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Docket Nos.: 50-424  
50-425

NL-15-0723

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

Vogtle Electric Generating Plant, Units 1 & 2  
Reply to a Notice of Violation; EA-14-158  
Inspection Report NOS. 05000424/2014-009 and 05000425/2014-009

**References:**

1. NRC letter to Southern Nuclear Operating Company, "Vogtle Electric Generating Plant, NRC Inspection Report Number 05000424/2014009 and 05000425/2014009, Preliminary Greater than Green Finding and Related Apparent Violation", dated January 22, 2015.
2. SNC letter to NRC, Vogtle Electric Generating Plant, Response to Preliminary White Finding from Inspection Report 05000424/2014-009 and 05000425/2014-009, dated January 30, 2015.
3. SNC letter to NRC, Vogtle Electric Generating Plant, Response to Preliminary White Finding from Inspection Report 05000424/2014-009 and 05000425/2014-009, dated February 19, 2015.
4. NRC letter to SNC, Vogtle Electric Generating Plant – Final Significance Determination of White Finding, Notice of Violation and Assessment Followup Letter (Inspection Report NOS. 05000424/2014-009 and 05000425/2014-009), dated March 30, 2015.

**Ladies and Gentlemen:**

By letter dated March 30, 2015, the Nuclear Regulatory Commission (NRC) staff notified Southern Nuclear Operating Company (SNC) of the final significance determination of the preliminary White finding discussed in NRC inspection Report 05000424, 425/2014-009 and a Notice of Violation associated with a White significance determination process (SDP) finding. The violation involved a Type B quantity of radioactive waste being shipped in a Type A cask by SNC to the Energy Solutions radioactive waste processing facility located in Barnwell, South Carolina. SNC agrees with the NRC staff on the facts regarding the finding and, pursuant to the provisions of 10 CFR 2.201, submits the required response to the violation as an Enclosure to this letter.

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SNC does not appeal the NRC staff's significance determination for the identified White finding. SNC also understands that the NRC plans to conduct a supplemental inspection in accordance with Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area". SNC will provide notification of our readiness.

This letter contains no NRC commitments. If you have any questions, please contact George Gunn at (706) 826-3596.

Respectfully submitted,



B. Keith Taber  
Vice President  
Vogtle 1 & 2

BKT/jkb/lac

Enclosure: Reply to a Notice of Violation; EA-14-158

cc: Southern Nuclear Operating Company  
Mr. S. E. Kuczynski, Chairman, President & CEO  
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer  
Mr. D. R. Madison, Vice President – Fleet Operations  
Mr. M. D. Meier, Vice President – Regulatory Affairs  
Mr. B. J. Adams, Vice President – Engineering  
Mr. G.W. Gunn, Regulatory Affairs Manager – Vogtle 1 & 2  
RType: CVC7000

U. S. Nuclear Regulatory Commission  
Mr. V. M. McCree, Regional Administrator  
Mr. R. E. Martin, NRR Senior Project Manager – Vogtle 1 & 2  
Mr. L. M. Cain, Senior Resident Inspector – Vogtle 1 & 2

**Vogtle Electric Generating Plant, Units 1 & 2**

**Enclosure**

**Reply to a Notice of Violation; EA-15-158**

**Inspection Report NOS. 05000424/2014-009 and 05000425/2014-009**

Restatement of Violation 050000424/2014-009 and 05000425/2014-009

During an NRC inspection completed on December 12, 2014, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below.

Vogtle Electric Generating Plant TS 5.4.1, Procedures, requires written procedures as recommended by Regulatory Guide 1.33.

Regulatory Guide 1.33, Appendix A, Section 7, recommends in part, procedures for control of radioactive material to minimize potential releases of materials to the environment, and personnel exposure from spent resin and filter sludge handling.

Procedure 46111-C, "Storage of Radwaste in Outdoor Process Shields," requires the licensee to maintain records of resin in high integrity containers (HIC) being stored on the storage pad, including specific information describing the contents of each HIC and the process shield number.

10 CFR 71.14 states in part, a licensee is exempt from the Type B packaging requirements, provided that the package contains Low Specific Activity (LSA), and that the external radiation dose rate is less than or equal to 10 mSv/h (1 rem/h), at a distance of 3 meters from the unshielded material.

Contrary to the above, from June 19, 2012, to June 24, 2014, the licensee failed to maintain records of resin in HICs being stored on the storage pad, including specific information describing the contents and process shield number. Specifically, information regarding the location and contents of the HICs was not updated when the contents of process shield #10 were changed. As a result, on June 24, 2014, the licensee used a Type A container to ship radioactive waste that exceeded a Type A quantity. Additionally, the HIC from process shield #10 had an external radiation dose rate that exceeded 10 mSv/h (1 rem/h) at 3 meters from the unshielded material, and therefore did not meet the requirements to be exempted from Type B packaging.

This violation is associated with a White significance determination process (SDP) finding.

Southern Nuclear Operating Company (SNC) does not contest the violation.

1. Reason for the Violation

On June 24, 2014, a Type A shipping cask containing a Type B quantity of radioactive waste was shipped by Southern Nuclear Operating Company (SNC) from the Vogtle Electric Generating Plant (VEGP), Units 1 and 2, to the Energy Solutions radioactive waste processing facility located in Barnwell, South Carolina. The serial number of the High Integrity Container (HIC) containing the spent resin was not verified when it was removed from its storage process shield and placed into the shipping cask, with the result that in this singular case, a HIC with a Type B quantity of spent resin requiring a Type B shipping cask was transported in a Type A shipping cask.

On June 11, 2014, a High Integrity Container (HIC) was prepared for shipment with what was expected to be a Type A quantity of radioactive waste from VEGP to Energy Solutions, a radioactive waste processor located in Barnwell, South Carolina. The HIC intended for shipment was S/N #003698-19, which was assumed by Radiation Protection (RP) staff to be in Process Shield #10 based on data sheets showing HIC locations. However, in the course of a program of resampling HICs for possible waste reclassification, some HICs had been relocated to different process shields without completion of new data sheets. As a result, records of resin in HICs being stored on the storage pad were not properly maintained. In preparation for shipment, Process Shield #10 was opened, the top of the HIC was surveyed, and then the HIC was removed from the process shield and placed into a Type A shipping cask, without verifying the HIC serial number.

On June 23, 2014, the loaded DOT 7A Type A shipping cask was surveyed. External dose rates on the Type A cask met all transportation requirements of 49 CFR 173.441 and the shipping documentation was prepared. On June 24, 2014, the cask was transported to the Energy Solutions Barnwell Processing Facility. On June 25, 2014, Energy Solutions informed SNC that the HIC they had received was not S/N #003698-19 as indicated on the shipping manifest, but was actually S/N #605163-02. On June 26, 2014, SNC personnel traveled to Energy Solutions in Barnwell and confirmed that an incorrect HIC had been shipped.

Upon investigation by SNC, it was found that HIC S/N #605163-02 contained a Type B quantity of radioactive waste (spent resin) which required shipment in a Type B cask. Upon survey of the HIC at the Barnwell facility, it was determined by Energy Solutions and SNC personnel to have an unshielded 3 meter dose rate of 1.3 Rem/hour, measured from the bottom of the HIC. This dose rate exceeded the limits described in 49 CFR 173.427(a)(1) for a radioactive material package to be shipped as Radioactive Material LSA/SCO. The unshielded dose rate also exceeded the criterion for exemption in 10 CFR 71.14(b)(3)(i). Therefore, a shipping cask certified by the NRC (Type B shipping cask) should have been utilized for transportation of the HIC.

2. Corrective Steps Taken and Results Achieved

Radioactive waste shipping activities across the SNC fleet were suspended pending review of this event and implementation of fleet-wide corrective actions. A detailed review of radioactive waste shipping procedures was performed with radioactive waste shipping personnel across the fleet to ensure alignment and weaknesses were addressed at all sites. SNC has completed an Apparent Cause Determination and is performing a Root Cause Determination. The following immediate corrective actions have been completed:

- Oral boards were conducted with radioactive waste shipping personnel to assess and coach standards and behaviors. Emphasis was placed on human performance tool usage. Training emphasized that signature on the shipping manifest certifies that the material has been properly classified, packaged and labeled and is in proper condition for transportation according to applicable regulation.
- Oral boards were also performed with RP supervisory personnel to ensure oversight roles are clearly understood, and supervisory oversight is required on all high risk radiological activities.
- A peer review for the next waste shipment was conducted by Plant Farley and Corporate qualified RP Waste Shippers. The peer review entailed having additional oversight at Plant Vogtle to ensure the shipment was packaged and surveyed appropriately and independently verified to be correct.
- Radioactive waste/material shipment procedures were revised to require visual verification of the HIC serial number, with a verification step added to the cask and HIC inspection checklist. Procedure revisions also enhanced the inventory control of liners.
- A fleet Focused Area Self-Assessment (FASA) of RP Radwaste was performed and determined the corrective action measures to be effective. The FASA team was composed of Southern Nuclear Corporate and Plant Vogtle station RP personnel and also included industry peers.
- The ALARA Briefing record for the HIC loading Radiation Work Permit was revised to require verification of the liner serial number, verification of the correct process shield location, and designation of individuals by name to perform the verification tasks. Approval by the Fleet RP Manager and Site Plant Manager was required prior to resumption of radioactive waste shipping. Radioactive waste shipping for VEGP was resumed on September 5, 2014.
- An Apparent Cause Determination has been completed.

3. Corrective Steps to be Taken to Avoid Further Violations

The causal determination has been escalated and a Root Cause determination is currently in progress. Additional corrective actions may emerge from the Root Cause investigation.

4. Date When Full Compliance Will Be Achieved

SNC is in full compliance. The subject HIC was placed into a Type B cask and shipped to the Energy Solutions facility in Erwin, Tennessee for processing and subsequent disposal. Based on corrective actions and reviews completed, SNC has determined that radwaste shipments are being adequately performed and accurately documented.