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SUBJECT: Special rept:on 871102,vent stack 5A wide range gas monitor declared inoperable.

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 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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Carolina Power & Light Company

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United States Nuclear Regulatory Commission
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HARRIS NUCLEAR PROJECT UNIT 1
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NRC 14-DAY SPECIAL REPORT

Gentlemen:

In accordance with Technical Specifications 3.3.3.6 and 6.9.2 for the Shearon Harris Nuclear Power Plant, Unit No. 1, Carolina Power & Light Company hereby submits this Special Report. This Special Report concerns operability of a radiation monitor.

Very truly yours,

R. A. Watson
Vice President
Harris Nuclear Project

JRJ:acm

Enclosure

cc: Dr. J. N. Grace (NRC-RII)
Mr. B. Buckley (NRR)
Mr. G. Maxwell (NRC-SHNP)

Radioactive Gaseous Effluent Monitor Special Report

Background:

Vent stack 5A wide range gas monitor, (WRGM) #1WV-3547-1 was declared inoperable under Technical Specification 3.3.3.11, Radioactive Gaseous Effluent Monitoring Instrumentation, on November 2, 1987, at 1400. This was due to a potential loss of sample flow caused by calibration of the stack flow transmitter and iso-kinetic sampling skid. At that time, it was not recognized that the calibration would also make the monitor inoperable under Technical Specification 3.3.3.6, Accident Monitoring Instrumentation. This determination was not made by Operations personnel until December 18, 1987.

Efforts to return the monitor to operable status within 7 days have been unsuccessful, thus the need for this special report, which is submitted pursuant to Technical Specification 3.3.3.6, Action C.

Because of the late declaration of inoperability under Technical Specification 3.3.3.6, this special report was not submitted within 14 days as required by the Technical Specification 3.3.3.6, Action C. This deviation from Technical Specifications will be reported in a subsequent License Event Report.

Description of Event:

The vent stack 5A WRGM sample flow rate is designed to be varied according to the stack process flow rate measured by the stack flow transmitter and iso-kinetic sampling skid; however, the plant has experienced problems in calibrating the stack flow transmitter and iso-kinetic sampling skid since initial plant startup. Due to the erratic flow up the stack, it is difficult to meet the tolerances of the calibration procedure for the stack flow meter and iso-kinetic sampling skid. Because of this, the stack WRGM has been operated in "Spec Form Control," which adjusts the sample flow rate to correspond to the maximum design flow rate out of the stack. This provides very conservative monitor readings. The stack flow meter itself has been successfully calibrated and is used as an indicator of stack flow rate.

On October 23, 1987, the stack flow meter failed and a work order was generated to repair it. After repair, it was necessary to attempt recalibration of the flow meter and the iso-kinetic sampling skid. The vent stack 5A WRGM was declared inoperable under Technical Specification 3.3.3.11 at 1400 on November 2, 1987 due to the potential loss of sample flow during calibration of the stack flow transmitter and iso-kinetic sampling skid. Calibration requires manipulation of the WRGM data base which has the

Description of Event: (continued)

potential for causing the WRGM to lose sample flow. For this reason, the WRGM was declared inoperable even though it was working correctly at the time. The particulate-iodine-gas (PIG) monitor on stack 5A (REM-1WV-3547) was also inoperable due to the same reason.

During calibration of the stack flow meter and iso-kinetic sampling skid (MST-I0413), a problem was identified with the mass flow meter which controls actual sample flow for the monitor. It was necessary to recalibrate the mass flow meter before proceeding. The plant experienced unexpected problems while attempting to calibrate the mass flow meter and requested information from the vendor (Kurz) to correct the problem. The plant did not receive the vendor information until December 3, 1987. Using the vendor information, the mass flow meter still failed calibration and had to be replaced. The new mass flow meter was successfully calibrated and MST-I0413 was again initiated to calibrate the stack flow transmitter and iso-kinetic sampling skid. This calibration was unsuccessful due to the erratic vent stack flow discussed earlier. A Plant Change Request (PCR-2670) was generated to resolve the erratic flow problem. The stack 5A WRGM was declared operable at 1830 on December 23, 1987, utilizing the Spec Form Control of sample flow.

The compensatory actions required by Technical Specifications 3.3.3.11, Table 3.3-13, Actions 46, 47, and 49 required an auxiliary sampler to be hooked up to continuously monitor the stack while the installed effluent monitor was inoperable. This sampler was installed at the purge air inlet connection for the iso-kinetic sampling skid. Since calibration of the flow meter on this skid would require disconnecting sample tubing, the inlet and outlet isolation valves to the skid were closed to prevent room air from being drawn into the auxiliary sampler. All compensatory measures for gaseous effluent and accident monitoring for stack 5A were satisfied.

Cause:

The monitor was declared inoperable initially due to the potential loss of sample flow that could occur while attempting calibration of the stack flow transmitter and iso-kinetic sampling skid. The cause of the delay in restoring the monitor to service was due primarily to the unexpected problems associated with the calibration of the mass flow meter and unusually long delay in receiving the vendor information. The cause of the failure of the mass flow meter, which was discovered while attempting calibration of the stack flow meter and iso-kinetic sampling skid, is not known.

Cause: (continued)

The cause of the delay in reporting this event was personnel error. Plant Operations personnel issued Equipment Inoperable Record (EIR) #RW-111 to address the inoperability of vent stack 5A WRGM. This EIR addressed the effluent monitoring Technical Specification (3.3.3.11) requirements to be met when the WRGM was inoperable. Personnel failed to recognize that the requirements for accident monitoring specified by Technical Specification 3.3.3.6 were also affected. This was not specified on the standard EIR form for Technical Specification 3.3.3.11 monitors. Since the LCO action requirements specified on EIRs are used to ensure that the required actions are implemented within the required time limits, and since an LCO against Technical Specifications 3.3.3.6 requirements was not identified, the need for the special report was not recognized until December 18, 1987. Consequently, a noncompliance with Technical Specification 3.3.3.6, Action C, resulted since this special report was not submitted to the NRC within 14 days. This noncompliance will be addressed in subsequent LER.

Corrective Actions:

The corrective actions taken to restore the monitor to operable status were to replace the mass flow meter and restore the sample flow control to "Spec Form Control." The reliability problems with the stack monitor systems is under evaluation by a Special Task Force.