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Comment (6)  
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**Docket:** NRC-2015-0039  
Westinghouse Electric Company, LLC; Columbia Fuel Fabrication Facility

**Comment On:** NRC-2015-0039-0088  
Westinghouse Electric Company, LLC, Columbia Fuel Fabrication Facility

**Document:** NRC-2015-0039-DRAFT-0092  
Comment on FR Doc # 2021-21053

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## Submitter Information

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## General Comment

See attached file

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## Attachments

NRC Hopkins South Carolina Enviornmental Review Inc

November 19, 2021

Office of Administration,  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
ATTN: Program Management, Announcements and Editing Staff.  
[WEC\\_CFFF\\_EIS@nrc.gov](mailto:WEC_CFFF_EIS@nrc.gov)

Re: Proposed license renewal request Westinghouse Electric Company, LLC; Columbia Fuel Fabrication Facility, in Hopkins, South Carolina [Docket ID NRC-2015-0039] and the U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards' draft report *Environmental Impact Statement for the License Renewal of the Columbia Fuel Fuel Fabrication Facility in Richland County, South Carolina* dated July 2021

To Whom It May Concern:

The Environmental Review Workshop has reviewed the proposed license renewal request and supporting documentation prepared by the Nuclear Regulatory Commission (NRC) and has the following comments:

- 1) p. xiv – The NRC writes: “...future inadvertent releases of contaminants to the subsurface are reasonably foreseeable considering the uncertainties about past leaks and the potential for the risk of leaks to increase with the age of plant components.” However, no systematic upgrades to prevent the foreseeable releases are presented as requirements for the license renewal in this document; please add a systematic facility upgrade component as a requirement for the license renewal.
- 2) The period of renewal: forty years is a long term for renewal given the current status of the report. It would be recommended to reduce the renewal period (e.g. 20 years, like the last renewal) for the following reasons:
  - a. Reducing the renewal period will allow for a formal examination for evaluation of environmental impacts on a more timely basis to ensure that the facility operator takes these matters seriously. The facility has a documented history of causing environmental impacts and spills including:
    - Leaks from a buried pipe discovered in 2008 and 2011 released unknown amounts of uranium into the subsurface
    - In 2012, level readings of the South Lagoon indicated that a leak had developed in the lagoon's liner, which had been recently replaced.
    - In 2014, there was a leak from a tank transfer line from the Cylinder Recertification Tank (T1405) to the Waterglass Processing Tank (T-1160A).
    - In 2015, a historic flooding event occurred in the area. As a result, two process lagoons were overfilled beyond containment. The West II Lagoon depth was approximately 38 cm (15 in.) beyond the liner onto the surrounding ground and remained within the berm.
    - In 2016, a large mass of material inside the scrubber inlet transitioned. It was uranium that the mass for it exceeded the limit

- In 2018, the discovery of contamination within the sub-slab soils beneath Hydrofluoric Spiking Station (HFSS) #2. uranium was detected at levels exceeding the remedial action levels.
  - In 2019, during a routine inspection of storage containers holding drums of uranium-bearing materials, it was discovered that the structural integrity of the storage containers was compromised.
- b. All analysis models are run for forty years, however since the the current license doesn't expire until 2027, clarification should be provided as to when the start and stop date of the model apply. Alternatively, perhaps modeling for a 50 year time span should be considered..
  - c. The renewal decision relies on contaminant mitigation measures that still need to be implemented. However, since there is no guarantee that those will be effective so contingencies should be developed. Given the deficiencies, a shorter renewal license term (e.g. 10 or 20 years) seems to be more appropriate.
  - d. With the rate of technological developments, esp. over a span 40 years, this report should discuss what improvements to technology are anticipated and how that may affect the industrial processes at the facility (i.e. what are the anticipated technologies that will be phased in and what what is anticipated to be phased out?)
  - e. Based on the report (p. B 6), continued operation of the CFFF for another 40 years increases the amount of time for radioactive and nonradioactive contaminants to build up and/or spread in the environment, which could affect the WEC's plans for site decontamination and decommissioning as well as the amount of funding needed for decommissioning. The recognized environmental conditions at the site should be addressed in a timely manner.
- 3) Many uncertainties are listed in the report which are significant and warrant that further investigations should be conducted. Those uncertainties include:
    - a. The source and extent of contamination onsite and the potential future migration pathways offsite (pp. 1-3)
    - b. The data gaps and uncertainties identified in the assessments of the CFFF site (pp.1-10)
    - c. The outcome of the ongoing remedial investigations per the Consent Agreement (CA) process is unknown. (pp. 2-25)
    - d. The degree of interchange between site surface water bodies and groundwater (pp.3-27)
    - e. The actual extent of volatile organic compounds (VOCs) contamination due to the relative sparsity of wells in the floodplain sediments. (pp.3-44)
    - f. Uranium concentrations may increase in the future because there could be uranium in the unsaturated sediments above the surficial aquifer (pp. 3-44)
    - g. Fate and transport of contaminants during the period of the proposed 40 years. (pp.3-45). Regarding this topic, colloidal transport of contaminants should be evaluated. This transport mechanism may be significant due to the high toxicity of the contaminants which may sorb onto small mineral or organic particles (e.g. <2 microns) which may move freely in the aquifer matrix.
  - 4) Based on the report, many of the uncertainties listed above can be addressed by requiring the final Remedial Investigation Report prior to renewal. Given that there are still six years for the current license to expire, it is recommended that the renewal should be postponed to allow time for the investigation's final report so that the renewal decision may be adequately supported.
  - 5) pp. 1-11 line 12-13: The link for the updates are not working. Please fix the link or send us the information. Please extend the comment period an additional 10 days to allow time for review of this information.

- 6) pp 2-20, Figure 2-8: Due to deficiencies in available contaminant distribution data, additional soil and surface water sampling locations should be sited for the smaller streams, in conjunction with the proposed groundwater sampling, to establish if these are pathways into the larger Mill Creek/Sunset Lake water systems. Flow in these streams may be intermittent where surface water sampling would need to be timed with rainfall events, but soil/pore sampling can still be conducted.
- 7) pp. 2-22, lines 13-15: Due to the many uncertainties that the report identified, quarterly monitoring should continue. The basis for a less frequent schedule for semiannual sampling is inadequate. The quarterly schedule will allow for more robust evaluations of contaminant trends and seasonal fluctuations.
- 8) Based on the report, the facility caused contamination of the onsite surface water with radiological and non-radiological constituents (pp 3-22). Uranium isotopes were detected in all of the samples, and residential use screening level (RUSLs) were exceeded (pp 3-24). Recent sediment sampling data provides additional evidence that the CFFF operations have contributed to technetium-99 (Tc-99) contamination in Gator Pond and potentially uranium contamination in 35 Sunset Lake (pp 3-26, 3-33). These conclusions are alarming and should be considered when making the renewal decision. Based on the data, comprehensive biological receptor surveys should be conducted. The renewal of the license should not be granted until such time that the uncertainties are addressed or an adequate plan for addressing them is prepared.
- 9) The decision in choosing between 20 years of renewal and 40 years of renewal appears to be primarily based on the cost benefit analysis (pp. 3-130). Appendix C is only listed, but the details are not shown; provide that.
- 10) The document focuses on fixing damage that already happened or monitoring for these issues. There does not appear to be a clear understanding of why these accidents occurred. A root cause analysis for the releases of contaminants that occurred should be conducted in order to prevent similar accidents from occurring in the future.
- 11) Since global warming is expected to significantly affect the climate over the term of the proposed renewal period, the report should include a section that evaluates how the facility may be affected and what measures, if any, are planned to ensure safe operations..

Please send any response to these comments to [mary.a.plauche@gmail.com](mailto:mary.a.plauche@gmail.com).

Sincerely yours,

Sahar Ghanem, Ph.D.  
Sr. Reviewer (Associate in California)

Mary Plauche, M.S.  
Reviewer (Associate in Georgia)

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**References**

[1] Office of Nuclear Material Safety and Safeguards. "Environmental Impact Statement for the License Renewal of the Columbia Fuel Fabrication Facility in Richland County, South Carolina", Draft Report, July 2021