



## **NUCLEAR REGULATORY COMMISSION**

**[Docket Nos. 50-269, 50-270, and 50-28; NRC-2012-0088]**

**Duke Energy Carolinas, LLC**

**Environmental Assessment and Finding of**

**No Significant Impact,**

**Oconee Nuclear Station, Units 1, 2, and 3**

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an exemption to Renewed Facility Operating Licenses DPR-38, DPR-47, and DPR-55, issued to Duke Energy Carolinas, LLC (the licensee), for operation of the Oconee Nuclear Station, Units 1, 2, and 3, located in Oconee County in South Carolina, in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.12. Therefore, as required by 10 CFR 51.21, the NRC performed an environmental assessment. Based on the results of the environmental assessment, the NRC is issuing a finding of no significant impact.

### **ENVIRONMENTAL ASSESSMENT**

#### **Identification of the Proposed Action:**

Part 50, Appendix G requires that fracture toughness requirements for ferritic materials of pressure-retaining components of the reactor coolant pressure boundary of light-water nuclear power reactors provide adequate margins of safety during any condition of normal operation, including anticipated operational occurrences and system hydrostatic tests, to which the pressure boundary may be subjected over its service lifetime, 10 CFR 50.61 provides fracture toughness requirements for protection against pressurized thermal shock (PTS) events.

The proposed action would grant an exemption from certain requirements of 10 CFR 50.61, "Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock

Events,” and 10 CFR Part 50 Appendix G, “Fracture Toughness Requirements.” The exemption would allow use of alternate initial reference nil ductility temperature ( $RT_{NDT}$ ) as described in the NRC approved topical reports, BAW-2308, Revisions 1-A and 2-A, for determining the adjusted  $RT_{NDT}$  of Linde 80 weld materials present in the beltline region of the Oconee Nuclear Station, (ONS) Units 1, 2, and 3 reactor pressure vessels.

The proposed action is in accordance with the licensee’s application dated August 3, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11223A010).

The Need for the Proposed Action:

The proposed action is needed to allow the licensee to use alternate initial  $RT_{NDT}$  (reference nil ductility temperature), as described in the NRC-approved topical reports (TRs), BAW-2308, “Initial  $RT_{NDT}$  of Linde 80 Weld Materials,” Revisions 1-A and 2-A, for determining the adjusted  $RT_{NDT}$  of Linde 80 weld materials present in the beltline region of the ONS, Units 1, 2, and 3 reactor vessels (RVs)

Environmental Impacts of the Proposed Action:

The NRC has completed its environmental assessment of an exemption. The staff has concluded that the proposed action to allow the use of alternate initial reference nil ductility temperature ( $RT_{NDT}$ ) as described in the NRC approved topical reports BAW-2308, Revisions 1-A and 2-A for determining the adjusted  $RT_{NDT}$  of Linde 80 weld materials present in the beltline region of the ONS, Units 1, 2, and 3 reactor pressure vessels, would not significantly affect plant safety and would not have a significant adverse effect on the probability of an accident occurring.

The proposed action would not result in an increased radiological hazard beyond those previously analyzed in the updated final safety analysis report for ONS, Units 1, 2, and 3. There will be no change to radioactive effluents that effect radiation exposures to plant workers and

members of the public. No changes will be made to plant buildings or the site property. The proposed action does not involve a change to plant building or land areas on the ONS site. Therefore, no changes or different types of radiological impacts are expected as a result of the proposed exemption.

The proposed action does not result in changes to land use or water use, or result in changes to the quality or quantity of non-radiological effluents. No changes to the National Pollution Discharge Elimination System permit are needed. No effects on the aquatic or terrestrial habitat in the vicinity of the plant, or to threatened, endangered, or protected species under the Endangered Species Act, or impacts to essential fish habitat covered by the Magnuson-Stevens Act are expected. There are no impacts to the air or ambient air quality. There are no impacts to historical and cultural resources. There would be no noticeable effect on socioeconomic conditions in the region. Therefore, no changes to or different types of non-radiological environmental impacts are expected as a result of the proposed action. Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

The details of the staff's safety evaluation will be provided as part of the letter to the licensee approving issuance of the license amendment.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the "no-action" alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

The action does not involve the use of any different resources than those previously considered in the Final Environmental Statement for the ONS, Units 1, 2, and 3, dated March 1972, and Final Supplemental Environmental Impact Statement (NUREG-1437, Supplement 2) dated December 1999 (ADAMS Accession No. ML003770518).

Agencies and Persons Consulted:

In accordance with its stated policy, on February 27, 2012, the staff consulted with the South Carolina State official, Mr. Mark Yeager of the South Carolina Department of Health and Environmental Control, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated August 3, 2011. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Room O1-F21, 11555 Rockville Pike (first floor), Rockville, Maryland 20852. Publicly available documents created or received at the NRC are accessible electronically through the Agencywide Documents Access and Management System (ADAMS) in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC's PDR reference staff by telephone at 1-800-397-4209 or 301-415-4737, or send an e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov).

Dated at Rockville, Maryland, this 30<sup>th</sup> day of March 2012.

FOR THE NUCLEAR REGULATORY COMMISSION

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[FR Doc. 2012-8547 Filed 04/09/2012 at 8:45 am; Publication Date: 04/10/2012]