



babcock & wilcox nuclear operations group

▶ p o box 785 ▶ lynchburg, va 24505-0785 usa ▶ phone 434 522 6000
▶ www.babcock.com

March 2, 2011
11-019

ATTN: Document Control Desk
Director, Office of Nuclear Material Safety & Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Reference: License SNM-42, Docket 70-27

Subject: 30-Day Written Report for Event Notification Number 46589

Dear Sir or Madam:

Enclosed please find Babcock & Wilcox Nuclear Operations Group, Inc. ("B&W NOG") 30-Day Written Report for Event Notification Number 46589. The event notification was reported under 10 CFR 70 Appendix A (b)(2), loss or degradation of items relied on for safety that results in failure to meet the performance requirements of 10 CFR 70.61.

The enclosure provides detailed information and corrective actions related to this event. If you have questions or require additional information, please contact me at (434) 522-5665.

Sincerely,

Barry L. Cole
Manager, Licensing & Safety Analysis
Babcock & Wilcox Nuclear Operations Group, Inc., Lynchburg

Enclosure

cc: NRC, Region II
NRC, Resident Inspector
NRC, M. Baker

JE72

30-Day Written Report for Event Notification # 46589 – February 3, 2011**Event Description**

On February 3, 2011 at 14:22 EST, Babcock & Wilcox Nuclear Operations Group, Inc. - Lynchburg ("NOG-L") notified the U. S. Nuclear Regulatory Commission ("NRC") of an event in the Uranium Recovery facility. An unfavorable volume container was found in the Uranium Recovery Container Controlled Area (CCA). The container consisted of a portable vise table with four unfavorable volume utility cabinets stored on a shelf underneath as shown in Figure 1 below. The cabinets housed small plastic slide-out trays used to store nuts / bolts / washers, etc. The slide-out trays did not have drain holes to prevent the accumulation of liquid. The total volume of the slide-out trays (treated as a single container) exceeded the container control LCO limit.



Figure 1- Photograph of Portable Vise Table with Four Unfavorable Volume Utility Cabinets

The portable vise table was immediately removed from the CCA. At the time of the discovery, the facility was not processing special nuclear material (SNM) due to planned maintenance work. There was no SNM found in the slide-out trays. Based on interviews with area personnel, it is believed that the vise table had been in the CCA when SNM operations were in process in the past. The control of container volume and geometry in the CCA is an Item Relied on for Safety (IROFS). Having the slide-out trays in the CCA in the past constitutes a loss of an IROFS.

The as-found condition had no actual safety significance. There was no immediate risk or threat to the safety of workers or the public as a result of this event. The portable vise table was typically stored in an area that does not process fissile solutions. On occasion, it was moved into other areas of the CCA during maintenance activities.

If moved into a solution processing area, the table would need to be located in close proximity to an overhead transfer line or column to be exposed to a fissile solution. The area is attended during processing and operators would intervene if solution were spraying onto the cabinets. Had a leak occurred from an overhead source, several of the cabinet drawers would need to be left open and the cabinet unattended for an extended period of time for a significant amount of solution to collect. It is unlikely that enough drawers would be left open and the table positioned such that concentrated fissile solution could drip directly into the drawers and collect in a sufficient quantity to result in a criticality. A criticality is highly unlikely in this scenario, but not incredible. As such, the event was reported to the NRC in accordance with 10 CFR 70, Appendix A, (b)(2) – Loss or degradation of items relied on for safety that results in failure to meet the performance requirement of §70.61.

Initial Evaluation

Actions taken by NOG-L following the event were as follows:

1. The unfavorable volume container was immediately removed from the area.
2. An investigation team was formed.
3. An extent of condition review was completed.

Investigation Team Findings

The Investigation Team utilized the Nuclear Work Model Critique method, Cause Mapping, TapRoot®, and Human Performance Investigation techniques to determine the root causes for this event. A root cause was identified as follows:

Root Cause: Extent of condition reviews need improvement

Two earlier extent of condition reviews conducted in association with previous events in the CCA failed to identify the presence of the portable vise table with the four unfavorable volume utility cabinets. Based on interviews with area personnel, it was estimated that the portable vise table had been in the CCA for over 20 years. The personnel in the area assumed the equipment had been “grandfathered in” and was

acceptable for use in the CCA. As improvements were made over time to the Container Control process, the focus was on assuring items that entered or were generated in the CCA were evaluated. As these improvements to the CCA process were implemented, it was assumed existing items in the CCA had been evaluated and met the new requirements. Searches for other potential containers in the CCA needed improvement.

Corrective Actions to Prevent Recurrence

As a result of the investigation, corrective actions to prevent recurrence for the root cause were identified:

Corrective Action 1-1: Revise QWI 14.1.1, *Preventative / Corrective Action System*, to provide improved guidance on the execution of extent of condition reviews.

To be completed by: 4/15/11

Corrective Action 1-2: Provide training per revisions to QWI 14.1.1 on how to conduct extent of condition reviews.

To be completed by: 7/15/11

Corrective Action 1-3: Complete an extent of cause review to confirm the adequacy of the extent of condition reviews associated with events reported under 10 CFR 70, Appendix A, (a) and (b), to the NRC since January 1, 2006, per the improved guidance of QWI 14.1.1.

To be completed by: 10/15/11

Corrective Action 1-4: Evaluate other equipment in the CCA as necessary. Implement additional IROFS and management measures as appropriate. Implement inspections to ensure unfavorable geometry equipment is properly controlled and maintained to assure compliance with CCA requirements on an ongoing basis prior to restart of operations in the CCA.

To be completed by: 6/30/11