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**DOE-ID Operations Summary
For the Period January 15, 2014 through February 28, 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)

Nothing to Report this period

Notable Accomplishments: The TRUPACT-III visits the Advanced Mixed Waste Treatment Project

The Advanced Mixed Waste Treatment Project is laying the groundwork to begin using a transuranic waste shipping package that contributed to the successful completion of a Savannah River Site (SRS) cleanup campaign last year.

The Transuranic Package Transporter Model 3 or TRUPACT-III allows EM to package and ship large-sized transuranic waste in a single box that would otherwise have to be broken down into smaller waste boxes. This package helps accelerate the pace of cleanup while reducing risk to worker safety. AMWTP will use the TRUPACT-III to transport items for disposal that are too large to be processed in Idaho.

The TRUPACT-III was on display recently for AMWTP employees. They have been tasked with designing a process to allow waste to be loaded into the 43,630-pound TRUPACT-III while the package is attached to a transportation trailer. It currently takes about eight hours to remove the TRUPACT-III from the trailer, load waste into the package, and return it to the trailer. AMWTP employees hope to cut that time in half by designing a rolling table that allows waste to be placed in the TRUPACT-III without removing the package from the trailer.

“We believe that the use of the TRUPACT III will be beneficial to Idaho because it will minimize the time that AMWTP employees spend in a highly contaminated cell with significant physical and environmental hazards using saws and plasma torches to size reduce large items to fit into 55-gallon drums,” said DOE Idaho Solid Waste Disposition Program Manager Ben Roberts. “We believe that loading the TRUPACT-III while it is still on the trailer will be a significant process improvement over current operations.”

Idaho Cleanup Project (ICP)

January 20, 2014: A CH2M-WG, Idaho (CWI) Nuclear Facility Manager determined that the safety document related to the ion exchange columns located at the Idaho Nuclear Technology and Engineering Center (INTEC) may be inadequate because it did not consider the potential for resin degradation due to oxidation and exposure to radiation during its service life. Further evaluation is being conducted. [EM-ID--CWI-FUELCSTR-2014-0001]

February 20, 2014: While being lifted using a crane at the Integrated Waste Treatment Unit (IWTU), a spreader bar came in contact with a crane bridge resulting in damage to the spreader bar. The spreader bar had been staged on the upper level of the facility and was attached the crane hook and lifted in preparation for movement to the lower level. The crane operator raised the crane hook too high and the spreader bar came in contact with the crane bridge. The crane operator heard the spreader bar hit the crane bridge and immediately lowered the crane hook.

An informal visual inspection of the crane bridge and the spreader bar was performed. The initial inspection indicated no visual signs of damage to the crane bridge but the spreader bar appeared to have been bent and was moved down to the lower level for further evaluation. [EM-ID--CWI-IWTU-2014-0001]

Notable Accomplishments: CWI Recognized by Idaho Power for Energy Conservation Initiatives

CWI recently received a check for more than \$132,000 from Idaho Power for significant energy cost savings at the Idaho Nuclear Technology and Engineering Center.

In a response to a challenge from CWI Vice President Jim Floerke, engineers, maintenance workers, operations personnel and office workers began to identify potential ways to aid in INTEC's energy conservation effort to potentially reduce the facility's nearly \$3 million annual electricity costs.

A Facility Use Evaluation team walked down several facilities, devised methods of reducing energy consumption, interviewed nearly all work disciplines, interfaced with the Idaho Power Custom Efficiency team, generated cost estimates, performed risk analysis, and then presented this information in director meetings. Within these meetings safety and risk mitigation were paramount in the decision making.

INTEC was built in the early 1950s to reprocess spent nuclear fuel and recover the unused uranium, an endeavor that resulted in the construction of scores of massive buildings and support equipment needing to be heated and cooled in the harsh Arco Desert. After that mission ended in 1992, INTEC became the Site's main spent nuclear fuel storage facility and also continued to manage both liquid and solid radioactive waste resulting from its reprocessing operations, still requiring hundreds of megawatts of electricity annually provided by Idaho Power.

"I'm extremely proud of everyone who participated in this conservation effort," said Floerke. "The measures taken will result in the savings of hundreds of thousands of dollars per year and reduced INTEC's overall winter electricity usage by 16 percent."

The greatest cost savings was realized in the CPP-603 building where spent nuclear fuel is in dry storage. Beginning in October, the building's temperature was lowered to 40 degrees and ventilation and other systems were optimized.

The combined savings from this effort has saved INTEC approximately \$80,000 in power over the last two months. When combined with the Idaho Power incentive check, the projected savings at the end of last calendar year was nearly a quarter of a million dollars.

Idaho Power's Custom Efficiency program is a cash incentive program for large commercial and industrial customers who undertake complex projects to improve the efficiency of their electrical systems or processes. CWI has been recognized in the past for its energy conservation efforts.

Idaho National Laboratory (INL)

January 16, 2014: An independent review committee at the Advanced Test Reactor determined that the required analysis (Experimental Safety Analysis Package (ESAP)) to place an experiment into the reactor was not completed as required. The Advanced Test Reactor was shut down to allow further investigation and analysis of the Electric Power Research Institute (EPRI) experiment. Upon further review it was determined that the stainless steel experiment had analysis that was bounding, and the critical parameters for reactor safety were within the acceptable limits. The additional analysis was completed prior to the reactor starting back up. [NE-ID--BEA-ATR-2014-0004]

January 21, 2014: While performing routine rounds, an Advanced Test Reactor Process Operator noted an acrid odor coming from the Plant Protective System transformer. Upon investigation, the operator noted that the associated battery charger supply breaker was in the tripped position. The operator positioned the breaker to the full open position and reported the findings to the reactor control room. It was also discovered that the emergency firewater injection system was manually isolated to prevent inadvertent firewater addition to the reactor vessel due to the potential for battery system rundown. The transformer was replaced and satisfactorily retested prior to the Advanced Test Reactor returning to operation. [NE-ID--BEA-ATR-2014-0005]

January 21, 2014: While performing a test for a technical safety requirement at the Advanced Test Reactor, a diesel automatic fuel transfer pump failed to start and transfer fuel to maintain the onboard fuel storage tank level. The diesel generator provides power to a deep well pump for a long term loss of makeup water inventory event. The test was terminated and the diesel generator was shut down. The cause of the failure was identified as a loose electrical connection for the transfer pump. The connection was repaired and the test was performed satisfactorily prior to the reactor restart. [NE-ID--BEA-ATR-2014-0006]

February 3, 2014: A Battelle Energy Alliance safety system technician failed to follow the established hazard control program when the employee entered an equipment operation zone (EOZ) at the Specific Manufacturing Capability (SMC) facility without following the approved process for such entry. The system was not in operation at the time of the event. SMC management stopped the technician and directed him to exit the EOZ and appropriate notifications were made. [NE-ID--BEA-SMC-2014-0001]

February 21, 2014: A Utility Operator at the Central Facilities Area was performing a flame sensor safety check on a building heat boiler. The operator inadvertently contacted an igniter wire and received a shock to his right hand. The operator reported to INL medical for evaluation and was released back to work with no restrictions. [NE-ID--BEA-CFA-2014-0001]

February 19, 2014: A Battelle Energy Alliance researcher received a minor acid burn when acid was spilled while opening a plug seal in a laboratory fume hood. The researcher was transported to onsite medical for evaluation. The researcher was provided burn ointment and released to go home. [NE-ID--BEA-INLLABS-2014-0001]

Notable Accomplishments: Researchers and inventors honored for scientific achievements in 2013

In February, INL honored more than 100 researchers and inventors during its annual recognition event at the Energy Innovation Laboratory in Idaho Falls. INL's 18th Annual Honors Reception highlighted achievements in 2013, including the receipt of 39 new patents, the application for 21 new patents and the submission of 32 new inventions for evaluation. These efforts produce advances that may be used by U.S. government agencies and licensed for commercialization in various markets.

"Our researchers and inventors deserve recognition and congratulations for their many impressive achievements," said INL Laboratory Director John Grossenbacher. "Research and technology from Idaho National Laboratory materially contributes to solving significant national challenges in energy, environment and national and homeland security."

In addition to recognizing patented invention and copyrights, special recognition was awarded for three Laboratory Director's Achievement Awards, Inventor of the Year and Technician of the Year Award. Recipients of these awards were honored for significant contributions in their research fields during 2013.

The winners included:

- Joshua Daw for Exceptional Engineering Achievement,
- Aaron Wilson for Early Career Exceptional Achievement,
- Douglas Porter for Individual Lifetime Achievement in Science and Technology,
- Inventor of the Year Gus Caffrey, and
- Technician of the Year Albert Smith.