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Docket Nos.: 50-424
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NL-14-1308

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Director, Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety and Safeguards
Washington, D. C. 20555-0001

Vogtle Electric Generating Plant, Units 1 & 2
10 CFR 71.95(b) Report of Radwaste Shipping Error

Ladies and Gentlemen:

Pursuant to the reporting requirement of 10 CFR 71.95(b), Southern Nuclear Operating Company (SNC) submits the enclosed report describing a June 25, 2014 incident at Vogtle Electric Generating Plant (VEGP) in which a High Integrity Container (HIC) containing a Type B quantity of radioactive waste was erroneously loaded into a Type A shipping cask and transported to a waste processor.

This letter contains no NRC commitments. If you have any questions, please contact Jim Dixon at (205) 992-5290

Respectfully submitted,

A handwritten signature in black ink that reads "C. R. Pierce". The signature is written in a cursive, flowing style.

C. R. Pierce
Regulatory Affairs Director

CRP/DWD/lac

Enclosure:
10 CFR 71.95(b) Report of Radwaste Shipping Error

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. T. E. Tynan, Vice President – Fleet Operations
Mr. B. L. Ivey, Vice President – Regulatory Affairs
Mr. D. R. Madison, Vice President – Vogtle 1 & 2
Mr. B. J. Adams, Vice President – Engineering
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

Energy Solutions, LLC
Mr. Jimmy Still, Licensing Manager

**Enclosure
to NL-14-1308**

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Abstract

On June 24, 2014, a Type A shipping cask containing Class B radioactive waste (spent resin) 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 a HIC with a Type B quantity of resin was mistakenly transported in a Type A shipping cask.

Description of Event and Investigation Results

On June 11, 2014, preparations began to ship a HIC with Class A 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 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. 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 adequate confirmation and independent verification of the 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 49CFR 173.441 and the shipping documentation was prepared. On June 24, 2014, the cask was transported to 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 Waste Class B radioactive waste (spent resin). 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/hr, 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 in either a IP-2, a DOT 7A Type A package or a General Design Container. This also exceeds the criterion for exemption provided by 10 CFR 71.14(b)(3)(i). Therefore, a shipping cask certified by the NRC (Type B Shipping cask) was required for transportation.

Since a Type B cask was not used, the certificate of compliance conditions which should have applied were not followed during the shipment and hence this report is made per 10 CFR 71.95(b). Also, contrary to 10 CFR 71.5(a), the hazardous material transported was not correctly described in accordance with 49 CFR 172 and 173.

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After discovery of the shipping error, SNC provided a corrected manifest to Energy Solutions and determined that 10 CFR 37 requirements applied. With regard to the requirements of 10 CFR 37, the following actions were not done:

- A “no later than” arrival time and expected arrival time were not established per 10 CFR 37.75(b) and provided to the transport company and receiving licensee.
- The transport company was not made aware that 10 CFR 37 controls applied to the shipment. However, the transport company used does comply with 10 CFR 37 transportation controls, the driver involved was trained, and tracking of the shipment was constant.

Safety Consequences

As stated above, while the cask loading error resulted in a Type B quantity of radioactive material being transported in the incorrect package type, exterior dose rates to the public during transportation were fully in compliance with the dose rate limits in 49 CFR 173.441. Therefore, this incident had no actual safety consequences to the public or to the consignee.

Corrective Actions

All radwaste shipping activities across the SNC fleet were suspended pending review of this incident and implementation of fleet-wide corrective actions. A detailed review of radwaste shipping procedures was held with radwaste shipping personnel across the fleet to ensure alignment and weaknesses were addressed at all sites.

Completed corrective actions include:

- Conduct of oral boards with radwaste shipping personnel to assess and coach standards and behaviors. 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 regulations
- Oral boards were also performed with Health Physics supervisory personnel to ensure oversight roles are clearly understood, and a manager in the field is now required to perform observations on all high risk radiological activities.
- The radioactive waste/material shipment procedure was revised to require visual verification of the HIC serial number, with a verification step added to the cask and HIC inspection checklist.
- 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 Radiation Protection Manager and Site Plant Manager was required prior to resumption of radwaste shipping.

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Remaining corrective action:

- Conduct a peer review of the next waste shipment from VEGP by qualified radwaste shipping personnel from elsewhere in the SNC fleet. Estimated completion date – 9/16/14

Similar Events

A search of related industry findings / violations revealed one recent similar event, which was detailed in NRC inspection report 2013-05, dated February 6, 2014, for the Callaway Nuclear Generating Station. In that case, a violation of 10 CFR 71.5(a) was determined to have occurred when on August 10, 2011 the licensee shipped a sea/land container with dry active waste labeled as Low Specific Activity (LSA)-II material (as defined by 49 CFR 173.403) to a waste processor. On June 12, 2012, the waste processor notified the licensee that shipment contents included a drum containing mechanical filter pieces which were determined to be greater than Class C waste. Therefore, contrary to 10 CFR 71.5(a), the hazardous material had not been correctly described in accordance with 49 CFR 172 and 173.