

Distributed on November 20, 2014

**DOE-ID Operations Summary
For the Period June 16, 2014 through July 31, 2014**

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)

June 25: After discovering clumping of fissile material in waste some containers. The Idaho Treatment Group determined that the safety analysis of stored waste container configurations may be inadequate because it assumed general distribution of fissile mass in containers. The Idaho Treatment Group has implemented a number of operational restrictions related to waste container configurations and storage, which will remain in effect until evaluation of the safety analysis is complete. [EM-ID--ITG-AMWTF-2014-0006]

July 2: An Idaho Treatment group systems engineer declared a working requirement violation when it was discovered that a preventative maintenance item had not been established for changing filters on a vertical band saw. [EM-ID--ITG-AMWTF-2014-0007]

July 18: Cargo container packaging operations were suspended when Radiological Control Technicians (RCT) discovered contamination on a fork lift fork outside of a contamination area or contamination buffer area. Following the discovery, the RCTs immediately stopped work, directed personnel to stand back 25 feet, and made notifications as required. [EM-ID--ITG-AMWTF-2014-0008]

Notable Accomplishments:

Office of Environmental Management Completes Idaho Site Sludge-Drum Waste Treatment Project

The Office of Environmental Management and its cleanup contractors at the Idaho Site, CH2M-WG Idaho LLC (CWI) and the Idaho Treatment Group LLC (ITG), recently completed the treatment and repackaging of 6,000 drums of radioactive and hazardous waste. The 6,000 drums represented approximately 1,200 cubic meters of some of the most difficult waste and is part of the 65,000 cubic meters of transuranic waste that must leave the state as part of the 1995 Idaho Settlement Agreement.

“By using our existing facilities, and with the combined support of federal and contractor employees, CWI and ITG are demonstrating the dedication and commitment of the Idaho site to safely and compliantly treat and ship challenging radioactive waste streams,” said DOE’s Jim Cooper.

The waste, which was originally sent to Idaho in the 1970s was stored at the ITG-managed Advanced Mixed Waste Treatment Project. The drums of sludge waste were then transported to CWI, where it was emptied and sorted within a soft-sided building constructed over the waste disposal cell known as Pit 9, but now called Accelerated Retrieval Project V.

The steel-framed, fabric building over Pit 9 was originally constructed in 2010. In January 2011, CWI began removing radioactive and hazardous waste buried there since 1969. CWI completed the cleanup of Pit 9 in August 2011, a year ahead of schedule and millions of dollars under budget. The Pit 9 waste exhumation facility was then repurposed for treatment of Resource Conservation and Recovery Act wastes, which ultimately saved taxpayers millions of dollars over the cost of constructing a new building. All 6,000 drums were opened in the ARP V, using specially designed excavators where operators wore protective clothing with supplied air. The waste from the drum was successfully treated and repackaged.

After the drums of waste were repackaged, they were sent back to AMWTP where the drums will be re-characterized and then shipped out of Idaho for permanent disposal. While 6,000 drums went over to CWI, more than 12,000 drums were returned, due to the addition of absorbent for immobilizing liquids. An additional 530 boxes of secondary waste, consisting of the original, now emptied, drums were returned to ITG, also for shipping to a permanent disposal site.

Idaho Cleanup Project (ICP)

June 16: During a pre-job walk down, a CH2M-WG, Idaho maintenance craftsman identified that a lock and tag (LO/TO) had been placed on an incorrect valve per the LO/TO record sheet at the Idaho Nuclear Technology and Engineering Center. The line had been LO/TO in preparation for a weld repair of a leaking joint. At no time were personnel at risk of harm or danger. [EM-ID--CWI-FUELRCTR-2014-0002]

Notable Accomplishments: See above

Idaho National Laboratory (INL)

July 2, 2014: While researching a future upgrade to primary coolant pump breakers/motor starters, at the Advanced Test Reactor, an engineer noted that a control wire for one of the pumps was not properly attached to a terminal board in an electrical cabinet. A maintenance work request was submitted to correct the wiring discrepancy. [NE-ID--BEA-ATR-2014-0018]

July 16: A researcher installed a flowmeter on a dilatometer at the Fuels and Applied Science Building without establishing a lockout/tagout per INL requirements. [NE-ID--BEA-FASB-2014-0001]

July 19: It was determined that a previously applied interim control used to maintain inlet and outlet temperature limits at the Advanced Test Reactor was not carried forward in to additional safety processes Calculations indicate that IPT protection criteria were not exceeded while this discrepancy existed and had no impact on nuclear safety. [NE-ID--BEA-ATR-2014-0019]

July 14: After a job site walk down, an INL shift manager determined that some of components scheduled for removal as part of a Deactivation and Decommissioning (DD) project were not covered under the lockout/tagout for the project. While the components were not currently energized, they could have been automatically energized. BEA Construction Management will perform an apparent cause analysis of this event. [NE-ID--BEA-MFC-2014-0003]

July 23: A researcher at the Analytical Laboratory installed a flowmeter without establishing a lockout/tagout per INL requirements. [NE-ID--BEA-AL-2014-0002]

Notable Accomplishments:

Idaho researchers win two R&D 100 Awards

Idaho National Laboratory won two R&D 100 Awards in the 2014 international competition hosted by R&D Magazine. The annual competition recognizes the top 100 inventions of the past year. The winning INL technologies could improve advanced battery design, and speed scientific discovery with advanced simulation capabilities.

"The exceptional work of INL researchers has once again earned top honors in the annual R&D 100 competition," said Todd Allen, INL deputy lab director for Science and Technology. "We could not be more proud of them."

Both winning technologies relate to innovative modeling systems.

The Advanced Electrolyte Model (AEM) is a powerful tool that analyzes and identifies potential electrolytes for battery systems. It offers significant resource savings by optimizing material combinations for new batteries. AEM predicts and reports key properties underlying electrolyte behavior in the electrochemical cell environment. (Learn more in the video here: www.inl.gov/aem.)

The Multiphysics Object Oriented Simulation Environment (MOOSE) makes it easier for scientists to predict phenomena ranging from nuclear fuel and reactor performance to groundwater and chemical movement. Such simulations can help speed the pace of scientific discovery but traditionally required more computing resources than most scientists and engineers could readily access. (Learn more in the video here: www.inl.gov/moosevideo.)

"These awards recognize the tremendous value of our national labs," said Secretary of Energy Ernest Moniz. "Research and development at the national labs continues to help our nation address its energy challenges and pursue the scientific and technological innovations necessary to remain globally competitive."

INL nominated three technologies for the 2014 R&D 100 Award competition and now has earned a total of 50 R&D 100 Awards since 1986.