

**REQUEST FOR ADDITIONAL INFORMATION
WESTINGHOUSE ELECTRIC COMPANY
COLUMBIA FUEL FABRICATION FACILITY
SNM-1107 LICENSE RENEWAL APPLICATION**

Environmental Protection

The purpose of the following requests for additional information (RAI) is to provide needed information and data that are necessary for the U.S. Nuclear Regulatory Commission (NRC) to fulfill the requirements of the National Environmental Policy Act of 1969 implementing regulations of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51. Additionally, the RAI also identifies information necessary to complete the environmental safety review under 10 CFR Part 70.

RAI 1

In the October 9, 2017 submittal of revised Chapter 10 of the License Renewal Application, Westinghouse stated that an action plan will be developed for wells exceeding an annual average of 300 pCi/L uranium (Agencywide Documents Access and Management System [ADAMS] Accession Number ML17282A012). Clarify what information will be included in the action plan and how it will be documented in Westinghouse's Corrective Action Program.

Regulatory Basis: The regulations in 10 CFR Paragraph 70.22(a)(8) requires proposed procedures to protect health and minimize danger to life or property (such as procedures to avoid accidental criticality, procedures for personnel monitoring and waste disposal, post-criticality accident emergency procedures).

RAI 2

In response to RAI 72 of the June 23, 2016 RAIs, Westinghouse stated, "There are no estimates of releases, as there are no additional identified point sources other than the wastewater treatment lagoons, which have been previously identified and mitigated by the installation of new lagoon liners." (ADAMS ML16246A300). Additionally, the Environmental Report (ER) on page 2-16 states that "All process waste storage lagoons are lined with 36-mil Hypalon liners." The ER also states that only four lagoons have been relined (North, South, West-I and West-II). The 2013 AECOM Remedial Investigation report (ADAMS ML16166A141), on page 1-9, states that the new liners consist of 80-mil high density polyethylene at the four lagoons.

- a. Clarify the lining material for all five process lagoons, including the East lagoon.
- b. Explain why the liner in the East lagoon has not been re-lined and how Westinghouse is assured that the East lagoon is not a continued source of gross alpha contamination, or potentially other contaminants.

Regulatory Basis: The regulations in 10 CFR Part 70 requires an applicant to demonstrate that proposed facilities and equipment, including measuring and monitoring instruments and devices for the disposal of radioactive effluents and wastes, are adequate to protect the environment and public health and safety, as specified in 10 CFR 70.22(a)(7). Additionally, NUREG-1520 Section 9.4.3.2.2 states that the applicant's effluent monitoring is considered acceptable by the NRC staff if the systems for detecting leakage from ponds, lagoons, and tanks are adequate to detect and ensure against unplanned releases to ground water, surface water, or soil.

RAI 3

In RAI 72, NRC asked Westinghouse to “Provide an estimate of the amount of gross alpha contamination that has been released to the environment.” (ADAMS ML16141A738). Westinghouse’s response stated, “There are no estimates of releases, as there are no additional identified point sources other than the wastewater treatment lagoons, which have been previously identified and mitigated by the installation of new lagoon liners.” (ADAMS ML16246A300). However, the 2015 Decommissioning Funding Plan (DFP), stated Westinghouse discovered a leak in a buried piping system under the Uranium Recycling and Recovery Services (URRS) area. Westinghouse discovered another pipe breach in the piping system after further investigation. Westinghouse performed core borings in four locations and collected soil, sludge, and water samples. The samples showed elevated levels of uranium (U)-234, U-235, and U-238.

Provide the following information regarding this incident in the URRS area and for any other leaks/spills identified since 2008:

- 1) Amount of gross alpha and uranium contamination released to the environment as a result of the pipe leaks within the URRS area.
- 2) Information on the migration of the released material through the environment and potential pathways for exposure to a worker or member of public.
- 3) Chemical form, concentration, isotopic content, and volume of the uranium released.
- 4) The DFP stated the appropriate long term action was to install a new above-ground piping system. The DFP also stated the soil will be removed. Explain the corrective actions taken in response to the identified leak. Provide the status of those efforts.
- 5) Explain how Westinghouse is preventing or mitigating future leaks from the new above ground piping system.
- 6) Explain to what extent this incident was communicated to South Carolina Department of Health and Environmental Control (SCDHEC) and what was SCDHEC’s response.
- 7) Explain the expected migration pathway for the uranium, both vertically and horizontally, in the soil and ground water. Provide a figure showing the exact location of the pipe leak and breach with respect to the building. The figure should also include the groundwater table and topographical contours. Subsurface storm flow in the vadose zone or ground water may spread the uranium away from the building in different directions, depending on the proximity of the leak/breach to an exterior wall and subsurface flow direction.
- 8) Explain if there is a uranium plume in the water-table aquifer. If so, how is it being monitored?
- 9) Explain how this spill was considered in the 2013 Remedial Investigation or the 2014 Baseline Risk Assessment prepared by AECOM. If it was not considered, provide a justification.
- 10) Explain how this leak of uranium in the soil factored into the plume analysis Westinghouse conducted. If it was not considered, justify why the plume analysis would not change if the pipe leak is factored in.
- 11) If available, provide the natural background for uranium in the area prior to the release.

Regulatory Basis: The regulations in 10 CFR Part 70 requires an applicant to demonstrate that proposed facilities and equipment, including measuring and monitoring instruments and devices for the disposal of radioactive effluents and wastes, are adequate to protect the environment and public health and safety, as specified in 10 CFR 70.22(a)(7). The requirements of 10 CFR 51.45(b) require the ER to contain a description of the environment affected by the proposed action as well as the impacts of the proposed action on the environment.

RAI 4

Westinghouse has signed a Voluntary Cleanup Contract (VCC) with the SCDHEC. Provide a status of efforts undertaken as part of the VCC. Westinghouse has also applied to SCDHEC to renew its National Pollutant Discharge Elimination System (NPDES) permit. Provide a status of the NPDES renewal and explain any differences in the new permit.

Regulatory Basis: 10 CFR 51.45(d) requires that the ER contain the status of compliance with applicable environmental quality standards and requirements.