



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

April 29, 2022

MEMORANDUM TO: Jacob I. Zimmerman, Chief  
Fuel Facility Licensing Branch  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

FROM: Jenny Tobin, Project Manager  
Fuel Facility Licensing Branch  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

A handwritten signature in cursive script that reads "Jenny Tobin".

SUBJECT: SUMMARY OF SITE VISIT TO WESTINGHOUSE COLUMBIA FUEL  
FABRICATION FACILITY IN HOPKINS, SOUTH CAROLINA  
REGARDING THE LICENSE RENEWAL APPLICATION

DATE: March 24, 2022

PLACE: Westinghouse Columbia Fuel Fabrication Facility in Hopkins, South  
Carolina and South Carolina Department of Health and Environmental  
Control in Columbia, South Carolina

PURPOSE:

The purpose of the site visit was for U.S. Nuclear Regulatory Commission (NRC) staff to:  
(1) tour the Westinghouse Electric Company, LLC's (WEC's) Columbia Fuel Fabrication Facility  
(CFFF) and grounds, and (2) discuss the status of the remedial investigations (RIs) and cultural  
resources survey WEC is conducting under a Consent Agreement with the South Carolina  
Department of Health and Environmental Control, in support of the NRC staff's review of WEC's  
license renewal application for Special Nuclear Material License SNM-1107.

ATTENDEES:

NRC:

Shana Helton, Jake Zimmerman, Jenny Tobin

WEC:

Annette Pope, Doug Weaver, Ed Wills, Patrick Donnelly, Nancy Parr, Diana Joyner, Roy Stutts

CONTACT: Jenny Tobin, NMSS/DFM  
301-415-2328

SUMMARY:

On March 24, 2022, WEC provided a tour of the CFFF's site area. The NRC staff walked across the Southern Storage Area to the location of the former East Lagoon, and back along the southern and eastern sides of the Chemical Area, viewing the locations of groundwater sampling wells adjacent to the CFFF's main building. The NRC staff walked the area where the former East Lagoon was located, and observed the North, South, Sanitary, and West (1) Lagoons. WEC described the process used for the East Lagoon closure and the plans for the Sanitary Lagoon closure. The NRC staff also observed the now open field that had once contained Sealand (intermodal) containers of contaminated waste. As part of the series of alternate disposal requests (via 20.2002 exemptions) from WEC to NRC, certain waste was moved offsite which reduces site risks associated with the storage of the waste material.

During a vehicle tour of the site, the NRC staff visited the West Lagoon while WEC described the overtopping of the lagoon berm during the October 2015 precipitation event. The NRC staff observed the site drainage ditches and the location of the C-valve where site drainage enters the ditch draining into upper Sunset Lake. The NRC staff also visited Denley Cemetery, and observed where the fence will be extended 5-10 feet as a result of additional study undertaken under the Consent Agreement with the State. The NRC staff then observed upper Sunset Lake from the entrance dike on Mill Creek. WEC explained that the valve between Mill Creek and upper Sunset Lake was normally closed. The NRC staff also observed upper and lower Sunset Lakes from the causeway/dike between them. A small channel at the southern end of the causeway provides a route for water flow from the upper to lower portion of the lake. WEC pointed out the location of sediment sampling in upper Sunset Lake where elevated uranium concentration has been observed in the sediments. The NRC staff observed the sampling stations used to obtain water samples from Sunset Lake.

The NRC staff also observed Gator Pond. WEC stated that the pond has no prominent overflow discharge (which would indicate that discharge from the pond occurs as groundwater flow). The NRC staff observed lower Sunset Lake from the lower dike (which controls the elevation and outflow from the lake into Mill Creek upstream from the exit dike). Westinghouse staff described how the understanding of the site's hydrology has evolved as a result of the data gathered through the remedial investigations.

The NRC staff then observed the upper end of the canal that diverts flow from the natural channel of Mill Creek and that forms the southern boundary of the CFFF site. A cutoff channel that diverts the majority of Mill Creek flow into the canal was viewed. The NRC staff also observed Mill Creek from the exit dike at the lower end of the canal where Mill Creek discharges from WEC's property and joins the larger discharge from the canal to reform the natural Mill Creek channel/flow. See map in the enclosure.

The NRC staff discussions with WEC covered the data collected by WEC during the RI Phase II field investigations. This data and the updated conceptual site model (CSM) will be included in the final RI report. WEC also described results from the RI Phase II groundwater wells located east of Gator Pond and used to update the CSM description of plume locations and transport of contaminants to the east. This data and updated plume maps will be included in the final RI report.

In addition to the outside environmental tour, WEC provided NRC staff a tour of the manufacturing plant including the chemical side. Staff observed the fabrication of fuel through the stepwise process, and noted the improvements in processing that WEC highlighted.

Beyond the site tours, the NRC staff discussed a number of topics with WEC including: long-term plant reliability and risk reduction (infrastructure improvements), onsite risk reduction efforts (removal of Sealand containers, elimination of perchloroethylene use in processing, and removal of contaminated roof ventilation equipment), and elimination of environmental risks associated with remediation of the East Lagoon and removal of contaminated calcium fluoride (CaF<sub>2</sub>) and legacy UF<sub>6</sub> cylinders from the site (removal facilitated by the use of NRC's Alternative Disposal Request licensing efforts under Title 10 of the *Code of Federal Regulations*, Section 20.2002).

WEC shared enhancements to the corporate oversight and actions taken to ensure the sustainability of improvements throughout the life of the plant. The WEC leadership also emphasized the importance involvement of all staff levels in the initiatives and recognized improvements in safety culture. The status of the Consent Agreement with the State (including the completion of the remedial investigation in July 2022) and the cultural resources survey were also discussed. The two proposed license conditions related to the improvements in the environmental monitoring program remain unchanged and any refinements, if necessary, will be discussed with WEC before NRC renders a final decision. The final cultural resources survey is due for completion the end of April; this is a schedule risk for the publication of the final Environmental Impact Statement. WEC also emphasized the increased stakeholder interactions and community engagement.

Docket No.: 70-1151  
License No.: SNM-1107

Enclosure

J. Zimmerman

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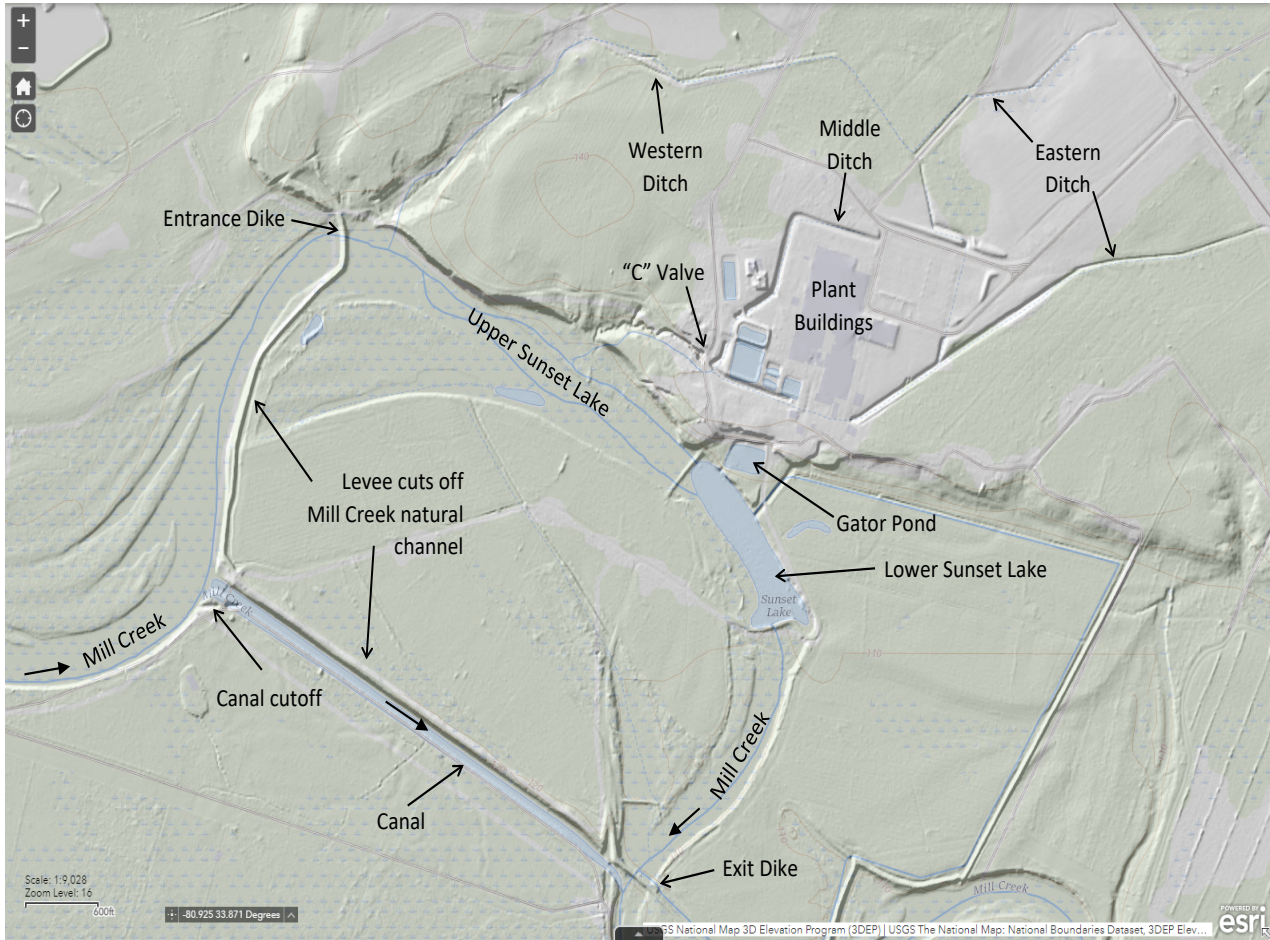
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NAME	JTobin	ELee	JZimmerman
DATE	4/11/2022	04/15/2022	4/27/2022

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Source: USGS National Map basemap with 3D Elevation Program Elevation Hillshade Stretched at 50% transparent. Labels added by NRC staff.