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Your ref: EA-16-173  
Our ref: LTR-RAC-20-26

March 3, 2020

Subject: Westinghouse Completion of Confirmatory Order Commitments Under EA-16-173

References

1. U.S. Nuclear Regulatory Commission Confirmatory Order EA-16-173 (ML17221A122)
2. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2017-007 (ML17058A448)
3. LTR-RAC-17-36 Westinghouse Written Statement to the Director, Office of Enforcement (ML17251A992)
4. U.S. Nuclear Regulatory Commission – Confirmatory Action Letter EA-16-173 (ML16224B082)
5. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2019-002 (ML19101A274)
6. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2019-004 (ML19326C453)
7. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2018-005 (ML19023A349)
8. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2018-006 (ML18089A060)
9. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2017-009 (ML17356A091)
10. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2018-004 (ML18284A095)
11. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2017-004 (ML17303A023)
12. U.S. Nuclear Regulatory Commission Inspection Report No. 70-1151/2019-003 (ML19212A687)

Pursuant to Section V.11 of Reference (1), regarding the Westinghouse Electric Company LLC (Westinghouse), Columbia Fuel Fabrication Facility (Columbia or CFFF), Westinghouse hereby provides the attached written statement to the Director, Nuclear Regulatory Commission (NRC) Office of Enforcement, discussing the basis for concluding that the Confirmatory Order (CO) has been satisfied. Attachment 1 provides a summary of the actions taken.

Should you have any questions or require additional information, please contact Annette Pope of my staff at (803) 647-1994.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mike Annacone', written over a horizontal line.

Mike Annacone, Vice President  
Columbia Fuel Operations  
Westinghouse Electric Company LLC  
License SNM-1107 Docket 70-1151

CC: Regional Administrator, Region II

**ATTACHMENT 1**

**I. Summary of Basis that the CO has been Satisfied**

Westinghouse has completed the required commitments to address the decision-making and performance issues that led to the accumulation of uranium in the CFFF S-1030 scrubber, as described in References (1) and (2). The following is a high-level summary of the completion of the CO commitments documented in Reference (1), Section V. All commitments were completed per the defined CO commitment schedule.

**I.A Written Corrective Action Statement (Section V.1)**

LTR-RAC-17-36 Reference (3), documented a written statement provided to the Director, Office of Enforcement, U.S. NRC, on September 8, 2017. This statement included for each of the four violations: (1) the reason for the violation; (2) the corrective steps that have been taken to restore compliance; and (3) additional corrective actions and enhancements taken to preclude repetition. NRC reviewed this written statement per Inspection Report (IR) 2017-004, Reference (11).

**I.B Nuclear Safety Culture Survey (Section V.2)**

The Westinghouse corporate nuclear safety culture (NSC) organization conducted a NSC survey of CFFF from September 23, 2019 through October 11, 2019, which was 2 years 2 months after the issuance of the CO. The scope and depth of the NSC survey was consistent with the NSC survey completed under Confirmatory Action Letter (CAL) dated August 11, 2016, Reference (4). Identified deficiencies from the NSC survey have been entered the Westinghouse Corrective Action Program for tracking and actions have been completed. Results of the most recent survey have indicated a positive shift from the NSC survey completed under the CAL. Westinghouse provided objective evidence of the NSC survey results to the NRC for review.

**I.C Reduce Uranium Carry Over (Section V.3)**

**I.C.1 Calciner Engineering Evaluation (Section V.3.1)**

The calciner and calciner off-gas scrubber evaluation is complete. The engineering evaluation summarizes the methods to improve the calciner and off-gas scrubber design and operation to reduce uranium carry-over into S-1030 scrubber. NRC inspected the calciner engineering evaluation and closed this CO item under IR 2019-002, Reference (5).

**I.C.2 Blue M Oven Engineering Evaluation (Section V.3.2)**

The Conversion Scrap Cage Blue M Oven evaluation is complete. The engineering evaluation summarizes the methods to improve the functionality of the Blue M oven in a wet environment and the accessibility for inspection and maintenance activities. NRC inspected the Blue M Oven engineering evaluation and this closed CO item under IR 2019-002, Reference (5).

**I.C.3 Implement Engineering Solutions (Section V.3.3)**

Westinghouse has installed and implemented improvements based on the calciner engineering evaluation, and provided objective evidence to the NRC for review.

Westinghouse has installed and implemented improvements based on Blue M Oven engineering evaluation. NRC inspected Blue M Oven modifications and partially closed this CO item under IR 2019-002, Reference (5).

**I.D Notification process for S-1030 scrubber system changes (Section V.4)**

To ensure that NRC notification occurs 15 days prior to implementing changes to the S-1030 scrubber system, Westinghouse updated its modification procedures to include Regulatory Policy for NRC Notification of S-1030 change until the CO letter is acknowledged to be closed by the NRC. Westinghouse has provided objective evidence of these procedure changes to the NRC.

**I.E Implementation of additional methods to monitor system parameters for early indication of abnormal accumulation in the S-1030 scrubber (Section V.5)**

Westinghouse implemented methods to monitor system parameters that are early indicators of an abnormal accumulation in the S-1030 scrubber from a process upset that could challenge the accumulation rate and/or criticality safety mass limits. An engineering evaluation was completed and identified recommended controls for those parameters that if left unchecked or uncontrolled could lead to an unexpected uranium accumulation in the S-1030 scrubber.

Westinghouse updated its operating procedures to document the methods and processes used to monitor early indicators of an abnormal accumulation in the S-1030 scrubber. These methods provide timely indications to enable the operators to take appropriate actions in accordance with approved procedures. NRC inspected S-1030 accumulation monitoring system and closed this CO item under IR 2019-004, Reference (6).

**I.F Safety Significant Control (SSC) Database (Section V.6)**

Westinghouse has developed and implemented an SSC Database, which is a criticality safety basis/IROFS database that helps maintain the proper flow down of the safety basis into implementing documents. The SSC database is within the DOORS software and offers a user interface "JANUS," to easily display safety basis information. The database was 100% validated. Information sessions were provided to CFFF users which reviewed the functionality of the SSC Database and described how to access the database. CFFF safety basis training and annual safety submit agenda were updated to include JANUS as a part of these sessions. The maintenance of the database is governed by procedures. NRC inspected the SSC Database and closed this CO item under IR 2018-005, Reference (7).

**I.G Development of a method to reinforce positive NSC leadership behavior and monitor for effectiveness in the nuclear safety culture monitoring panel (NSCMP) (Section V.7)**

Methods to positively reinforce employee and leadership NSC behaviors are documented, monitored, and assessed in the NSCMP. The NSCMP charter lists the various reinforcement methods that CFFF may use and the effectiveness assessment process. NRC inspected NSC leadership behaviors and closed this CO item under IR 2018-006, Reference (8).

- I.H Implementation of nuclear criticality safety health report (Section V.8)**  
Westinghouse created a procedure to document the process for issuing the CFFF Health Metrics Scorecard for Nuclear Criticality Safety (NCS). The purpose of the NCS Program Scorecard is to provide a measure of the overall health of the NCS program. These metrics provide site leadership with a tool that to identify when additional actions are necessary to improve or maintain criticality safety. The score card includes IROFS challenges, trends, audit and inspection finding status, violations, and health of management measures. Identified deficiencies are managed per the Corrective Action Program. NRC inspected the nuclear criticality safety health report and closed this CO item under IR 2017-009, Reference (9).
- I.I Procedure to implement the appropriate guidance in INPO 11-003, “Guideline for Excellence in Procedure and Work Instruction Use and Adherence,” for risk-informed standards in the preparation of procedures and data sheets. (Section V.9)**  
Westinghouse has implemented a CFFF procedure writers guide, procedure format templates, and a procedure use and adherence standard that is based on INPO 11-003, “Guideline for Excellence in Procedure and Work Instruction Use and Adherence.” NRC inspected procedure improvements and closed CO item under IR 2018-004, Reference (10).
- I.J Closure of CAL Items 1, 3, and 5 (Section V.10)**
- I.J.A Implementation of all corrective actions to prevent recurrence (CAPR) as identified in the root cause analysis (RCA) (Section V.10.a)**  
Westinghouse has implemented all CAPRs from the RCA: “Uranium Mass Exceedance in S-1030 Scrubber at Columbia Fuel Fabrication Facility (CFFF)” NRC inspected closure of open RCA CAPRs in References 10 and 11 and closed this CO item under IR 2018-004, Reference (10).
- I.J.B Westinghouse shall conduct effectiveness reviews of corrective actions to prevent recurrence as specified in their RCA (Section V.10.b)**  
Westinghouse conducted effectiveness reviews for each CAPR. Interim effectiveness review reports, the final effectiveness review report, the final effectiveness review executive CARB meeting minutes, and closure of action items from final executive CARB meeting have been completed. NRC inspected and closed this CO item under IR 2019-003, Reference (12).
- I.J.C Westinghouse shall evaluate the results of the independent third party nuclear safety culture assessment, and any identified deficiencies will be entered into the CAP to track to completion (Section V.10.c)**  
USA Alliance performed an independent third party NSC assessment during the week of April 3-7, 2017. The CFFF NSCMP reviewed an action plan to close deficiencies. Westinghouse entered action plan into corrective action program and tracked actions to completion. NRC inspected 2017 NSC assessment deficiencies and closed this CO item under IR 2018-006, Reference (8).