

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending October 14, 2011

ORNL Tank W-1A. UCOR initiated operations at Tank W-1A last month (see the 9/9/11 report). To date, UCOR has loaded 15 B-25 boxes with contaminated soil and shipped the first three B-25 boxes to the Nevada National Security Site last week.

Criticality Safety. During the past two weeks, B&W has discovered three independent violations of criticality safety requirements.

- Last Wednesday, while developing a Technical Evaluation and Acceptance Plan (see the 8/5/11 report) for the crucibles (i.e., liners) used during furnace reduction operations (see the 2/27/09 report), engineering personnel identified that the crucibles generally do not meet the very specific dimensional specifications identified on the applicable drawing. The Criticality Safety Requirements (CSRs) generically identify adherence to the drawing as a passive control for ensuring the crucibles are geometrically subcritical.
- Last Thursday, in response to questions raised by an operator, a criticality safety officer discovered a discrepancy between the Criticality Safety Evaluations (CSEs) and CSRs that analyze and specify controls associated with storage of uranium parts in birdcages. Specifically, the CSEs only allow either a divider or pad to be used in birdcages while the CSRs allow both a divider and pad to be placed together in birdcages. B&W identified approximately 400 birdcages in Buildings 9212, 9204-2E, and 9215 that contain both a divider and pad. B&W subsequently performed calculations that demonstrate simultaneous use of both dividers and pads is not a criticality safety concern.
- On Monday, a criticality safety officer discovered seven dollies in area of E-Wing. The applicable criticality safety posting limits this area to six dollies. B&W did not report this event using its Initial Event Information report process (see the 8/29/08 report).

Conduct of Operations. Two weeks ago, B&W issued a revision to its Conduct of Operations Manual (see the 9/23/11 report). The revision to the Manual includes the following:

- A strategic vision to reduce the number of precautions and limitations placed in the front matter of a procedure by putting controls that apply to a particular step or steps directly into the body of the procedure.
- A requirement for place keeping (e.g., check marks, initials, circle-slash etc.) to be used during execution of all production procedures designated as 'continuous-use'.
- Augmented requirements (e.g., repeat backs, etc.) for using a reader/worker method while executing production procedures.

This week, Production Division management issued a Standing Order that requires the circle-slash place keeping method be used during execution of 'continuous-use' procedures. Per the Standing Order, B&W's circle-slash method consists of (1) putting a circle next to the step to be performed, (2) reading the entire step, (3) performing the entire step, and (4) putting a slash through the circle after completing the step.