

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Steven Stokes, Acting Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending June 28, 2013

Transuranic Waste Processing Center (TWPC): Last Sunday night, a process heater for a safety-significant ventilation system at a TWPC facility overheated and activated the facility's fire suppression system. The event was caused by a storm, which led to momentary loss of power and a shutdown of the ventilation system while the process heater remained energized. The process heater was designed for heating off-gas from an evaporator used during the supernate campaign that ended roughly 10 years ago. WAI has yet to determine why the heater failed to control temperature and the over-temperature shutoff failed to secure power as designed. Smoke from scorched piping insulation and melted plastic parts on a nearby valve caused a smoke detector in an adjacent room to activate roughly six hours after the loss of power. The ORNL Fire Department responded and discovered heavy smoke in the room, but no flames. Shortly after this discovery, a sprinkler activated and the fire fighters quickly secured water flow. When the ventilation system shut down, an autodialer called a list of people to prompt investigation, but it failed to connect with the personnel on the list. As a corrective action, contractor management has initiated an "on-call" protocol to ensure personnel are responsible to answer and respond during periods when the plant is unmanned. Facility personnel have conducted an investigation to look for damaged equipment. Digital records indicate the credited HEPA filters never were exposed to excessive temperatures and differential pressures remained the same before and after the event. Water damage was discovered on a small equipment elevator, which has been tagged-out. The facility engineers are completing an evaluation of the events prior to resuming facility operations planned for early next week.

Conduct of Operations: B&W conducted a fact finding meeting to investigate why an abnormal condition on a round sheet was not reported to the Building 9212 shift manager and nuclear criticality safety personnel immediately, per the requirement noted on the round sheet. The round sheet implemented a criticality safety requirement for inspection of condensate drains in the basement of Building 9212. On Thursday of last week, an operator noted a "red-circled" entry indicating evidence of a water leak from the condensate system, but failed to make the required immediate notifications. On Monday, the shift manager reviewed the round sheets, noted the red-circled entry, and started an investigation that revealed no immediate hazard.

Emergency Response: This week, the site reps observed training for the Y-12 Emergency Response Organization (ERO). The training provided an overview of the actions taken by DOE to apply lessons learned from the 2011 Fukushima Daiichi nuclear plant accident in Japan. These actions culminated in an April 2013 bulletin from the DOE Office of Health, Safety, and Security, which included a requirement for all program offices to evaluate site emergency management program responses to severe events (i.e., events significant enough to trigger hazardous material releases from multiple facilities). The training discussed the Y-12 ERO's plans to address this required action from the bulletin, including plans to generate a severe event response plan. In accordance with the guidance in the bulletin, B&W plans to perform exercises that test the site's preparedness for severe events. As a first step towards preparing ERO personnel for these types of exercises, the training included a tabletop exercise of a severe event scenario.