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DOE-ID Operations Summary
For the Period July 8, 2013 through July 28, 2013

EDITOR'S NOTE: *The following is a summary of contractor operations at the Idaho National Laboratory, managed by DOE- Idaho Operations Office. It has been compiled in response to a request from stakeholders for more information on health, safety and environmental incidents at DOE facilities in Idaho. It also includes a brief summary of accomplishments at the Site. POC –Danielle Miller, (208) 526-5709.*

Advanced Mixed Waste Treatment Project (AMWTP)

Notable Accomplishments: The Idaho Treatment Group, LLC, the managing contractor for the Advanced Mixed Waste Treatment Project, passed the Phase 2 validation of its Integrated Safety Management System. The Phase 2 validation was performed by the Department of Energy, to verify that the procedures and policies are in place to support safe operation of the project. Based on the review results and ITG's response to identified issues, the ISM Review Team concluded safety was systematically integrated into ITG's management and work practices, processes and organizational culture but also noted that improvements are needed.

Idaho Cleanup Project (ICP)

Notable Accomplishments: Sixteen of sixteen planned shipments of contact-handled (CH) transuranic (TRU) waste and four of four planned shipments of remote-handled (RH) TRU waste were made to the Waste Isolation Pilot Plant (WIPP) for the two week period of July 6 through July 20, 2013.

Idaho National Laboratory (INL)

July 10, 2013: Machining operations of a Highly Enriched Uranium (HEU) pin were being conducted when the carbide tip of the machining head was positioned against the HEU pin causing a white spark to fall in to the catch basin in the lathe enclosure where machined turnings are collected. A Battelle Energy Alliance (BEA) employee noted a blue glow in the area of the accumulated turnings in the catch basin, work was concluded in accordance with the approved procedure. A post job briefing was held, and a path forward was developed to recover the HEU pin and turnings and transfer the materials into an inert glovebox for a more thorough inspection. The procedure for using the lathe listed this as a potential hazard and identified the necessary controls. [NE-ID-BEA-ATR-2013-0024]

July 10, 2013: A back-up diesel generator to the Advanced Test Reactor did not complete the start-up cycle before it shut down during its monthly surveillance. Subsequent to the failed surveillance the generator was successfully started on three consecutive start-ups. Engineering completed an evaluation and the generator was placed back in to service. [NE-ID-BEA-TSD-2013-0001]

July 16, 2013: BEA discovered that a proper lockout/tagout had not been installed for work being performed on the Advanced Test Reactor. A Lockout/Tagout (LO/TO) was hung on an experiment loop to perform the 4-year replacement of the loop pressurizer relief valve; however, after valve replacement it was discovered that one potential pressure source to the pressurizer was not controlled by the LO/TO. The LO/TO ensures that workers are not potentially exposed to a

hazardous energy source. The ATR was shut down in support of a scheduled maintenance outage. [NE-ID-BEA-ATR-2013-0025]

July 18, 2013: During an upgrade to fire protection system at the Fuel Conditioning Facility, operations discovered a blown 120-V fuse, indicating an unmitigated power source. Further investigation determined that the work package was not adequate to address all of the electrical hazards and system interconnections associated with the fire alarm system upgrade. [NE-ID-BEA-FCF-2013-0001]

July 24, 2013: The Reactor Operator of Neutron Radiography Reactor overshot the desired power level causing the reactor to automatically scram at the operational limit. Discussions of this event with operations personnel have included methods to provide more visual cues to the operator and improve human factors during power monitoring. [NE-ID-BEA-NRAD-2013-0002]

July 25, 2013: A Power Management Lineman slipped while accessing the bucket of a lift truck. The lineman fell 4½ feet resulting in a fracture and a laceration to his left forearm. Four linemen were on the job site removing abandoned poles and associated hardware near the Central Facilities Area (CFA). Work was stopped, and the event is currently under investigation. [NE-ID-BEA-CFA-2013-0001]

Notable Accomplishments: Idaho National Laboratory's R&D 100 winner purifies industrial wastewater, offering significant resource savings benefits. INL researchers earned an R&D 100 Award for one nominated technology under the 2013 international competition hosted by R&D Magazine.

INL nominated three technologies for the 2013 R&D 100 competition and now has earned a total of 48 R&D 100 Awards since 1986. INL's 2013 R&D 100 Award winner is the Switchable Polarity Solvents Forward Osmosis (SPS FO) technology, which cleanses industrial wastewater by leveraging the switching qualities of selected specialized thermolytic salts (a class of catalysts). Patent-pending and environmentally friendly, the SPS FO process purifies water from extremely concentrated solutions, especially those containing salts, organics, inorganics, biologics and many other materials.

Once the water is drawn through a specialized semi-permeable membrane, the SPS FO diluted solute is exposed to low-grade heat, which causes the thermolytic salts to release carbon dioxide and switch to an oily insoluble material. This oily material is physically separated from the water, permitting its reuse. It offers a significant benefit to water-intensive industrial processes such as oil-gas fracking operations that use 3 to 5 million gallons of water per well (video at www.inl.gov/spsfo).