

**MAY 17 2012**

Serial: BSEP 12-0049

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

Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2  
Renewed Facility Operating License Nos. DPR-71 and DPR-62  
Docket Nos. 50-325 and 50-324  
Reply to a Notice of Violation: EA-11-251

Reference: Letter from Victor M. McCree (NRC) to Michael Annacone (CP&L), "Final Significance Determination of White Finding and Notice of Violation - NRC Inspection Report Nos.: 05000325/2011014 and 05000324/2011014; and Assessment Follow-up Letter - Brunswick Steam Electric Plant," dated December 27, 2011

Ladies and Gentlemen:

On December 27, 2011, the NRC issued Notice of Violation EA-11-251, to the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. The violation involved a failure to identify and correct a condition adverse to quality associated with the entrance enclosures for the Emergency Diesel Generators fuel oil tank rooms. The violation was identified during a NRC inspection conducted on April 20, 2011.

In the Notice of Violation, the NRC required a written reply within 30 days of the date of that letter (i.e., by January 26, 2012). In accordance with 10 CFR 2.201, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., is providing the required reply in the enclosure to this letter. The requirement to reply to EA-11-251 was not identified when the notice of violation was received, therefore CP&L is providing the response at this time.

This submittal contains no personal privacy, proprietary, or safeguards information. Additionally, there are no regulatory commitments contained in this submittal.

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Please refer any questions regarding this submittal to Mr. Lee Grzeck, Acting Supervisor - Licensing/Regulatory Programs, at (910) 457-2487.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael J. Annacone', written in a cursive style.

Michael J. Annacone

LJG/ljg

Enclosure:

Reply to Notice of Violation EA-11-251

cc (with enclosure):

U. S. Nuclear Regulatory Commission, Region II  
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U. S. Nuclear Regulatory Commission  
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U. S. Nuclear Regulatory Commission **(Electronic Copy Only)**  
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Chair - North Carolina Utilities Commission  
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**Reply to Notice of Violation EA-11-251**

In accordance with 10 CFR 2.201, the following response by Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., to Notice of Violation EA-11-251 is provided for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2.

**Restatement of Violation**

During an NRC inspection conducted on April 20, 2011, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR Part 50 Appendix B Criterion XVI, Corrective Action states, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, as of April 20, 2011, the licensee failed to identify and promptly correct a condition adverse to quality involving the external flood barrier for the EDG fuel oil tank rooms. Specifically, the entrance enclosures which house the EDG fuel oil tanks had several openings, unsealed pin holes, and a narrow gap along the perimeter of the base walls, which would allow water intrusion into the EDG fuel oil tank rooms during a design basis external event (hurricane).

This violation is associated with a White Significance Determination Process finding.

**Reply to Violation****1. Reason for the Violation**

The failure to identify and promptly correct the openings (i.e., holes and gaps) in the two entrance enclosures to the Emergency Diesel Generators (EDGs) fuel oil tank rooms was documented in Condition Report (CR) 490292. The root cause evaluation (RCE) for CR 490292 identified that the Brunswick organization did not understand the significance of external events to overall core damage frequency as the root cause of this event. This resulted in weak controls for inspection, correction, and evaluation of the plant design features related to external events.

**2. Corrective Steps Taken and Results Achieved**

Below are the significant corrective actions taken. This list is not all-inclusive of the corrective actions identified in the RCE for CR 490292.

### *Plant Structures*

The following corrective action was completed for the two EDG Fuel Oil Tank (FOT) enclosures.

The deficiencies in the two entrance enclosures to the EDG FOT rooms were sealed and repaired. Based on site characteristics, concrete jersey barriers were also placed in front of the South enclosure to impair wave impact. This work was completed by July 29, 2011. The repairs returned the enclosures to their original design and the concrete barrier improved wave impact margin.

### *Programmatic / Organizational*

BSEP has taken several actions to ensure that site personnel understand their responsibilities and management expectations associated with the impact of external events on plant structures. These actions include:

- The lessons learned from CR 490292 were reviewed with the BSEP Engineering leadership team and engineering personnel. Emphasis was placed on the need for prompt performance deficiency correction and the use of design team approach for developing solutions to design issues. This action was completed by March 23, 2012.
- Signs were placed at strategic locations (i.e., throughout the power block) on safety-related structures denoting flood water level, highest wave, and wave runup elevation. These locations were specifically selected to increase awareness and support future inspections. This action was completed by February 29, 2012.

### 3. Corrective Steps That Will Be Taken

Below are the significant corrective actions that will be taken. This list is not all-inclusive of the corrective actions identified in the RCE for CR 490292.

### *Plant Structures*

- Walkdowns were performed to identify external flood protection vulnerabilities in other safety-related structures. These walkdowns were completed by October 12, 2011. Repairs required as a result of the walkdowns were determined and prioritized. The repairs have been scheduled in accordance with the prioritization developed.
- A design change modification will be made to the enclosures to enhance their ruggedness. This modification will replace the corrugated sheet metal with steel plates and a more reinforced structure resistant to in-leakage. This action is scheduled to be complete by June 1, 2012.

- Grade level electrical manhole covers, for manholes containing cabling associated with safety-related components, will be sealed to make them leak-tight. This action is scheduled to be complete by June 1, 2012.
- Walkdowns were performed to identify other external event vulnerabilities (i.e., wind, missile, and seismic) in safety-related structures. These walkdowns were completed by February 15, 2012. The items identified by the walkdown for other external events will be dispositioned, and plant documents will be updated based on those dispositions. This action is scheduled to be complete by August 2, 2012.
- The rattle spaces (i.e., seismic isolation spaces), with entrances located at grade elevation, between the Reactor Buildings and adjacent structures will be modified to install flood barriers. This action is scheduled to be complete by June 1, 2012.

*Programmatic / Organizational*

- Training will be provided that raises the station awareness to the safety significance of flood protection design features. This action is scheduled to be complete by June 30, 2012.
- A review for potential impacts of wind from hurricanes, tornados, and seismic events will be conducted of other programs that have high relative safety significance. This action is scheduled to be complete by August 15, 2012.
- A site-specific procedure or a preventive maintenance route will be developed to implement a more formalized inspection process related to flooding, wind, and seismic events. This action is scheduled to be complete by October 30, 2012.
- An engineering program will be developed to mitigate consequences of external events (i.e., flooding, high winds, seismic). This action is scheduled to be complete by December 15, 2012.

4. Date Full Compliance Will Be Achieved

The two enclosures to the EDG FOT rooms are in full compliance with BSEPs current design bases. This was achieved when the repairs were made by July 29, 2011, sealing the holes and gaps in the enclosures.