



Westinghouse Electric Company  
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Columbia Fuel Fabrication Facility  
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USA

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Your ref:  
Our ref: LTR-RAC-21-27

April 7, 2021

Subject: **March** 2021 CA Progress Report

Ms. Kuhn:

In accordance with Item 19 of Consent Agreement (CA) 19-02-HW, this progress report is being submitted to you, including the following requested information:

- (a) a brief description of the actions which Westinghouse has taken toward achieving compliance with the Consent Agreement during the previous month;
- (b) results of sampling and tests, in tabular summary format received by Westinghouse during the reporting period;
- (c) a brief description of all actions which are scheduled for the next month to achieve compliance with the Consent Agreement, and other information relating to the progress of the work as deemed necessary or requested by the Department; and
- (d) information regarding the percentage of work completed and any delays encountered or anticipated that may affect the approved schedule for implementation of the terms of the Consent Agreement, and a description of efforts made to mitigate delays or avoid anticipated delays.

In response to the above requirements, the following is being reported to the Department since the last progress report submitted on **March 11, 2021**. The following progress report is for work occurring from **March 1-31, 2021**:

- (a) Actions during the previous month:  
Westinghouse began implementation of the Final Remedial Investigation (RI) Work Plan on 6/10/19. To comply with **Item 4** of the CA, the following actions were completed this month.
  - Completed the following activities to support the Southern Storage Area (SSA) Operable Unit (OU) Work Plan:

- Emptied one shed of its contents with plans to empty four additional sheds, after which environmental surveying and soil sampling will be conducted.
- Completed the following to support the **Phase II RI Work Plan**:
  - Hosted a site visit with DHEC on March 11 to observe sediment sampling locations in Upper Sunset Lake, East Lagoon closure activities, and groundwater screening.
  - Completed lithologic and groundwater screening at borings L-48, L-49B, L-52 through L-53, and L-55.
  - Completed groundwater screening at L-54. (Note: Soil was not extracted at this location because of the close proximity to W-19B, where lithology is already known.)
  - Surveyed site installations (monitoring wells, staff gauges, etc.) and lithologic borings.
  - Surface Water and Groundwater Interaction:
    - Installed pressure transducers in four of the five monitoring wells around the Gator Pond (W-4, W-15, W-27 and W-92).
    - Installed two additional staff gauges in the Phase II Remedial Investigation Work Plan (Entrance and Canal).
    - Installed pressure transducers and VuLink telemetry systems at five staff gauge locations (Gator Pond, Upper Sunset Lake, Lower Sunset Lake, Entrance, and Canal).
  - Conducted sediment sampling in Upper Sunset Lake to bound impact at location SED-44 and completed one additional sediment transect in Upper Sunset Lake approximately 25 feet west of the Upper Sunset Dike.
  - Continued East Lagoon closure activities.
    - Approximately 50% of legacy UF<sub>6</sub> cylinders in the Southern Storage Area have been cut and packaged.
    - Stabilization and removal of East Lagoon sludge began in March. Approximately 15% of the sludge has been removed from the lagoon.
    - The first packages (20 bags each weighing approximately 16,000 lbs.) of sludge were transported offsite on March 31<sup>st</sup>, loaded into 2 railcars and shipped to US Ecology in Idaho.

(b) Results of sampling and tests:

**Groundwater Wells (14 Installed for Phase II Work Plan)**

- Groundwater samples from all 14 newly installed wells (W-98-100, W-102-112) were collected in February. Analytical results were provided from the laboratories in March.
- The tabulated analytical results are included in this monthly report as **Attachment A**.

**Groundwater Screening**

- Groundwater screening results from borings L-49B, L-52, L-53 and L-55 were received in March 2021. The consolidated results will be discussed by the site's team of external contractors to develop proposed actions for discussion with DHEC.
- The groundwater screening analytical results for the Phase II borings located in the Western Groundwater Area of Concern were tabulated and are included as **Attachment B**.

**Sediment Sampling**

- During the week of March 8th, sediment sampling was conducted in Upper Sunset Lake to bound the impact at location SED-44 and in one additional sediment transect approximately 25-feet west of the Upper Sunset Lake dike.
  - Analytical results of the sediment sampling along with a graphic are included in this monthly report as **Attachment C**.
- (c) Brief description of all actions which are scheduled for the next month:  
In accordance with **Item 4** of the CA, Westinghouse will continue to implement the Work Plan to include the following actions:
- Install the pressure transducer in monitoring well W-16 near the Gator Pond.
  - Install the pressure transducer and VuLink telemetry system at the location “Upper 2”.
  - Initiate a dose/risk assessment per the site’s remediation procedure for the additional sediment sampling in Upper Sunset Lake.
  - Conduct semi-annual groundwater sampling (90 wells).
  - Continue East Lagoon closure activities.
- (d) Percentage of work completed and any delays encountered or anticipated:
- 30% of Phase II Work Scope Completed.
  - Currently there are no anticipated delays.

Respectfully,



Diana P. Joyner  
Principal Environmental Engineer  
Westinghouse Electric Company, CFFF  
803.497.7062 (m)

cc: N. Parr, Environmental Manager  
J. Ferguson, EH&S Manager  
J. Grant, AECOM Project Manager  
ENOVIA Records

**Attachment A:** Tabulated Groundwater Wells Analytical Results, 14 Installed for Phase II Work Plan  
**Attachment B:** Tabulated Groundwater Screening Results  
**Attachment C:** Tabulated Sediment Sampling Results and Graphic, Upper Sunset Lake SED-44 Study Area

## **Attachment A**

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### **Tabulated Groundwater Wells Analytical Results** 14 Installed for Phase II Work Plan

W-98-100, W-102-112



## **Attachment B**

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### **Tabulated Groundwater Screening Results**

Attachment B - Groundwater Screening Analytical Results  
 Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

				Analyte	1,1-Dichloroethene	1,2-Dichloroethane	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
				MCL	7	5	70	5	100	5	2
				Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Well	Depth	Date	Type								
L-48	16 - 20 ft	3/17/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-48	30 - 34 ft	3/17/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-48	40.5 - 44.5 ft	3/17/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-49	15 - 19 ft	3/11/2021	N	< 1	< 1	< 1	79	< 1	< 1	1.3	< 1
L-49	29 - 33 ft	3/11/2021	N	< 5	< 5	< 5	210	< 5	8.8	< 5	< 5
L-49	29 - 33 ft	3/11/2021	FD	< 5	< 5	< 5	230	< 5	8	< 5	< 5
L-49	37.5 - 41.5 ft	3/11/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-50	20 - 24 ft	2/19/2021	N	< 1	< 1	< 1	22	< 1	< 1	< 1	< 1
L-50	46 - 50 ft	2/19/2021	N	< 1	< 1	< 1	9	< 1	< 1	< 1	< 1
L-50	46 - 50 ft	2/19/2021	FD	< 1	< 1	< 1	8.7	< 1	< 1	< 1	< 1
L-51	21 - 25 ft	2/22/2021	N	< 1	< 1	< 1	87	< 1	2.2	< 1	< 1
L-51	41 - 45 ft	2/22/2021	N	< 1	< 1	< 1	110	< 1	1.8	< 1	< 1
L-52	18 - 22 ft	3/12/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-52	30 - 34 ft	3/15/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-52	39 - 43 ft	3/16/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-53	18 - 22 ft	3/12/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-53	30 - 34 ft	3/12/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-53	44.5 - 48.5 ft	3/16/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-54	24 - 28 ft	3/16/2021	N	< 1	< 1	< 1	69	< 1	1.2	< 1	< 1
L-55	18 - 22 ft	3/15/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-55	31 - 35 ft	3/15/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-55	40 - 44 ft	3/15/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-56	22 - 26 ft	2/17/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-56	33 - 37 ft	2/17/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-56	41 - 45 ft	2/17/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-57	26 - 30 ft	2/16/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-57	42 - 46 ft	2/17/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-58	23 - 27 ft	2/16/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-58	31 - 35 ft	2/16/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
L-58	40 - 44 ft	2/16/2021	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Notes: N - normal sample  
 FD - field duplicate sample  
 MCL - Maximum Contaminant Level  
 ug/L - micrograms per liter  
 Bold concentrations indicate detections  
 Concentrations in shaded cells exceed their MCL

## Attachment C

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### Tabulated Sediment Sampling Results and Graphic Upper Sunset Lake SED-44 Study Area





Attachment C - SED-44 Study Area Sediment Analytical Results  
Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

Group	Analyte	Location			SED-B6	SED-B7	SED-B7	SED-B8	SED-B8
		RUSL	IUSL	Units	6 - 12 in N 3/10/2021	0 - 6 in N 3/9/2021	6 - 12 in N 3/9/2021	0 - 6 in N 3/9/2021	6 - 12 in N 3/9/2021
Radiological	Technetium-99	19	89400	pCi/g	1.36	3.71	0.472 #	0.937	1.40
Radiological	Uranium-233/234	13	3310	pCi/g	7.98	24.7	5.49	43.7	37.6
Radiological	Uranium-235/236	8	39	pCi/g	0.447	1.13	0.275	1.92	1.92
Radiological	Uranium-238	14	179	pCi/g	2.89	6.32	3.16	11.0	8.65
Chemical	Ammonia			mg/kg	NA	NA	NA	NA	NA
Chemical	Nitrate as N			mg/kg	NA	NA	NA	NA	NA
Chemical	Fluoride			mg/kg	NA	NA	NA	NA	NA
VOCs	(1-Methylethyl)-Benzene			ug/kg	NA	NA	NA	NA	NA
VOCs	1,1,1-Trichloroethane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,1,2,2-Tetrachloroethane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,1,2-Trichlor-1,2,2-trifluoroethane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,1,2-Trichloroethane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,1-Dichloroethane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,1-Dichloroethene			ug/kg	NA	NA	NA	NA	NA
VOCs	1,2,4-Trichlorobenzene			ug/kg	NA	NA	NA	NA	NA
VOCs	1,2-Dibromo-3-chloropropane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,2-Dibromoethane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,2-Dichlorobenzene			ug/kg	NA	NA	NA	NA	NA
VOCs	1,2-Dichloroethane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,2-Dichloropropane			ug/kg	NA	NA	NA	NA	NA
VOCs	1,3-Dichlorobenzene			ug/kg	NA	NA	NA	NA	NA
VOCs	1,4-Dichlorobenzene			ug/kg	NA	NA	NA	NA	NA
VOCs	2-Butanone			ug/kg	NA	NA	NA	NA	NA
VOCs	2-Hexanone			ug/kg	NA	NA	NA	NA	NA
VOCs	4-Methyl-2-pentanone			ug/kg	NA	NA	NA	NA	NA
VOCs	Acetone			ug/kg	NA	NA	NA	NA	NA
VOCs	Benzene			ug/kg	NA	NA	NA	NA	NA
VOCs	Bromodichloromethane			ug/kg	NA	NA	NA	NA	NA
VOCs	Bromoform			ug/kg	NA	NA	NA	NA	NA
VOCs	Bromomethane			ug/kg	NA	NA	NA	NA	NA
VOCs	Carbon disulfide			ug/kg	NA	NA	NA	NA	NA
VOCs	Carbon tetrachloride			ug/kg	NA	NA	NA	NA	NA
VOCs	Chlorobenzene			ug/kg	NA	NA	NA	NA	NA
VOCs	Chloroethane			ug/kg	NA	NA	NA	NA	NA
VOCs	Chloroform			ug/kg	NA	NA	NA	NA	NA
VOCs	Chloromethane			ug/kg	NA	NA	NA	NA	NA
VOCs	cis-1,2-Dichloroethene			ug/kg	NA	NA	NA	NA	NA
VOCs	cis-1,3-Dichloropropene			ug/kg	NA	NA	NA	NA	NA
VOCs	Cyclohexane			ug/kg	NA	NA	NA	NA	NA
VOCs	Dibromochloromethane			ug/kg	NA	NA	NA	NA	NA
VOCs	Dichlorodifluoromethane			ug/kg	NA	NA	NA	NA	NA
VOCs	Ethylbenzene			ug/kg	NA	NA	NA	NA	NA
VOCs	Methyl acetate			ug/kg	NA	NA	NA	NA	NA
VOCs	Methyl tert-butyl ether			ug/kg	NA	NA	NA	NA	NA
VOCs	Methylcyclohexane			ug/kg	NA	NA	NA	NA	NA
VOCs	Methylene chloride			ug/kg	NA	NA	NA	NA	NA
VOCs	Styrene			ug/kg	NA	NA	NA	NA	NA
VOCs	Tetrachloroethene			ug/kg	NA	NA	NA	NA	NA
VOCs	Toluene			ug/kg	NA	NA	NA	NA	NA
VOCs	trans-1,2-Dichloroethene			ug/kg	NA	NA	NA	NA	NA
VOCs	trans-1,3-Dichloropropene			ug/kg	NA	NA	NA	NA	NA
VOCs	Trichloroethene			ug/kg	NA	NA	NA	NA	NA
VOCs	Trichlorofluoromethane			ug/kg	NA	NA	NA	NA	NA
VOCs	Vinyl chloride			ug/kg	NA	NA	NA	NA	NA
VOCs	Xylenes, Total			ug/kg	NA	NA	NA	NA	NA

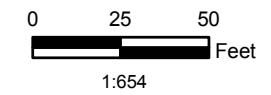
Notes:  
N - normal sample  
FD - field duplicate sample  
RUSL - Residential Use Screening Level (NUREG 1757, Appendix  
IUSL - Industrial Use Screening Level (NUREG 1757, Appendix H)  
Bold concentrations indicate detections  
Concentrations in shaded cells exceed their RUSL/IUSL  
# - value is below minimum detectable concentration  
## - value is reported as a negative number  
pCi/g - picocuries per gram  
ug/kg - micrograms per kilogram  
mg/kg - milligrams per kilogram  
VOCs - volatile organic compounds  
NA - Not Analyzed



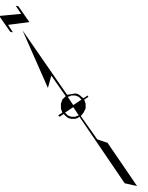


**Legend**

- ▲ Sediment Sample Location
- ▲ Sediment Sample Location
- Sediment Sample Transect
- Bottom of Bluff
- Dike Location
- Mill Creek



Map Projection: NAD 1983, South Carolina State Plane,  
FIPS 3900, Feet  
Datum: North American 1983



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**Sediment Sampling  
March 2021 Field Use**

WESTINGHOUSE COLUMBIA FUEL FABRICATION FACILITY  
HOPKINS, SOUTH CAROLINA

PROJECT NO. 60595649	PREPARED BY: CCS	DATE: March 2021	<b>FIGURE X</b>
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