-2012-0079

Special Report SR-12-002-00

SPECIAL REPORT
SR-12-002-00

Containment High Range Radiation Monitor ARMIRE5400 A
Inoperable Greater Than 7 Days

SUMMARY

At 23:15 hours on September 6, 2012, Operations personnel at Waterford Steam Electric Station Unit 3 (Waterford 3) declared the Containment High Range Radiation Monitor, ARMIRE5400A, inoperable. Technical Specification 3.3.3.1, Action 27 requires that, with the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, either restore the inoperable Channel(s) to OPERABLE status within 72 hours, or if the monitor is not restored to OPERABLE status within 7 days after the failure, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status. Since the instrument was not returned to service within 7 days, this report is submitted pursuant to TS 3.3.3.1.

Containment High Range Radiation Monitor, ARMIRE5400A, was declared operable on September 20, 2012 at 14:42 hours.

The other train of Containment High Range Radiation Monitor, ARMIRE5400 B, remained operable throughout this period.

Condition Report CR-WF3-2012-4563 was written to evaluate exceeding the seven day restoration action.

NARRATIVE

While taking Technical Specification Logs, Operations personnel found that Containment High Range Radiation Monitor, ARMIRE5400 A, was not communicating with its central monitoring computer (RM-11). It was noted that the power supply for ARMIRE5400 A had zero output. The shift operating crew declared ARMIRE5400 A inoperable at 23:15 on September 6, 2012, and entered Technical Specification 3.3.3.1. This condition was entered in the site corrective action program under CR-WF3-2012-4430.

Troubleshooting of the power supply the next morning on September 7, 2012 found that it was functioning and supplying the correct voltage. Additionally, ARMIRE5400 A had recommenced communicating with its central monitoring computer (RM-11). These conditions led to the elimination of a power supply failure as the cause at the time.

It was subsequently noted that the radiation readings from ARMIRE5400 A were indicating a lower level of radiation than expected. With this low indication and the cause having not yet been determined, troubleshooting continued.

The following troubleshooting actions were performed under Work Order 326272:

1. Checked the voltage of the High Voltage Power Supply and it was found satisfactory.
2. Installed and calibrated another pico-amp board, which did not correct the low indication and was therefore projected to have not corrected the original condition.
3. Replaced a Signal Cable BNC connector for the detector that had indications of wear. This did not correct the low indication and was therefore projected to have not corrected the original condition. Note that vendor assistance was needed to identify the correct part, which introduced some delay in the troubleshooting.
4. Performed a voltage test of the RM-80 (local ARMIRE5400 A computer) and found all voltages within tolerance. This was eliminated as a cause for the low indication and was therefore projected to have not been the cause of the original condition.
5. Replaced the High Voltage Power Supply on 9/20/12. There was noted improvement in the performance of ARMIRE5400 A.

After each troubleshooting action, ARMIRE5400 A had been left in a condition where it was functioning and providing indication of Containment radiation level.

Performance of ARMIRE5400 A was monitored for a period following replacement of its High Voltage Power Supply. It was determined that the monitor was functioning properly and that the condition had been corrected. The monitor was declared operable at 14:42 hours on September 20, 2012. The apparent cause of the failure was degradation of the High Voltage Power Supply on ARMIRE5400 A.

Further evaluation of this condition is planned to be addressed in Waterford 3 Condition Report CR-WF3-2012-4430.

PLANT CONTACT

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