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March 18, 1991

U.S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, D.C. 20555

SUBJECT: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Reporting of Special Report

Gentlemen:

Attached is Special Report Number SR-91-001-00 for Waterford Steam Electric Station Unit 3. This Special Report is submitted per 10CFR50.36(c)(2) and Technical Specifications 3.3.3.6.

Very truly yours,

J.R. McGaha
General Manager Plant Operations

JRM/WEF/rk
Attachment

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SPECIAL REPORT

SR 91-001

Qualified Safety Parameter Display System-Channel 2, Reactor Vessel Level Monitoring System, Out of Service Due To Sensor Failure.

INTRODUCTION

On February 7, 1991, Waterford Steam Electric Station Unit 3 was operating at 100% power. Channel #2 of the Qualified Safety Parameter Display System (QSPDS) failed and could not be restored within the 7 day time period specified in Technical Specification (T.S.) 3.3.3.6.

The most probable root cause of the event has been classified as a sensor failure of the Heated Junction Thermocouple (HJTC). With two other sensors already out of service, the failure of HJTC # 8 brought the total number of sensors out of service to three, of the lower five. For each channel to be operable it must have three of five sensors operable/quadrant.

T.S. 3.3.3.6, Accident Monitoring Instrumentation-Limiting Condition for Operation of the Technical Specifications, table 3.3-10, action 31 states that "With the number of OPERABLE accident monitoring channels, less than the Required Number of Channels, either restore the system to operable status within 7 days if repairs are feasible without shutting down or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 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."

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NARRATIVE

At 0548 hours on February 14, 1991, Waterford Steam Electric Station Unit 3 was operating at 100% power when Channel 2 of the Qualified Safety Parameter Display System, HJTC sensor # 8 exceeded the 7 day out of service limit per T.S. 3.3.3.6 .

The purpose of the Reactor Vessel Level Monitoring System (RVLMS) is to provide instrumentation for enhancing the ability of the operator to diagnose inadequate core cooling, required by NUREG 0737, post TMI-2 Action Plan.

Troubleshooting did not determine any problems with the QSPDS Channel 2 electronics. The most probable root cause of the equipment malfunction is a failure of the HJTC probe. QSPDS Channel 2, sensors # 5 and # 7, were inoperable prior to the failure of HJTC # 8. Therefore, three of the bottom five sensors were out of service, making the channel inoperable.

Although one channel of RVLMS is inoperative, the other channel is operating. There is also other instrumentation available for monitoring the core for inadequate core cooling, for example, Subcooled Margin Monitoring (SMM) and the Core Exit Thermocouples (CET). One channel of RVLMS inoperable does not create a major safety concern.

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The planned corrective action is to replace the QSPDS Channel 2 HJTC probe during Refuel 4. The work will be performed under Work Authorization 01072254. Also, a QSPDS surveillance will be performed on QSPDS channels 1 & 2 during Refuel 4, which will confirm satisfactory system operation. Refuel 4 is planned to begin March 15, 1991, and corrective actions will be completed at the end of Refuel 4, approximately May 11, 1991

SIMILAR EVENTS

NONE

PLANT CONTACT

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