



Progress Energy

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FEB 05 2004

**SERIAL: BSEP 04-0024
TSC-2003-02**

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

**Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Docket Nos. 50-325 and 50-324/License Nos. DPR-71 and DPR-62
Response to Request for Additional Information
Updated Final Safety Analysis Report Section 9.4.5
Turbine Building Ventilation System**

**Reference: Letter from John S. Keenan to the U. S. Nuclear Regulatory Commission
(Serial: BSEP 03-0115), "Request for License Amendment - Updated Final
Safety Analysis Report Section 9.4.5, Turbine Building Ventilation System,"
dated July 31, 2003**

Ladies and Gentlemen:

On July 31, 2003, Carolina Power & Light Company, now doing business as Progress Energy Carolinas, Inc. (PEC) requested a license amendment to revise the Updated Final Safety Analysis Report, Section 9.4.5, "Turbine Building Ventilation System," and supporting information in Section 6.4.4.1, "Radiological Protection," and Section 15.6.3, "Main Steam Line Break Accident," to allow the system to be operated in a once-through versus recirculation configuration in support of outage activities. On February 2, 2004, the NRC provided an electronic request for additional information (RAI) concerning this request. The response to this RAI is enclosed.

Please refer any questions regarding this submittal to Mr. Edward T. O'Neil,
Manager - Support Services, at (910) 457-3512.

Sincerely,



Cornelius J. Gannon

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A001

MAT/mat

Enclosure:

Response to Request for Additional Information

Cornelius J. Gannon, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, and agents of Carolina Power & Light Company.

Dean S. Mash
Notary (Seal)

My commission expires: Aug 29, 2004



cc:

U. S. Nuclear Regulatory Commission, Region II
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Ms. Beverly O. Hall, Section Chief
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Response to Request for Additional Information

Background

On July 31, 2003, Carolina Power & Light Company, now doing business as Progress Energy Carolinas, Inc. (PEC) requested a license amendment to revise the Updated Final Safety Analysis Report (UFSAR), Section 9.4.5, "Turbine Building Ventilation System," and supporting information in Section 6.4.4.1, "Radiological Protection," and Section 15.6.3, "Main Steam Line Break Accident," to allow the system to be operated in a once-through versus recirculation configuration in support of outage activities. On February 2, 2004, the NRC provided an electronic request for additional information (RAI) concerning this request. The response to this RAI follows.

NRC Question 1

The submittal states that a temporary radiation monitor will be used to monitor site releases. 10 CFR 50.36a (a) 2 requires, in part, that licensees submit a report annually that specifies the quantity of each of the principal radionuclides released to unrestricted areas in gaseous effluents. Please explain how the total dose released to the environment through the once through path will be estimated. Describe whether timed grab samples will be taken. Please describe the records that will be kept of the activity in the release and the estimated quantity of the release.

Response to NRC Question 1

The temporary system will be sampled continuously for particulate, iodine, and noble gas, in accordance with Section 7.3.7, "Dose Rate - Gaseous Effluents," Table 7.3.7-1, "Radioactive Gaseous Waste Sampling and Analysis Program," of the site's Offsite Dose Calculation Manual (ODCM). In accordance with the Section 3.2 of the ODCM, "Compliance with 10CFR20 (Gaseous), Particulates, and Tritium," the sample results and release volume will be summarized with the corresponding turbine building discharge as a ground level release. The subsequent dose will be calculated based on this source term and reported in the annual Radioactive Effluent Release Report, as required by Technical Specification 5.6.3. Weekly gas reports are performed to assist in tracking the effluent releases at the Brunswick Steam Electric Plant (BSEP) and then summarized monthly in accordance with the Section 3.3 of the ODCM, "Compliance with 10CFR50 (Gaseous)." Isotopic reports, sampling attachments, and gas reports are vaulted following appropriate review. Additionally, the particulate filters from this temporary release path are composited for gross alpha and Sr-89 and Sr-90 analysis. No timed grab sample, beside routine weekly filter changes, will be incorporated since the pathway would be secured immediately, in accordance with operating procedures, in the event of an accident. A description of the temporary modification will also be included in the aforementioned annual report under the section for major modifications to the radioactive waste treatment system.

NRC Question 2

Section 11.5.2.6 of the Updated Final Safety Analysis Report describes the Turbine Building Ventilation Radiation Monitoring System. This section describes isokinetic sample probes in the effluent air stream of the ventilation exhaust. Please describe how this monitor will be impacted by a change in flow rate through the turbine building vent. Explain whether the total dose will be the sum of the release from the turbine building vent and the release from the new once through vent.

Response to NRC Question 2

The temporary radiation monitor will be sampling via an isokinetic probe installed in the effluent pathway. The turbine building, with the once-through system in service, will have two distinct release paths. Neither path would be impacted from the flow rate in the other. Additionally, each point is monitored for release volume in accordance with the Section 7.3.2 of the ODCM, "Radioactive Gaseous Monitoring Instrumentation," and the total dose will be summarized as releases from the turbine building.

NRC Question 3

The submittal states that the feasibility of implementing a permanent modification to operate the Turbine Building Ventilation System in a once-through configuration is being evaluated. Please describe how the stated objective of the turbine building ventilation radiation monitoring system (to provide a clear indication to operations personnel whenever abnormal amounts of radioactivity exist in the Turbine Building ventilation exhaust) would be achieved if the modification were made permanent. Please include a discussion of the method of compliance with 10 CFR 50.36a (a)(2). Please include in your discussion the plans with respect to permanence of the effluent radiation monitors, the ability for control room annunciation, and total dose release measuring capability.

Response to NRC Question 3

PEC has not currently decided whether a permanent modification to operate the Turbine Building Ventilation System in a once-through configuration will be pursued. However, if a permanent modification is pursued; it would require modifying the Turbine Building Ventilation System to include a once-through release point. An additional probe would be installed to monitor this release path. This probe would be tied into the existing turbine building monitoring system. If effluent activity levels were to rise to unacceptable levels, the once-through release point would be isolated and the Turbine Building Ventilation System would be aligned in the recirculation mode for a filtered and monitored release via the currently existing release path/monitor configuration. The final design of the permanent modification, if pursued, would comply with the UFSAR description of the existing radiation monitors which include control room annunciation and dose release measuring capability from either release point in each operating unit. A revision to the BSEP ODCM would be implemented to add the release point

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for the once-through configuration in each operating unit. This would assure compliance with 10 CFR 50.36a (a)(2).