



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

August 11, 2016

EA-16-173

Mr. Bruce Phillips
Interim Vice President, Columbia Fuel Operations
Westinghouse Electric Company
5801 Bluff Road
Hopkins, SC 29061

**SUBJECT: CONFIRMATORY ACTION LETTER – WESTINGHOUSE ELECTRIC
COMPANY, COLUMBIA FUEL FABRICATION FACILITY**

Dear Mr. Phillips:

The purpose of this letter is to confirm the commitments made by Westinghouse Electric Company, Columbia Fuel Fabrication Facility (CFFF) in a letter from David J. Precht dated August 9, 2016 (ML16223A003), and during a telephone call between the U.S. Nuclear Regulatory Commission (NRC) management, and yourself, Mr. Precht and others on August 8, 2016, regarding additional actions Westinghouse will take in response to the uranium buildup reported to the NRC in July 2016. These actions are intended to ensure that the causes of the uranium buildup have been adequately identified and evaluated and that appropriate corrective actions have been implemented to improve the performance of the Nuclear Criticality Safety program.

On July 14, 2016, Westinghouse reported to the NRC (EN 52090) that it had exceeded the uranium mass limit for the S-1030 scrubber transition section. This was based on the clean-out of material discovered in the S-1030 scrubber transition section during an annual maintenance shutdown in May 2016. Subsequently, on July 31, 2016, Westinghouse updated the report to the NRC indicating that the S-1030 scrubber packing also exceeded the uranium mass limit of the scrubber criticality safety evaluation. The NRC chartered an augmented inspection team (AIT) to review the facts and circumstances surrounding the uranium mass buildup.

The NRC has concerns with the extent of condition, extent of cause, and the implementation of items relied on for safety (IROFS) associated with the uranium buildup. In addition, the process of identifying, evaluating, and correcting potential risk significant deficiencies may have resulted in missed opportunities to prevent this issue, and a perceived lack of a questioning attitude may have resulted in delays in identifying these conditions.

Pursuant to the August 9, 2016, letter, and previously discussed telephone call on August 8, 2016, it is our understanding that you have taken, or will take, the following actions:

1. Suspend all NRC licensed operations of the S-1030 scrubber system and conversion process equipment until Westinghouse has completed those actions necessary to assure safety prior to restart, as documented in the August 9, 2016 letter (Items 1 – 5). The commitments included in the August 9, 2016 letter are restated as an enclosure to this Confirmatory Action Letter (CAL).
2. Obtain written consent from the NRC permitting the resumption of NRC licensed operations specified in Item 1 above.

Pursuant to Section 182 of the Atomic Energy Act, 42 U.S.C. 2232, you are required to:

1. Notify me immediately if your understanding differs from that set forth above;
2. Notify me if for any reason you cannot complete the actions within the specified schedule and advise me in writing of your modified schedule in advance of the change;
3. Notify me, in writing, if for any reason you intend to change, deviate from or not complete any of the documented commitments set forth above, and advise me, in writing, of the changes or deviations; and
4. Notify me in writing when you have completed the actions addressed in this CAL.

Issuance of this CAL does not modify or amend the Westinghouse license, and does not preclude issuance of an Order making the above commitments legally binding requirements or requiring other actions on the part of the licensee. However, if any commitments or further actions identified by Westinghouse meet criteria for amending the license, Westinghouse shall submit an amendment request to the NRC in accordance with 10 CFR Parts 70.34 and 70.65. In addition, the NRC is not precluded from taking enforcement action for violations of NRC requirements that may have prompted the issuance of this letter.

In accordance with Title 10 of the Code of Federal Regulations (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice and Procedure," a copy of this letter and your response will be made available electronically for public inspection in the NRC Public Document Room or in the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, security-related or safeguards information, so that it can be made available to the Public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

B. Phillips

3

If you have any questions concerning this matter please contact Eric Michel of my staff. Mr. Michel can be reached at (404) 997-4555.

Sincerely,

/RA/

Catherine Haney
Regional Administrator

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

Enclosure: Westinghouse Electric Company
Commitments

cc: (See page 4)

B. Phillips

3

If you have any questions concerning this matter please contact Eric Michel of my staff.
Mr. Michel can be reached at (404) 997-4555.

Sincerely,

/RA/

Catherine Haney
Regional Administrator

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

Enclosure: Westinghouse Electric Company
Commitments

cc: (See page 4)

DISTRIBUTION:

OEMail

E. Michel, RII

T. Vukovinsky, RII

P. Startz, RII

R. Johnson, NMSS

C. Ryder, NMSS

M. Baker, NMSS

M. Lesser, RII

G. Tracy, EDO

M. Dapas, NMSS

C. Erlanger, NMSS

PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
ADAMS: Yes ACCESSION NUMBER:ML16224B082 SUNSI REVIEW COMPLETE FORM 665 ATTACHED

OFFICE	RII:DFFI	RII:DFFI	RII:DFFI	RII:ORA	RII:ORA	RII:EICS	NMSS
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA/	/RA/	/RA/
NAME	OLopez	EMichel	MLesser	SPrice	LWert	DGamberoni	SMoore
DATE	8/10/2016	8/10/2016	8/10/2016	8/11/2016	8/11/2016	8/11/2016	8/10/2016
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICE	RII:ORA						
SIGNATURE	/RA/						
NAME	CHaney						
DATE	8/11/2016						
E-MAIL COPY?	YES NO						

cc:

John Howell
Manager
Environment, Health and Safety
Electronic Mail Distribution

Nancy Parr
Manager
Licensing
Electronic Mail Distribution

Christine Kneece
Manager
Industrial Safety
Electronic Mail Distribution

Susan E. Jenkins
Assistant Director, Division of Waste Management
Bureau of Land and Waste Management
Department of Health and Environmental Control
Electronic Mail Distribution

WESTINGHOUSE ELECTRIC COMPANY COMMITMENTS

Pursuant to the letter from Westinghouse dated August 9, 2016, and the telephone call between Nuclear Regulatory Commission (NRC) management and Westinghouse management (David J. Precht and Bruce Phillips) on August 8, 2016, it is our understanding that Westinghouse has taken, or will complete the following actions prior to restart:

1. Complete a Root Cause Analysis (RCA) investigation for this event. In accordance with the RCA Charter, the RCA will include an assessment of the nuclear safety culture (NSC) contributors to the event and identify necessary corrective actions to address gaps noted in the NSC at Columbia.
2. If the RCA investigation identifies additional actions necessary to assure safe operations, then Westinghouse will revise its restart plan to include those actions. Additional immediate or compensatory actions will be identified and put in place for any corrective action to prevent recurrence that is not completed prior to restart.
3. The following immediate actions will be taken:
 - a. The design, operating and maintenance history of the S-1030 scrubber system, including changes to influents to the scrubber system, will be reviewed to understand the impacts on the mass build up noted in this event. Based upon this review, the safety basis for the scrubber system will be revised. Additionally, the following will be performed for the S-1030 scrubber system:
 - i. Review and revise procedures that implement administrative items relied on for safety (IROFS) to ensure administrative limits are properly defined and to ensure inspection methods that validate compliance to the administrative IROFS can be effectively implemented to meet its safety function.
 - ii. Review the adequacy of the management measures applied that support the availability and reliability of the administrative IROFS and correct any identified deficiencies.
 - iii. Review and approval of the above actions and the identified corrective actions will be performed by independent criticality safety experts.
 - iv. Complete the installation of physical modifications needed to support the revised safety basis.
 - v. Conduct training on the changes with personnel impacted or involved in the revised IROFS and management measures for this system.
 - vi. Develop a post-startup monitoring plan to validate the effectiveness of the above actions.
 - b. Review Criticality Safety Evaluation (CSE) accident sequences for wet scrubber ventilation systems with non-favorable geometry (NFG) components to ensure double contingency protection and proper IROFS implementation. For each, perform inspections to validate system design and operating parameters as well as items (i) through (iii) described above and for items (iv) through (vi) as needed.

Enclosure

- c. For ventilation systems with NFG components that are permanently removed from service:
 - i. Verify the adequacy of isolation to ensure the potential does not exist for special nuclear material (SNM) mass accumulation or the potential for moderator addition. Any identified deficiencies will be corrected.
 - ii. The following systems will be inspected and cleaned as necessary to ensure no mass build up exists in them: S-1056 Scrubber, Ventilation systems 3A, 3B and 7A filter housings.
- d. For CSEs with NFG components that have mass limits, ensure IROFS have been flowed down to Integrated Safety Analyses (ISA), sketches and implementing documents. Identified deficiencies will be entered into the corrective action program (CAP) and corrected as necessary to meet the safety basis prior to returning the system to operation. Perform a sample of the remaining CSEs.
- e. For administrative IROFS satisfied by inspection, review and revise procedures that implement the inspections to ensure administrative limits are properly defined and to ensure inspection methods can be effectively implemented to meet its safety function. Identified deficiencies will be entered in the CAP and corrected.
- f. Perform a historical review (previous 10 years) of the corrective action program and Red book/Green book entries to identify any recurring or longstanding issues that identify potential challenges to the safety basis of any CSE. Identified issues will be entered into the corrective action program and will either be corrected prior to restart or adequate compensatory measures put in place.
- g. Implement procedure changes to provide an internal escalation protocol to plant management for IROFS violations, including guidance for situations involving uncertainty in compliance to limits.
- h. Revise the "Columbia Plant Safety Event Response Guidelines" to strengthen critical decision making based upon event significance by requiring independence of membership on the Safety Event Management Review Team.
- i. Retain an external nuclear criticality safety expert who will remain on site at Columbia to assist in the oversight of nuclear criticality safety (NCS) functions until corrective actions from the RCA related to this function are complete and an effectiveness review is performed to ensure sustainability of corrective actions. Additionally, Columbia has initiated a search for a permanent new manager for the NCS organization.
- j. Develop and present training on the lessons learned from this event, including the results of the NSC evaluation, to leadership (front line supervisors and above) and to workers impacted or involved in the control of IROFS and management measures. In addition to this training, senior management of the Columbia Fuels Operations will conduct briefings with each work group to reinforce desired standards, behaviors and expectations regarding their role in nuclear safety.

4. For the NCS organization, conduct a work environment assessment and develop needed corrective actions. Additionally, the Interim Vice President, Columbia Fuels Operations will reinforce desired standards, behaviors, expectations and the lessons learned from this event with all personnel in the NCS organization.
5. Upon completion of items (1) through (4) above, the Interim Vice President, Columbia Fuels Operations will determine readiness for restart of the S-1030 scrubber system, with concurrence by the Recovery Manager and approval by the Oversight Board. Westinghouse will then request restart approval from the NRC Region II Administrator.

In addition, to ensure continued safe operations after restart, Westinghouse further commits to take the following actions:

1. Complete all corrective actions to prevent recurrence identified in the RCA that are not completed prior to restart.
2. Implement the remaining corrective actions identified in the RCA or the recovery plan, including those resulting from the evaluation of NSC contributors to this event.
3. In accordance with Westinghouse CAP procedures, conduct effectiveness reviews of corrective actions specified in the RCA.
4. Complete corrective actions identified in the NCS organization work environment assessment.
5. Within nine months, an independent third party nuclear safety culture assessment will be performed at Columbia and any identified deficiencies will be entered into the CAP to track to completion.
6. Implement the post-startup monitoring plan described in item (3) of the list of actions to be taken prior to restart.
7. Upon completion of the foregoing actions, Westinghouse will notify the NRC Region II Administrator.