SUNI Review Complete Template=ADM-013 E-RIDS=ADM-03 ADD: Jessie Quintero, Sarah Achten, Diana Toro Diaz, Mary Neely

PUBLIC SUBMISSION

Comment (1) Publication Date: 7/31/2020 CITATION 85 FR 46193 As of: 9/1/20 4:29 PM Received: August 28, 2020 Status: Pending_Post Tracking No. 1k4-9in8-oir0 Comments Due: August 31, 2020 Submission Type: Web

Docket: NRC-2015-0039 Westinghouse Electric Company, LLC; Columbia Fuel Fabrication Facility

Comment On: NRC-2015-0039-0073

Westinghouse Electric Co., LLC; Columbia Fuel Fabrication Facility; Intent to prepare an environmental impact statement and conduct a scoping process

Document: NRC-2015-0039-DRAFT-0071 Comment on FR Doc # 2020-16150

Submitter Information

Name: Lorianne Riggin Submitter's Representative: Lorianne Riggin Organization: SCDNR Government Agency Type: State Government Agency: South Carolina Department of Natural Resources

General Comment

SC Department of Natural Resources Comments Westinghouse Electric Company Columbia Fuel Fabrication Facility Scoping

Attachments

20200828 NRC License Westinghouse Electric Company_SCDNR Comments

South Carolina Department of Natural Resources



1000 Assembly Street Suite 336 PO Box 167 Columbia, SC 29202

August 28, 2020

Office of Administration Mail Stop: TWFN–7–A60M U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001.

electronic submission

RE: Westinghouse Electric Company, LLC; Columbia Fuel Fabrication Facility; Nuclear Regulatory Commission; Docket Number: 70-1151; NRC-2015-0039

To Whom It May Concern,

The South Carolina Department of Natural Resources (SCDNR) is the state agency charged by state law with the management, protection, and enhancement of wildlife, fisheries, and marine resources in South Carolina. SCDNR is responsible for formulating comprehensive policies for water resources through a State Water Plan to address issues affecting water supply, water quality, navigation, hydroelectric power, outdoor recreation, fish and wildlife needs, and other water resource interests. SCDNR is also charged with the statewide responsibilities for regulating watercraft operation and associated recreation on state waters, conducting geological surveys and mapping, promoting soil and water conservation, management of invasive aquatic plants, flood mitigation, drought response planning and coordination, and the state scenic rivers program. SCDNR's mission is to serve as the principal advocate for and steward of South Carolina's natural resources. (SCDNR authorities and responsibilities are described in Titles 48, 49 and 50, South Carolina Code of Laws (1976), as amended).

Due to the SCDNR's responsibilities as a steward for the state's natural resources, we have enclosed comments for the purpose to aid the development of a Draft Environmental Impact Statement to assess the relicensing of this facility.

Thank you for the opportunity to participate in the review of this project and provide comments.

Sincerely,

Joriance Riggin

Lorianne Riggin Office of Environmental Programs Director South Carolina Department of Natural Resources

cc: DHEC

Robert H. Boyles Director Lorianne Riggin Director, Office of Environmental Programs

Westinghouse Electric Company, LLC; Columbia Fuel Fabrication Facility Nuclear Regulatory Commission Scoping Process Public Comment NRC-2015-0039; Docket No. 70-1151

Project Summary

Westinghouse Electric Company, LLC (WEC) requested a license renewal for its Columbia Fuel Fabrication Facility (CFFF) in December 2014 for a period of 40-years to continue fabricating lowenriched uranium fuel assemblies for commercial nuclear power reactors from the U.S. Nuclear Regulatory Commission (NRC). In June 2018, the NRC published a finding of no significant impact (FONSI) concerning the license. However, in July 2018, a leak at the CFFF facility caused uranium to enter the subsurface beneath the building. Additionally, another leak of uranium into the subsurface of the main building occurred in 2011 resulting from a buried pipe. Due to these incidents, the NRC decided to re-open its environmental review, withdrawing the previously published FONSI and reinitiating the National Environmental Policy Act review process. As such, the SCDNR provides the following information to assist in the development of a Draft Environmental Impact Statement (DEIS).

SCDNR Comments

The following comments are in reference to the Draft Environmental Assessment (ML19228A278) published October 2019. The SCDNR finds that providing reference to the Draft EA assists in formulating comments for the Scoping process for the DEIS.

2.4.1.2 Environmental Monitoring Program

- While SCDNR understands that the conceptual site model was developed as a result of the consent agreement with the SC Department of Health and Environmental Control, SCDNR finds that additional information about the conceptual model and its analysis in the DEIS. SCDNR assumes that this model is addressing groundwater contaminant transport and finds that such a model is pertinent to determining the effect and impacts of the WEC CFFF.
- Additionally, please note that

2.4.1.7 Fish

• SCDNR finds the sample size of one fish to be a poor indicator of uranium and Tc-99 levels. Additional information is needed on target species for collection and what tissues are sampled would also be helpful to determine the appropriate nature of the samples.

3.1.2 Site Vicinity

• Please note that the Mill Creek Mitigation Bank (SAC-2014-00222), an approved stream and wetland mitigation bank under the Compensatory Mitigation Framework authorized by the U.S. Army Corps of Engineers, is within 5 miles of the project area located on a 1,769-acre parcel at Latitude 33.823886°N and Longitude -80.884224°W. Please include this property when describing the site vicinity.

3.2.1 Regional Geology

- Please utilize updated information regarding the lithostratigraphy and hydrostratigraphy from the past 20 years. The SCDNR South Carolina Geological Survey has mapped the project area (Ft. Jackson South 7.5-minute Quadrangle) and this information is not referenced within the document. Publications from the SCDNR South Carolina Geological Survey can be found at https://www.dnr.sc.gov/geology/publications.htm.
- Corrections are needed regarding the hydrostratigraphy information provided and this can be updated utilizing Table B1 on page 54 of the following publication:

Campbell, B.G., and Coes, A.L., eds., 2010, Groundwater availability in the Atlantic Coastal Plain of North and South Carolina: U.S. Geological Survey Professional Paper 1773, 241 p., 7 pls.

3.2.2 Site Specific Geology

- Please note the Okefenoke Formation was abandoned in 1938. If there is a Pliocene or Pleistocene marine formation in the area, it is most likely to be the Pliocene Duplin Formation or the Pleistocene Marietta unit. There is a remote chance that there is Wicomico alloformation in the area. Also note, the area around the plant in the Ft. Jackson South quadrangle are river terraces. These may be correlative to marine formations; but they are not marine formations, they are river terraces.
- In describing potentiometric data, please utilize the following more recent publications for the DEIS:
 - Potentiometric Surface Maps of the South Carolina Coastal Plain, November-December 2016
 - http://hydrology.dnr.sc.gov/pdfs/reports/Report_60_Potentiometric_maps_2016.pdf
 - Potentiometric Surface of the Black Creek (Crouch Branch) Aquifer in South Carolina, November 2015
 - <u>http://hydrology.dnr.sc.gov/pdfs/reports/Report_59_Black%20Creek_2015.pdf</u>
 Potentiometric Surface of the Middendorf Aquifer in South Carolina, November 2014
 - http://hydrology.dnr.sc.gov/pdfs/reports/Report_58_Middendorf_2014.pdf
- 3.2.3 Seismology
 - Please include a discussion and assessment of the regional seismic zones, e.g. Charleston Seismic zone or the Eastern Piedmont fault system. The Eastern Piedmont fault system is likely responsible for the M2.4 earthquake in 2007 that occurred less than 2 km from the site¹. Numerous smaller (<M3) seismic events have occurred outside of Columbia within this last year along the same fault system. Additional information on recent earthquakes can be found at: https://www.dnr.sc.gov/geology/RecentEarthquakes.htm. Also note that other fault systems in the region have generated earthquakes >M4 (e.g. 2011 M5.8 Mineral, Virginia and 2020 M5.1 Sparta, North Carolina).

3.4 Groundwater Resources

- The Black Mingo confining unit may not have been adequately mapped. Clay beds separating the shallow aquifer system from the deeper system were encountered in two of the deeper wells and are inferred to constitute a continuous confining unit throughout the site. It is important to know if these clay beds are actually continuous across the site, as they may help prevent contamination from seeping into the deeper aquifer system. In general, more data are needed on this confining unit, including its lateral continuity, depth, thickness, and composition; please update and include in the DEIS.
- It appears that only three monitoring wells at the site have been completed in the deeper aquifer system (referred to as the Black Mingo Aquifer, the Middendorf Aquifer, and the Tuscaloosa Formation). This limited number of sampling locations may not be adequate to ensure that the deeper aquifer has not been contaminated. Additional monitoring wells screened in the deeper aquifer system are recommended.
- More groundwater-level data are needed to quantify the vertical hydraulic gradient between the shallow aquifer system and the deeper aquifer system and to determine the direction of the

¹ U.S. Geological Survey <u>https://earthquake.usgs.gov/earthquakes/eventpage/usp000fcnc/executive</u>

gradient. Ideally, several pairs of monitoring wells should be installed, with one well completed in the shallow aquifer system and the other in the deeper aquifer system.

- It would be helpful to include a sketch of the site's hydrogeology showing the relative positions and thicknesses of the aquifers and confining units referred to in the Draft EA. The report should strive for more consistency when referring to the shallow aquifers: Section 3.2.2 refers to both a "surficial aquifer" and a "floodplain sediment aquifer" being above the Black Mingo confining unit, while Section 3.4 combines those two aquifers into one "shallow aquifer".
- It should be noted in the report that the use of the SCDNR well inventory to identify the locations of nearby domestic wells (Figure 3-7) is likely to significantly under-represent the number of nearby wells. The SCDNR well inventory is not intended to be a complete inventory of all wells, and, in actuality, there are likely many more domestic wells in use within the mapped area than are shown on Figure 3-7.
- If available, maps showing the location and extent of each identified plume should be presented in the DEIS.

3.5.1 Terrestrial Resources

• Please note that the CFFF site is located within the EPA Southeastern Plains Level III ecoregion and the Southeastern Floodplains and Low Terraces Level IV ecoregion. The description of the Southern Mixed Forest is more appropriately referred to as the predominant habitat community type onsite. Additional habitat communities can be described appropriately with the following reference:

Nelson, John B. 1986. The Natural Communities of South Carolina: Initial Classification and Description. SC Wildlife and Marine Resources Department. Columbia, SC.

• According to the SCDNR Heritage Trust Database, a repository for all rare and both federally and state threatened species, there are several species that could potentially inhabit the site. Please see the attached table (Attachment A) of known occurrences of species within five miles of the site.

3.5.2 Aquatic Resources

- The CFFF site is located within the floodplain of the Congaree, not the flood basin. Portions of the property are also in the Federal Emergency Management Agency Special Flood Hazard Area Zone A, indicating that there is a 1% annual chance of flood hazard.
- There is a known element of occurrence from the SCDNR Heritage Trust Database of white catfish on the property and Mill Creek is likely to contain Flat Bullhead, Banded Killifish and Cedar Creek Crayfish. All these species are of moderate conservation priority under the South Carolina State Wildlife Action Plan².

3.6 Protected Species

- The SCDNR tags and tracks Shortnose Sturgeon through continuous telemetry studies using Vemco receivers on the Congaree River. There is a receiver located at 33.49884, -80.56488 near the site where at least 70 unique Shortnose Sturgeon detections have occurred. Shortnose Sturgeon are generally most prevalent in the vicinity of the received beginning in February through April. The estimated timing is based on years the SCDNR has had a receiver in the water for the complete year with no known interruptions to data collection; this includes 2011, 2014, 2016, 2017 and 2018. Additionally, nine telemetered Robust Redhorse have also been detected at the aforementioned Vemco receiver location.
- Also, please update the list of all federally or state threatened or endangered species for the County of the project area in the DEIS, as several state listed species are missing from Table 3-3

² SCDNR State Wildlife Action Plan www.dnr.sc.gov/swap

including: American Alligator, Southern Hognose Snake, and Wood Stork. Table 3-4 is missing the following federally protected or At-Risk-Species: American Alligator, Blueback Herring, Broad River Spiny Crayfish, Monarch Butterfly, Chamberlain's Dwarf Salamander, Southern Hognose Snake, Robust Redhorse, Tricolored Bat, Purple Balduina, Bog Spicebush, Carolin Bird-in-a-nest, Michaux's Sumac, and Georgia Aster. These can be found at: <u>https://www.dnr.sc.gov/species/richland.html</u> and <u>https://www.fws.gov/southeast/pdf/fact-sheet/south-carolina-species-list-by-county.pdf</u>.

Attachment A: SCDNR Heritag	ge Trust Database Elem	ent of Occurrence Data v	vithin 5 miles of the r	project site.
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Species Full Name	G Rank	S Rank	Federal Protection Status	State Protection Status	State Wildlife Action Plan Priority	Last Observation Date
PLANTS Bog St. John's-wort, Creeping St. John's- wort - <i>Hypericum</i> adpressum	G3	S2	Not Applicable	Not Applicable	High	6/1/1974
Carolina Birds-in-a- nest, Carolina Macbridea - <i>Macbridea</i> <i>caroliniana</i>	G2G3	S3	ARS: At-Risk Species	Not Applicable	High	8/8/1967
Green Fringed Orchid, Ragged Fringed Orchid, Ragged Orchid - Platanthera lacera	G5	S2	Not Applicable	Not Applicable	Not Applicable	6/5/2006
Winter Grapefern - Botrychium Iunarioides	G4?	S1	Not Applicable	Not Applicable	Moderate	11/28/1997
FISHES						
Banded Killifish - Fundulus diaphanus	G5	S1	Not Applicable	Not Applicable	Moderate	7/13/1949
Banded Sunfish - Enneacanthus obesus	G5	S3S4	Not Applicable	Not Applicable	Moderate	10/20/2000
Blackbanded Sunfish - Enneacanthus chaetodon	G3G4	S2S3	Not Applicable	Not Applicable	High	No Data
Carolina Lance - Elliptio angustata	G4	S3	Not Applicable	Not Applicable	Moderate	8/14/2002
Carolina Pygmy Sunfish - <i>Elassoma</i> <i>boehlkei</i>	G2	S1	Not Applicable	ST: State Threatened	Highest	2/1/2013

Species Full Name	G Rank	S Rank	Federal Protection Status	State Protection Status	State Wildlife Action Plan Priority	Last Observation Date
Cedar Creek Crayfish - Procambarus chacei	G4	S4	Not Applicable	Not Applicable	Moderate	No Data
Cedar Creek Crayfish - Procambarus chacei	G4	S4	Not Applicable	Not Applicable	Moderate	4/18/1955
Cedar Creek Crayfish - Procambarus chacei	G4	S4	Not Applicable	Not Applicable	Moderate	10/25/2007
Coastal Plain Crayfish - Procambarus ancylus	G4G5	S4S5	Not Applicable	Not Applicable	Moderate	No Data
Eastern Pondhorn - Uniomerus carolinianus	G4	S3	Not Applicable	Not Applicable	Not Applicable	5/16/2006
Eastern Pondhorn - Uniomerus carolinianus	G4	S3	Not Applicable	Not Applicable	Not Applicable	9/13/1995
Eastern Pondhorn - Uniomerus carolinianus	G4	S3	Not Applicable	Not Applicable	Not Applicable	5/19/1998
Eastern Pondhorn - Uniomerus carolinianus	G4	S3	Not Applicable	Not Applicable	Not Applicable	10/8/2002
Flat Bullhead - Ameiurus platycephalus	G4	S4	Not Applicable	Not Applicable	Moderate	5/26/2009
Northern Lance - Elliptio fisheriana	G4	SNR	Not Applicable	Not Applicable	Not Applicable	6/20/2006
Northern Lance - <i>Elliptio fisheriana</i>	G4	SNR	Not Applicable	Not Applicable	Not Applicable	7/24/1996
Northern Lance - <i>Elliptio fisheriana</i>	G4	SNR	Not Applicable	Not Applicable	Not Applicable	9/13/1995

Species Full Name	G Rank	S Rank	Federal Protection Status	State Protection Status	State Wildlife Action Plan Priority	Last Observation Date
Northern Lance - <i>Elliptio fisheriana</i>	G4	SNR	Not Applicable	Not Applicable	Not Applicable	5/19/1998
Roanoke Slabshell - <i>Elliptio roanokensis</i>	G3	S2	Not Applicable	Not Applicable	High	8/14/2002
Santee Crayfish - Procambarus blandingii	G4	S4	Not Applicable	Not Applicable	Moderate	No Data
Sawcheek Darter - Etheostoma serrifer	G5	S4	Not Applicable	Not Applicable	Moderate	No Data
Sawcheek Darter - Etheostoma serrifer	G5	S4	Not Applicable	Not Applicable	Moderate	8/3/2010
Shortnose Sturgeon - Acipenser brevirostrum	G3	S3	LE: Federally Endangered	SE: State Endangered	Highest	1/1/2019
Snail Bullhead - <i>Ameiurus brunneus</i>	G4	S3S4	Not Applicable	Not Applicable	Moderate	No Data
White Catfish - <i>Ameiurus catus</i>	G5	SU	Not Applicable	Not Applicable	Moderate	No Data
White Catfish - <i>Ameiurus catus</i>	G5	SU	Not Applicable	Not Applicable	Moderate	7/15/1977
BIRDS						
Barn Owl - <i>Tyto alba</i>	G5	S4	Not Applicable	Not Applicable	Moderate	1985
Great Blue Heron - Ardea herodias	G5	S5	Not Applicable	Not Applicable	Moderate	2014
MAMMALS						
Eastern Fox Squirrel - Sciurus niger	G5	S3S4	Not Applicable	Not Applicable	Moderate	5/1/1980
Rafinesque's Big- eared Bat - Corynorhinus rafinesquii	G3G4	S2	Not Applicable	SE: State Endangered	Highest	7/25/2002

Species Full Name	G Rank	S Rank	Federal Protection Status	State Protection Status	State Wildlife Action Plan Priority	Last Observation Date
Swamp Rabbit						
- Sylvilagus	G5	S2?	Not Applicable	Not Applicable	High	1989-01
aquaticus						