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May 15, 2018

SUBJECT: WESTINGHOUSE REPORTED EVENT # EN53266 60 DAY FOLLOW-UP REPORT

The following information is being provided by Westinghouse Electric Company LLC (Westinghouse) in accordance with 10CFR70 Appendix A(b)(1) and 10CFR70.50(c)(2). A copy of the initial notification report, Event Report #EN53266, pertaining to the Columbia Fuel Fabrication Facility (CFFF) can be found in Enclosure 1 and provides the applicable information required by 10CFR70.50(c)(1). The information required in accordance with 10CFR70.50(c)(2) is provided in Enclosure 2.

Please know that Westinghouse remains deeply committed to continuous compliance with all governing regulations and license commitments.

If you have any questions regarding this information, please contact me at (803) 647-3338.

Sincerely,

Nancy Blair Parr

Nancy Blair Parr, Manager
Licensing
Westinghouse Columbia Fuel Fabrication Facility
Docket 70-1151 License SNM -1107

Enclosure 1: Original Event Report #EN53266 dated 16 March 2018.
Enclosure 2: 10CFR70.50(c)(2) Required Information

cc:

U. S. Nuclear Regulatory Commission
11555 Rockville Pike
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Attn: Ms. Marilyn Diaz
Mail Stop: T-4A60

U. S. Nuclear Regulatory Commission, Region II
245 Peachtree Center Avenue NE, Suite 1200
Atlanta, GA 30303-1257
Attn: Mr. Tom Vukovinsky

ENCLOSURE 1

Original Event Report #EN53266 dated 16 March 2018.

Caller Identification and Facility Information
Nancy Parr, Licensing Manager. Westinghouse Electric Company LLC, Commercial Fuel Fabrication Facility, Columbia SC.

Low enriched (≤ 5.0 wt.% U-235) fuel fabricator for commercial light water reactors. License: SNM-1107. Call-Back Number (803) 647-3338.

24 Hour Event Notification based on 10CFR70 Appendix A (b) (1). Any event or condition that results in the facility being in a state that was not analyzed, was improperly analyzed, or is different from that analyzed in the Integrated Safety Analysis, and which results in failure to meet the performance requirements of 10CFR70.61.

Description of the Event
On March 15, 2018 during an NRC inspection of the Solvent Extraction area, an inspector identified a potential credible scenario which is not adequately addressed in the applicable Criticality Safety Evaluation (CSE). Plant Environmental Health and Safety (EH&S) staff reviewed the issue and at 1130 determined that, based on the available information; the scenario did not appear to be properly analyzed in the CSE and thus the Integrated Safety Analysis (ISA). The scenario is associated with the Uranium Recovery and Recycle System (URRS) 706 hood operation. The process performed in the 706 hood is the transfer of low concentration residues into a container for disposal at a Low Level Radioactive Waste (LLRW) facility. There was no actual event, and no impact to public health and safety, the workers, or the environment.

The issue revolves around the lack of a specific analysis controlling the handling, transport and replacement of the container, a 55 gallon drum, used in that process. A criticality event for the scenario of an inadvertent container handling upset was identified as incredible in the safety basis documents. However, the accident sequence does not meet the definition of incredible as defined in the license application, and thus appears to be an improperly analyzed scenario.

While not properly documented, unlikely, independent, and concurrent changes in process conditions would have to occur to result in a criticality accident. Procedural controls and process barriers which are in place were not identified as Items Relied On For Safety (IROFS) for this scenario. There are, however, passive and administrative IROFS in place for other chemical, fire and criticality safety accident sequences that can be applied to this scenario. These IROFS include requirements for mechanical integrity and spill protection techniques to preclude significant loss of uranium bearing liquid material that would have to accumulate in an improperly handled container. Examples of existing IROFS that control process leaks include SOLX-903 and WASH-119, degradation resistant design to prevent leakage from tanks/vessels; SOLX-503, structural integrity of piping; ADUHNP-901, flange guards; ADUHFS-507 and SOLX-505, valve alignments to prevent spills; and DPH-104, piping integrity. In addition, there is annual training and testing on the proper handling of non-favorable geometry containers.

Immediate Corrective Actions
The hood and associated container were removed from service while the scenario is being evaluated. Issue Report 2018-7348 was entered into our Corrective Action Program and an extent of condition was performed.

UPDATED INFORMATION ON MARCH 16, 2018 BY NANCY PARR
Notification Time 1643

Based on evaluation of the extent of condition, a similar scenario was identified with the wet combustible trash system in the Uranium Recovery and Recycle System (URRS) area. This event report is updated to include a 24 Hour Event Notification for the wet combustible trash system based on 10CFR70 Appendix A(b)(1) *"Any event or condition that results in the facility being in a state that was not analyzed, was improperly analyzed, or is different from that analyzed in the Integrated Safety Analysis, and which results in failure to meet the performance requirements of 10CFR70.61."*

The issue revolves around the lack of a specific analysis controlling the handling and transport of containers, 55 gallon drums, used in the wet combustible trash process. A cylinder wash operation is in the area where the wet combustible trash drums are used. Cylinder wash operations were shutdown to preclude significant loss of uranium bearing liquid material that would have to accumulate in an improperly handled drum. Similar procedural controls, process barriers and IROFS from other accident sequences can be applied to this scenario. Wet combustible trash collection may continue since the potential source of liquid material (cylinder wash) has been shut down.

ENCLOSURE 2

10CFR70.50 (c)(2) Required Information:

(i) Complete applicable information required by § 70.50(c)(1);

This information has been provided in Enclosure 1 of this correspondence.

(ii) The probable cause of the event, including all factors that contributed to the event and the manufacturer and model number (if applicable) of any equipment that failed or malfunctioned;

An Apparent Cause Analysis (ACA) was completed. The cause of the event was that there was incomplete consideration of the 55-gallon drum travel path with relation to adjacent processes involving uranium-containing solutions in the safety basis documentation. The process scope definition for the 706 hood operation and the wet combustible trash operation did not account for the manual movement of the 55 gallon drums used in those operations. Instead, the transport of movable non-favorable geometry containers was addressed broadly through training and procedures.

(iii) Corrective actions taken or planned to prevent occurrence of similar or identical events in the future and the results of any evaluations or assessments;

Both processes were immediately shutdown until the safety basis documentation errors could be corrected. Criticality Safety Evaluation (CSE) 4-E and associated fault tree for the 706 hood operation were revised and implemented on April 13, 2018 to include the transport accident sequence. Wet combustible trash operations using a 55-gallon drum were shut down until the potential source of a solution leak from cylinder wash vessels and piping was eliminated and the uranium concentration of the residual liquid in the cylinder wash vessels was verified to be well below the minimum critical concentration limit. Cylinder wash operations will not resume until the safety basis documents (CSE 13-E and associated fault tree) are revised to add this drum movement accident sequence.

Additional planned actions are being tracked to completion in the corrective action program, CAP 2018-7348. These include revision of CSE 13-E and associated fault tree for trash collection to address the specific accident sequence; revision of the inadvertent container CSE (CSE-99-G) to further address the issue of 55-gallon drums used for other processes being inadvertently taken into solution containing areas; and review of procedure RA-310, "Nuclear Criticality Safety Independent Technical Reviews" for effectiveness and robustness.

(iv) For licensees subject to Subpart H of this part, whether the event was identified and evaluated in the Integrated Safety Analysis.

The CFFF is subject to Subpart H, and the accident sequence was not properly analyzed in the safety basis documentation and thus the Integrated Safety Analysis (ISA). The results of the revised evaluations will be incorporated into the annual ISA Summary update in January 2019.