



Florida Power & Light Company, 6501 S. Ocean Drive, Jensen Beach, FL 34957

July 23, 2003

L-2003-196
10 CFR 50.4

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

Re: St. Lucie Unit 2
Docket No. 50-389
Date of Event: June 16, 2003
Updated Final Safety Analysis Report Special Report
Inoperable Loose Parts Monitoring Channel

The attached special report is submitted pursuant to the requirements of St. Lucie Unit 2 Updated Final Safety Analysis Report Section 13.7.4.1 Action a. This report provides notification that Channel 4 of the Loose Parts Monitoring System is inoperable.

The attached special report outlines the action taken since the channel failed, the apparent cause of the channel failure, and the plans and schedule for restoring Channel 4 of the Loose Parts Monitoring System to operable status.

Very truly yours,

William Jefferson, Jr.
Vice President
St. Lucie Plant

WJ/KWF

Attachment

IE22

SPECIAL REPORT

I. TITLE

St. Lucie Unit 2 Loose Parts Monitoring System (LPMS).

II. EVENT DESCRIPTION

The St. Lucie Unit 2 loose part detection instrumentation is provided to ensure sufficient capability to detect any loose metallic parts in the primary system and avoid or mitigate damage to primary system components. The LPMS consists of eight accelerometers and associated equipment and cabling. Two accelerometers are placed in each of the following locations: reactor vessel lower plenum, reactor vessel head, and on each steam generator inlet plenum. The system is obsolete and vendor supplied parts are difficult to obtain.

License Amendment No. 86 and NRC Safety Evaluation Report issued August 20, 1996 relocated the LPMS operation restrictions from the facility Technical Specifications to the Updated Final Safety Analysis Report (UFSAR). UFSAR Section 13.7.4.1 requires that the LPMS be OPERABLE in MODES 1 and 2, and with one or more LPMS channels inoperable for more than 30 days, prepare and submit a Special Report to the Commission within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.

On June 16, 2003, St. Lucie entered Mode 2 operation during startup from a forced outage. Channel 4 of the LPMS, associated with one of the reactor vessel head accelerometers, was inoperable awaiting parts. A subsequent System Functional Test provided maintenance personnel with clear evidence that the problem associated with the LPMS Channel 4 noise was inside containment. The inside containment portion of the LPMS includes accelerometers, special cable and preamplifier circuit cards.

On July 10, 2003, after a replacement preamplifier circuit card was obtained, an instrument and control journeyman made a containment entry to replace the card. This action eliminated the circuit card as a possible point of failure.

III. CAUSE OF THE EVENT

The reported condition includes excessive noise and a constant hum on Channel 4 of the LPMS. Trouble shooting and system test activities have eliminated all LPMS circuitry except for the Channel 4 differential accelerometer transducer and high-temperature cabling located inside containment. A containment entry is required in order to obtain troubleshooting information associated with the cable connections, transducer mounting, and transducer performance.

IV. ACTION TAKEN

1. On June 28, 2003 the System Functional Test was completed that determined that the noise source was located inside containment.
2. On July 10, 2003, an instrument and control journeyman made a containment entry to replace the pre-amplifier circuit board. This action eliminated the circuit board as a possible point of failure.
3. FPL determined that further troubleshooting would require a containment entry, which could not be performed at power.
4. FPL will inspect accessible portions of the Unit 2 LPMS Channel 4 cabling and transducer at the next hot shutdown to collect further information regarding the failure. Work Order (WO) 33010509 has been issued to track this action.

V. SCHEDULE FOR RESTORING SYSTEM

The Unit 2 LPM will be repaired during the next refueling outage (SL2-15) currently scheduled for the fall of 2004.