



Westinghouse

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Westinghouse Electric Company LLC
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USA

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U. S. Nuclear Regulatory Commission
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Our ref: LTR-RAC-10-41
June 10, 2010

SUBJECT: WESTINGHOUSE REPORTED EVENT 30 DAY FOLLOW UP REPORT

The following information is being provided by Westinghouse Electric Company LLC (Westinghouse) in accordance with 10CFR70.50(c)(2). A copy of the initial notification report, Event Report # 45926, is attached and provides the applicable information required by 10CFR70.50(c)(1). The attachment also documents the additional information required in accordance with 10CFR70.50(c)(2).

If you have any questions regarding this report, please contact me at (803) 647-2045.

Sincerely,

Gerard F. Couture
Gerard F. Couture, Manager
Licensing & Regulatory Programs
Westinghouse Columbia Fuel Fabrication Facility
Docket No. 70-1151, License No. SNM-1107

Attachment

cc: U. S. Nuclear Regulatory Commission, Region II
Attn. Mr. Richard Gibson
Atlanta Federal Center
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

U. S. Nuclear Regulatory Commission
Attn: Christopher Ryder, Project Manager
Mail Stop: EBB 2C40M
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

South Carolina - Department of Health and Environmental Control
Attn: Susan Jenkins, Assistant Director
Division of Waste Management
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201-1708

NRC Notification
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Fax# 301-816-5151

May 14, 2010
Report # 45926 10:54

Facility

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.

Time and Date of Event

May 13, 2010, 12:33 pm EST

It was reported to EH&S Management that on May 13, 2010 that the XV-202-I valve actuator was showing open when the valve was closed. This valve is the Uranium Hexafluoride (UF_6) education back-up emergency shut off valve and is credited as a protective feature for a high level condition in the hydrolysis column. This valve is a key component of an Item Relied On for Safety (IROFS) and is identified in the Integrated Safety Analysis (ISA) Summary for the conversion area of the Columbia Fuel Fabrication Facility. This IROFS designation is ADUVAP-110. No process upset occurred and the condition was discovered by the production staff during normal operation.

This notification is made based on 10CFR70 Appendix A (b) (2) "Loss or degradation of items relied on for safety that results in failure to meet the performance requirements of 10CFR70.61." The performance requirements for this accident sequence require the Overall Likelihood Index (OLI) be a -4, which corresponds to Highly Unlikely. With this control failure the sequence OLI is a -3 which corresponds to Unlikely.

Immediate Corrective Actions:

- Upon identification of the issue on May 13 production shut down conversion line 2 and generated a "redbook" to inform EH&S.
- Maintenance determined the valve actuator had been installed incorrectly.
- Maintenance properly installed the actuator on the valve and demonstrated proper performance.
- The event has been entered into the Corrective Action Process IR# 10-134-C001.
- Conversion line 2 remains shutdown pending staff management authorization for restart.
- For all modifications/maintenance activity on IROFS in safety significant systems, staff management approval is required for restart of the system.

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

(2) Written report. Each licensee that makes a report required by paragraph (a) or (b) of this section, or by § 70.74 and Appendix A of this part, if applicable, shall submit a written follow-up report within 30 days of the initial report. Written reports prepared pursuant to other regulations may be submitted to fulfill this requirement if the report contains all the necessary information, and the appropriate distribution is made. These written reports must be sent to the NRC's Document Control Desk, using an appropriate method listed in § 70.5(a), with a copy to the appropriate NRC regional office listed in appendix D to part 20 of this chapter. The reports must include the following:

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

This information has been provided above.

(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;

The maintenance engineer selected a Xomox valve with a HyTork actuator to replace other models of UF6 valves. The installation of these valves differed from those that were in current use for this application in two ways:

1. The valve-actuator couplings that were in current use were all slotted so that valve stem was visible to the instrument technician after installation, whereas the Xomox couplings completely enclosed the valve stem so that only a thread's height of the stem was visible to the technician.
2. The slot orientation of the coupling that were in current use allowed the actuator to connect to the valve in only one orientation, whereas the Xomox couplings were square and fit into an eight-sided star drive, allowing for four different orientations.

Neither the maintenance managers nor engineers were aware of the need to provide additional instructions or safeguards because they did not recognize the increased potential for misinstallation. No maintenance procedures were revised or written to identify the process necessary to properly install the Xomox valve with a HyTork actuator in safety significant applications. As a result, the mechanics or electricians were not provided with clear installation instructions for the Xomox valve and HyTork actuator, and no additional safeguards were established to ensure the valve and actuator were correctly aligned. Had specific measures been put in place, the valve and actuator may have been installed correctly and this event may not have occurred.

During the performance of the work there was a less than adequate turnover of work status in that informal communications were utilized to transfer important information on the status of the work activity. The informal communications consisted of handwritten notes on the mechanical work order, and verbal communications between mechanics. Neither of these informal work practices involved the electrician who was to install the actuator.

There existed a lack of or unclear standards for this valve/actuator installation. The instrument technician verified the valve position by looking at the indicator instead of the valve stem. This was a practice common to several instrument technicians. This practice had never before resulted in any negative consequences and so had not been made aware to management. The technician's manager stated that this

practice did not meet expectations. Because the instrument technician relied on the indicator reading instead of the orientation of the valve stem, the incorrect orientation of the valve was not detected and the event was not prevented.

(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;

Completed Corrective Actions:

- Maintenance determined the valve actuator had been installed incorrectly. Maintenance properly installed the actuator on the valve and demonstrated proper performance. These actions restored compliance for the identified issue contained within the event report. This action was completed on 5/13/2010.
- To reinforce the proper attention to detail and management expectations for maintenance work being performed, in the days following this event staff level management instituted and carried out a strategy where a staff level manager confirmed that in the field: plant personnel had properly identified the IROFS; Maintenance work on IROFS had been properly tested, documented and signed off; and ensured that the control function and action expected have been satisfied. The Staff member also ensured that the level of detail/instruction in the functional test document was clear, complete and accurate for the maintenance performed (i.e., did the test check the maintenance activity). This practice was carried out until senior staff in consultation with EH&S had determined that no significant issues or repeat occurrences were likely for planned near term maintenance would result in a potential for failing to meet the performance requirements.
- MCP-203671, titled "Actuated Valve Orientation Verification Procedure," was implemented to formalize the requirement that instrument technicians verify the stem orientation during interlock check instead of relying on the indicator reading. This procedure was released on 6-4-2010.

Additional Planned Additional Corrective Actions:

- Modify MCP-203671 to define an acceptable method of manipulating valves during maintenance activities.
- Develop a procedure that addresses proper maintenance work practices for actuated valves.
- Create valve training and qualification requirement for all Maintenance and Work Management personnel.
- Modify MAPCON Work Orders to improve document turnover information.
- The above actions will be tracked to completion by management in accordance with the corrective action process.

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

The Columbia Fuel Fabrication Facility is subject to Subpart H. As described in the body of the event report the potential for this type of event was recognized and discussed in the Integrated Safety Analysis. As the IROFS involved is an active component, it is subject to appropriate management measures identified in the ISA. The failed IROFS was self identified by Westinghouse while preparing for operation of this part of the system.