DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Rory Rauch, Site Representative
SUBJECT: Oak Ridge Activity Report for Week Ending September 28, 2012

Uranium Processing Facility (UPF): Last January, NPO (YSO at the time) directed B&W to revise the Preliminary Safety Design Report (PSDR) for UPF (see 1/20/12 report). This week, B&W submitted a revision to the PSDR that addresses NPO's comments. This revision incorporates changes resulting from hazard evaluation study revisions, upgraded fire analyses (including a revised seismic fire design basis accident), and nuclear criticality safety control strategies. The revision to the PSDR also changes the functional classification of containers designed to meet DOE Manual 441.1-1, *Nuclear Material Packaging Manual*, from safety-significant to defense-in-depth.

The analysis in the PSDR also identifies a seismically-initiated fire as a potential common cause initiator of both a radiological release and a nuclear criticality accident. The dose consequence to the maximally-exposed offsite individual at the site boundary for this scenario slightly exceeds 5 rem total effective dose equivalent (TEDE). DOE Standard 1189, *Integration of Safety into the Design Process*, states that the contractor project team should consider safety-class designation of controls to protect against accident scenarios with unmitigated consequences between 5 and 25 rem TEDE. In the cover letter transmitting the PSDR, B&W states that the PSDR provides a basis for the calculated dose consequences not challenging the evaluation guideline of 25 rem. However, given that certain design details are not currently available, B&W has recommended elevating the functional classification of the facility structure and designated fire barriers to safety-class. B&W is updating the Safety Design Strategy to reflect the changes to the PSDR, the revised Critical Decision Strategy, and the comments from the Technical Independent Project Review.

Contractor Performance: NPO recently issued the fiscal year 2013 performance evaluation plan (PEP). This "strategic" PEP promotes a new governance and oversight framework for evaluating contractor performance and establishing the amount of award fee earned by the contractor. NNSA's previous framework for evaluating contractor performance included a specific set of performance measures (approximately 50 performance measures were identified, with scores of associated performance targets and corresponding performance-based incentives). By contrast, the strategic PEP eliminates performance-based incentives and contains 5 general performance objectives (POs) in the areas of nuclear weapons mission, broader national security mission, science and technology, security and institutional management, and contractor leadership. Some of the POs are further defined by one or more site-specific "outcomes" (the PEP contains a total of 8 outcomes in aggregate). For example, the PO for security and institutional management contains a site-specific outcome that states "successfully execute the engineering and nuclear safety programs while demonstrating continuous improvement in efficiency and effectiveness." Of note, this PEP no longer directly ties NNSA's evaluation of contractor performance to the health of various programs as demonstrated by contractor assurance system metrics; rather, the PEP contains a site-specific outcome related to the contractor's ability to demonstrate effective *utilization* of the contractor assurance system.