



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 19, 2015

Mr. William R. Gideon  
Brunswick Steam Electric Plant  
Site Vice President  
Brunswick Steam Electric Plant  
8470 River Rd. SE (M/C BNP001)  
Southport, NC 28461

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 – STAFF REVIEW  
OF INTERIM EVALUATION ASSOCIATED WITH REEVALUATED SEISMIC  
HAZARD IMPLEMENTATING NEAR-TERM TASK FORCE  
RECOMMENDATION 2.1 (TAC NOS. MF5228 AND MF5229)

Dear Mr. Gideon:

By letter dated March 12, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340), the U.S. Nuclear Regulatory Commission (NRC) issued a request for information pursuant to Title 10 of the *Code of Federal Regulations* Part 50, Section 50.54(f) (hereafter referred to as the 50.54(f) letter). The request was issued as part of implementing lessons-learned from the accident at the Fukushima Dai-ichi nuclear power plant. Enclosure 1 to the 50.54(f) letter requested that licensees reevaluate seismic hazards at their sites using present-day methodologies and guidance. Enclosure 1, Item 6, of the 50.54(f) letter requested that licensees identify “interim evaluation and actions taken or planned to address the higher seismic hazard relative to the design basis as appropriate, prior to completion of the [seismic] risk evaluation.” In addition to the interim evaluation provided in the March 2014 Seismic Screening and Hazard report, the licensees for the Central and Eastern United States committed to providing the Expedited Seismic Evaluation Process (ESEP) report, an interim evaluation, by December 31, 2014.

By letter dated December 18, 2014<sup>1</sup>, Duke Energy Progress, Inc. (Duke, the licensee), provided its ESEP report in response to Enclosure 1, Item (6) of the 50.54(f) letter, for Brunswick Steam Electric Plant, Units 1 and 2 (Brunswick). The NRC staff assessed the licensee’s implementation of the ESEP guidance through the completion of a reviewer checklist<sup>2</sup>. In support of NRC staff questions, Duke provided a response through an electronic reading room, clarifying submittal information. The NRC staff reviewed the response via the audit process and documented the results in an audit report<sup>3</sup>. Based on the NRC staff review of the ESEP report and responses to the staff’s questions, the NRC staff concludes that the licensee’s implementation of the interim evaluation meets the intent of the guidance.

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<sup>1</sup> The December 18, 2014, letter can be found under ADAMS Accession No. ML15005A074.


<sup>2</sup> The Brunswick ESEP NRC review checklist can be found under ADAMS Accession No. ML15301A909.

<sup>3</sup> The audit report of the Duke response to NRC staff questions can be found under ADAMS Accession No. ML15279A450.

The NRC staff concludes that, through the implementation of the ESEP guidance, the licensee identified and evaluated the seismic capacity of certain key installed mitigating strategies equipment that is used for core cooling and containment functions to cope with scenarios that involve a loss of all alternating current power and loss of access to the ultimate heat sink to withstand a seismic event two times the safe shutdown earthquake for Brunswick. The licensee's ESEP assessment provides additional assurance, which supports continued plant safety while the longer-term seismic evaluation is completed to support regulatory decision making. The NRC staff concludes that the licensee responded appropriately to Enclosure 1, Item (6) of the 50.54(f) letter. Application of this review is limited to the interim evaluation as part of the Recommendation 2.1 Seismic review.

If you have any questions, please contact me at (301) 415-1115 or via e-mail at [Nicholas.DiFrancesco@nrc.gov](mailto:Nicholas.DiFrancesco@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'N. DiFrancesco', written in a cursive style.

Nicholas DiFrancesco, Senior Project Manager  
Hazards Management Branch  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

Docket Nos. 50-325 and 50-324

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The NRC staff concludes that, through the implementation of the ESEP guidance, the licensee identified and evaluated the seismic capacity of certain key installed mitigating strategies equipment that is used for core cooling and containment functions to cope with scenarios that involve a loss of all alternating current power and loss of access to the ultimate heat sink to withstand a seismic event two times the safe shutdown earthquake for Brunswick. The licensee's ESEP assessment provides additional assurance, which supports continued plant safety while the longer-term seismic evaluation is completed to support regulatory decision making. The NRC staff concludes that the licensee responded appropriately to Enclosure 1, Item (6) of the 50.54(f) letter. Application of this review is limited to the interim evaluation as part of the Recommendation 2.1 Seismic review.

If you have any questions, please contact me at (301) 415-1115 or via e-mail at Nicholas.DiFrancesco@nrc.gov.

Sincerely,

/RA

Nicholas DiFrancesco, Senior Project Manager  
Hazards Management Branch  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

Docket Nos. 50-325 and 50-324

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