Progress Energy

August 12, 2005

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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Brunswick Steam Electric Plant, Unit No. 2
Docket No. 50-324/License No. DPR-62
Special Report - Technical Requirements Manual Section 3.4,
Accident Monitoring Instrumentation

Ladies and Gentlemen:

In accordance with Technical Requirements Manual Section 3.4, "Accident Monitoring Instrumentation," for the Brunswick Steam Electric Plant (BSEP), Unit No. 2, Carolina Power & Light Company, now doing business as Progress Energy Carolinas, Inc., is submitting the enclosed Special Report associated with the Unit 2 Turbine Building Ventilation Monitor.

Please refer any questions regarding this submittal to Mr. Leonard R. Beller, Supervisor - Licensing/Regulatory Programs, at (910) 457-2073.

Sincerely,

Edward T. O'Neil
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MAT/mat

Enclosure:

Special Report - Unit 2 Turbine Building Ventilation Monitor

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Special Report - Unit 2 Turbine Building Ventilation Monitor

Background

On August 1, 2005, the Brunswick Steam Electric Plant (BSEP), Unit No. 2 began a test to evaluate the effects of operating the turbine building ventilation system in a once-through versus recirculation configuration. The test is scheduled to last approximately 28 days. In this configuration, an alternate exhaust path release point is being used. The alternate exhaust path release point, although monitored, is not equipped with instrumentation that has the full range provided by the normal turbine building ventilation monitor. As such, the Unit 2 turbine building ventilation monitor is considered inoperable.

Section 3.4, "Accident Monitoring Instrumentation," of the Technical Requirements Manual (TRM), requires the high range noble gas portion of the turbine building ventilation monitor (i.e., Function 4 on Table 3.4-1) to be operable in Modes 1, 2, and 3. If the monitor is not returned to service within 7 days (i.e., Required Compensatory Measure B.1), Required Compensatory Measure C.1 requires that a Special Report be submitted to the NRC outlining the preplanned alternate monitoring method, the cause of the inoperability, and plans for restoring the instrumentation to operable status. This Special Report is to be submitted within 14 days. The following provides the information required by Required Compensatory Measure C.1.

Cause of Inoperability

The high range noble gas portion of the turbine building ventilation monitor (i.e., Function 4 on Table 3.4-1) was declared inoperable on August 1, 2005, for the alternate release point as the alternate release point only has low range monitoring capability, when Unit 2 began a test to evaluate the effects of operating the turbine building ventilation system in a once-through versus recirculation configuration. The test is scheduled to last approximately 28 days. In this configuration, an alternate Unit 2 exhaust path will be used and the normal Unit 2 release path will be isolated.

Preplanned Alternate Monitoring Method

While conducting the test, a portable AMS-4 radiation monitor is being used to monitor the once-through release point. This monitor has a range of 10^{-10} to 10^{-5} μCi/cc. In the event of abnormal radiation levels in the exhaust, operators will be notified via an alarm of a lap-top computer in the control room. Plant procedures have been revised to direct re-alignment of the ventilation system to recirculation in the event there are abnormal radiation readings in the turbine building.

The above alternate monitoring exceeds the compensatory requirements to take grab samples, once per 12 hours, established in Section 7.3.2, "Radioactive Gaseous Effluent Monitoring Instrumentation," of the Offsite Dose Calculation Manual (ODCM). Exhaust fan flow was measured upon establishing the once-through ventilation configuration and the measured flow will be increased by 10% for measurement uncertainties. This flow will be used to estimate

effluent release flow rates. Previous operation in the once-through alignment has resulted in steady exhaust flow rates that were very close to rated fan flows. Operations will record the flow each shift and this flow, conservatively increased by 10 percent, use that number for release calculations. During this time, projected doses at the site boundary will be evaluated per the requirements of Section 7.3.11, "Ventilation Exhaust Treatment System," to ensure the projected doses are conservatively less than 0.6 mrem to any organ in a 31 day period. These projections will be performed twice during the first week of testing and at least once per week thereafter.

Plans for Restoring the Instrumentation

The high range noble gas portion of the turbine building ventilation monitor (i.e., Function 4 on Table 3.4-1) will be restored to operable status at the completion of the ongoing testing, but no later than August 29, 2005. The test could be terminated earlier if: (1) the objectives of the test are satisfied, (2) offsite does projections are determined to be 0.3 mrem to any organ in a 31 day period (i.e., one-half of the ODCMS 7.3.11 limit), or (3) unacceptably high turbine building radiation levels are encountered.