



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II**

245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

March 6, 2017

Mr. Mike Annacone
Vice President, Columbia Fuel Operations and
Manager, Columbia Plant
Westinghouse Electric Company
5801 Bluff Road
Hopkins, SC 29061

**SUBJECT: WESTINGHOUSE ELECTRIC COMPANY, LICENSEE PERFORMANCE
REVIEW (NUCLEAR REGULATORY COMMISSION INSPECTION REPORT 70-
1151/2017-001)**

Dear Mr. Annacone:

The Nuclear Regulatory Commission (NRC) Region II and Headquarters staff completed a biennial Licensee Performance Review (LPR) of the Westinghouse Columbia Fuel Fabrication Facility (CFFF) inspection results and performance in conducting NRC licensed activities. This review includes the program adjustment review you received in December 2016 concerning the S-1030 scrubber event (ML16355A078). The biennial review covered the period January 1, 2015 through December 31, 2016. The performance of CFFF was evaluated in the following areas: Safety Operations, Radiological Controls, Facility Support, and Other Areas.

As a result of the NRC's review of plant performance, one Area Needing Improvement (ANI) was identified in Safety Operations, due to a safety significant issue involving the S-1030 scrubber. The NRC identified weaknesses in management measures and the assumptions used in the site's criticality safety evaluations (CSEs). The ANI is in the areas of plant operations and nuclear criticality safety. In addition, the NRC will increase the licensee performance review frequency to a 12-month cycle until this ANI is closed.

This letter is a notification to CFFF of the NRC staff's decision to adjust the 2017 inspection effort at CFFF. The supplemental inspection effort will include additional inspections related to the S-1030 scrubber event and the confirmatory action letter (CAL) of August 11, 2016 (ML16224B082). As a result of the December 20, 2016 program adjustment, this supplemental effort began in December 2016 and will conclude following completion of the CAL and conclusion of the inspections detailed in the attached enclosure. Further adjustment to the core inspection will be determined during subsequent program adjustment reviews. The enclosure to this letter provides the results of our review and constitutes the basis for establishing the NRC oversight program for your facility. The details regarding the Safeguards portion of the review are documented in a separate letter marked "Official Use Only" due to the sensitive nature of that information.

On July 14, 2016, Westinghouse reported to the NRC that it had exceeded the uranium mass limit for the S-1030 scrubber transition section as determined in the criticality safety evaluation. The uranium was discovered during a required annual cleanout in May 2016. On July 31, 2016, Westinghouse updated their report to the NRC indicating that the S-1030 scrubber packing section had also exceeded the uranium mass limit. On July 28, 2016, the NRC chartered an augmented inspection team (AIT) to review the facts and circumstances surrounding the uranium buildup. The AIT completed its inspection on September 27, 2016, and the results were documented in inspection report 70-1151/2016-007 (ML16211A001).

On August 11, 2016, the NRC issued a Confirmatory Action Letter (CAL) (ML16224B082) to confirm commitments by Westinghouse to take certain actions prior to restart of the S-1030 scrubber system and conversion process equipment at the CFFF. In part, the actions documented in the CAL were intended to ensure that the root causes of the event which occurred in May 2016 were adequately evaluated, and that appropriate corrective actions were implemented before resumption of operations. These commitments included shutting down conversion process equipment and the S-1030 scrubber, and not returning those processes to operation until additional NRC inspections had been completed. By way of CAL restart inspections, the NRC verified that those commitments had been satisfied and conversion process equipment and the S-1030 scrubber were allowed to resume operation. The results of the inspections are documented in NRC inspection report 70-1151/2016-008 (ML16323A011). In addition, the CAL identified other long term corrective actions not necessary for a safe restart, which included commitments made to improve plant safety.

In response to the NRC staff's performance insights, the staff elected to perform an early Program Adjustment Review in December 2016. During this review, the staff concluded that CFFF's performance warranted additional inspection oversight to provide reasonable assurance that licensed operations are conducted in a manner that protected public health, safety, and the environment. As a result of this review, On December 20, 2016, the NRC adjusted the inspection effort at CFFF (ML16355A078). This adjustment was intended to cover items specific to the CAL closure and the revised scrubber inspections conducted on a six week frequency. The ANI and the corresponding adjustment to the core inspection program will encompass the program adjustment established in December 2016 and will supersede the December 2016 program adjustment. In that regard, there will only then be one open adjustment to the core inspection program.

The results of our review will be discussed with you at a public meeting on May 09, 2017. During the meeting, we request you discuss your performance in the same major areas as those evaluated by the NRC.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Please refer questions and comments regarding your licensee performance review to Mr. Eric Michel, Chief, Projects Branch 2, by telephone at 404-997-4555.

Sincerely,

/RA/

Mark S. Lesser, Director
Division of Fuel Facility Inspection

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

Enclosure: Licensee Performance Review

cc:

John Howell
Manager
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Department of Health and Environmental Control
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ADAMS: Yes ACCESSION NUMBER: 17067A064 SUNSI REVIEW COMPLETE FORM 665 ATTACHED

OFFICE	RII:DFFI	RII:DFFI	NMSS:FCSE	NMSS:FCSE		
SIGNATURE	/RA/	/RA/	/RA/	/RA/		
NAME	E Michel	T Vuvovinsky	C. Erlanger	R. Johnson		
DATE	3/6/2017	3/6/2017	3/6/2017	3/6/2017	3/ /2017	3/ /2017
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

LICENSEE PERFORMANCE REVIEW FOR WESTINGHOUSE FUEL FABRICATION FACILITY

ASSESSMENT PERIOD: JANUARY 1, 2015 TO DECEMBER 31, 2016

The following is a summary of the performance of Westinghouse Columbia Fuel Fabrication Facility (CFFF) in the conduct of NRC-licensed activities.

PERFORMANCE AREA: SAFETY OPERATIONS

This area is comprised of plant operations, nuclear criticality safety, and fire protection.

During the Licensee Performance Review (LPR) assessment period, the following enforcement items were issued in the area of Safety Operations:

- **NOV SLIV 071151/2016-005-001 Failure to turn-on spray on S-1030 Scrubber** – On November 8, 2016 the licensee failed to completely follow a procedure while performing a weekly inspection for uranium accumulation in the S-1030 scrubber transition assembly. The failure to establish process water flow to the spray nozzles resulted in a degradation of IROFS VENT-S1030-105 such that the IROFS was unable to perform its intended safety function of preventing excess uranium accumulation for approximately 23 hours. Documented in report 70-1151/2016-005 (ML17027A054). **(Open)**
- **NCV 07001151-2015-004-01 Failure of spring loaded valve** - The licensee failed to demonstrate compliance with the performance requirements of 10 CFR 70.61(b) following the failure of IROFS ADUSCRA-102. This NCV was associated with licensee event report (LER) and event notice (EN) LER 7001151/2015-001 and EN 51024 respectively. **(Closed)**
- **Four Apparent Violations (AVs) were identified in Inspection Report (IR) 2017-007 (ML17058A448):**
 - The first AV involved the failure to ensure that high consequence accident sequences remain highly unlikely as required by 10 CFR 70.61(b).
 - The second AV involved the failure to assure that under normal and credible abnormal conditions, all nuclear processes were subcritical including use of an approved margin of subcriticality as required by 10 CFR 70.61(d).
 - The third AV involved the failure to establish adequate management measures to ensure that items relied on for safety (IROFS) perform their function when needed, as required by 10 CFR 70.62(d).
 - The fourth AV involved the failure to make a one hour report as required by Appendix A(a)(4) of 10 CFR 70.

Enclosure

Program Areas Needing Improvement

- Area Needing Improvement (ANI) was identified in the area of Safety Operations, due to a safety significant issue involving the S-1030 scrubber. The NRC identified weaknesses in the area of management measures and the assumptions used in the site's Criticality Safety Evaluations (CSEs). The ANI focuses on plant operations and nuclear criticality safety.
- Closure of the ANI will be dependent upon demonstration of satisfactory improvement in the implementation of management measures, criticality safety evaluations, and nuclear safety culture. The NRC evaluation of these improvements will be conducted as part of the inspection adjustment established as follows:

NRC Inspection Effort

- In addition to the inspection effort established in the program adjustment letter to CFFF dated December 20, 2016 (ML16355A078), the following inspection effort is identified:
 1. Conduct a nuclear safety culture inspection following completion of CFFF's independent nuclear safety culture inspection.
 2. Conduct two focused team inspections in 2017 with timing dependent upon the completion of ANI items. Each inspection will include approximately 60 to 90 hours of effort for each of the two inspections. The inspections will supplement the program adjustment established in December 2016 to concentrate on the implementation of management measures and the review of nuclear criticality assumptions performed during criticality safety evaluation (CSE) development and review. These inspections will address management measures as detailed in Chapter 3 of CFFF's License Application (i.e. configuration management, maintenance, procedures, training, and qualification, audits and assessments, and the corrective action process).

PERFORMANCE AREA: RADIOLOGICAL CONTROLS

This area is comprised of radiation protection, environmental protection, waste management, and transportation.

Program Areas Needing Improvement

- No violations were identified during the assessment period. No specific area needing improvement was identified in Radiological Controls.

Recommended NRC Inspection Effort

- Maintain the core inspection effort in Radiological Controls.

PERFORMANCE AREA: FACILITY SUPPORT

This area is comprised of maintenance and surveillance, training, emergency preparedness, management organization and controls, and permanent plant modifications.

Program Areas Needing Improvement

- No violations were identified during the assessment period. No specific area needing improvement was identified in Facility Support.

Recommended NRC Inspection Effort

- Maintain the core inspection effort in Facility Support.

PERFORMANCE AREA: OTHER AREAS

This area is comprised of special issues.

Program Areas Needing Improvement

- No violations were identified during the assessment period. No specific area needing improvement was identified in Other Areas.

Recommended NRC Inspection Effort

- Maintain the core inspection effort in Other Areas.