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L-2010-235

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

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Special Report - Accident Monitoring Instrumentation Inoperable

In accordance with Technical Specifications 6.9.2 and 3.3.3.3, the attached Special Report is provided for your information.

Should there be any questions regarding this information, please contact Robert J. Tomonto, Licensing Manager at (305) 246-7327.

Sincerely,

Michael Kiley
Vice President
Turkey Point Nuclear Plant

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cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

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SPECIAL REPORT

Purpose:

This special report is being submitted pursuant to the requirements of Turkey Point Units 3 and 4 Technical Specification (TS) 3.3.3.3, Accident Monitoring Instrumentation, Table 3.3-5, Instrument 19.d, Action 34, due to the Main Steam Lines High Range-Noble Gas Effluent Monitor, (DAM-1, RAD 6426), being inoperable and not restored within 7 days.

Required Action 34 of TS 3.3.3.3, Table 3.3-5, for Item 19.d, states:

“With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirements, initiate the replanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:

- 1) Either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or
- 2) Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 14 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.”

Event and Action Taken:

The Main Steam Line Monitor, RAD-6426, with Eberline Data Acquisition Monitor (DAM-1) and High Range Noble Gas Detector Assembly SA-9, common to Turkey Point Units 3 and 4, is used to detect radiation passing through the Main Steam Lines. The monitor is required to be operable by TS 3.3.3.3, [Table 3.3-5, Instrument 19.d (Main Steam Lines High Range-Noble Gas Effluent)] to measure the activity passing through the main steam lines for accident monitoring. The monitor receives a condensed steam sample from the piping tied into each steam line, upstream of the main steam isolation valves to determine main steam line activity even during severe accidents and to quantify the release rates through the main steam safety valves and/or the atmospheric steam dump valves.

Florida Power & Light Company (FPL) is currently planning the replacement of RAD-6426 due to performance issues associated with the obsolescence of this monitor. Preliminary results of an engineering study which investigated the design basis of the monitor indicated that insufficient levels of noble gases are transported to the RAD-6426 detector, to provide a detectable concentration of noble gases. While the investigation was ongoing, Operations was informed of the potential nonconforming condition that could prevent RAD-6426 from performing its specified TS function for monitoring noble gases released at the Main Steam Lines.

On September 24, 2010, Operations placed the Main Steam Lines High Range-Noble Gas Effluent Monitor (DAM-1) in the equipment out of service log. Accident Monitoring Instrumentation Limiting Condition for Operation (LCO) TS 3.3.3.3, Table 3.3-5, Instrument 19.d requires this monitor to be OPERABLE in Modes 1-3. The TS preplanned alternate monitoring method was initiated within 72 hours to comply with TS 3.3.3.3, Table 3.3-5, Action 34 requirements.

On October 1, 2010, an operability assessment concluded that RAD-6426 sampling transport system does not deliver a representative sample of noble gases released at the steam lines and has not since the original installation of the monitor in 1980. The preliminary results of the engineering study identified that insufficient levels of noble gases are transported downstream of the sample coolers to the RAD-6426 detector. Based on these results, RAD-6426 does not provide monitoring of the radioactivity passing through the main steam lines to support calculation of the release rates through the main steam safeties and atmospheric dump valves.

On October 1, 2010, Turkey Point Unit 3 was in Mode 6, and Turkey Point Unit 4 was operating in Mode 1. RAD-6426 was determined to be inoperable and could not be restored to an OPERABLE status within 7 days of the event, due to latent design deficiencies.

Turkey Point Units 3 and 4 had previously initiated and continue to use the TS preplanned alternate monitoring method to comply with the TS 3.3.3.3, Table 3.3-5, Action 34 requirements.

Cause:

The cause evaluation is ongoing. The most probable cause is latent design deficiencies.

Actions Taken

Immediate corrective actions included the initiation of the TS preplanned alternate monitoring method.

A condition report was entered in the corrective action program to further evaluate this condition and to address impact on plant operations, emergency planning dose assessment capabilities, compliance with design basis and regulatory requirements. Florida Power & Light Company will prepare and submit a Licensee Event Report (LER) with additional information to address the nonconforming condition described herein.

Schedule for Restoration:

The Turkey Point Units 3 and 4 Main Steam Lines High Range Noble Gas Effluent Monitor, RAD-6426, is currently scheduled to be replaced by December 2011.