Issued on December 4, 2017

DOE-ID Operations Summary
For the Period April 1, 2017- June 30, 2017

EDITOR'S NOTE: *The following is a summary of contractor operations at the Idaho National Laboratory Site, managed by the 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.*

Idaho Cleanup Project (ICP)

May 4: While removing bagged waste items from a 55 gallon drum, an Idaho Cleanup Project waste management operator experienced pain in their right bicep. The employee was evaluated by Site medical professionals and provided with icepacks and a sling. An MRI and a follow-up appointment with an off-Site specialist revealed surgery would be necessary to repair the damage. The surgery required to repair the damage was performed in mid-May. [EM-ID--FID-ICPWM-2017-0001]

May 11: During exhumation operations inside of a waste retrieval enclosure at the Accelerated Retrieval Project (ARP), an excavator slid partially into an open, 21-foot deep pit; the excavator did not tip over and remained on its tracks. Excavation operations were immediately stopped. The Equipment Operator (EO) was unharmed and remained secure inside the excavator's cab. With the excavator in this resting position, the cab was facing uphill to the south; all cab Lexan windows, cab egress door and the protective cab itself was undamaged. The operator remained in the excavator's protective cab for about 90-minutes after which a planned and safe egress occurred. The excavator was later leveled and safely driven out of the excavation. [EM-ID--FID-RWMC-2017-0001]

Notable Accomplishments: Workers Upgrade Idaho Site Facility to Allow for New Waste Treatment Mission

Workers at EM's Idaho Site are upgrading a hot cell in the New Waste Calcining Facility at the Idaho Nuclear Technology and Engineering Center to allow for the safe processing and treatment of a backlog of waste stored at the Materials and Fuels Complex.

EM must process this waste stream to meet a site treatment plan commitment with the Idaho Department of Environmental Quality. The waste originated from the Argonne National Laboratory-West Liquid Metal Fast Breeder Reactor program from the 1960s through the 2000s.

In preparation for the facility's new mission, operators helped determine updates needed to make their jobs more efficient and safer. They participated in all design reviews.

"It was a true collaborative effort between engineering and operations to finalize the new process configuration to meet future commitments and milestones," said EM Idaho Cleanup Project Contractor Fluor Idaho Engineering Manager David Morgan. "Everyone had a singular goal in mind: safe operations."

Idaho National Laboratory (INL)

April 13: While performing an operational test on a fire pump at the Advanced Test Reactor, a firewater pump was declared inoperable and placed out of service due to low RPM readings. [NE-ID--BEA-ATR-2017-0020]

April 13: A work group representative performing a required walk down of a Lockout-Tagout at the Specific Manufacturing Capabilities (SMC) discovered that one of the locks and tags was installed on the wrong circuit breaker in the power panel. [NE-ID--BEA-SMC-2017-0003]

April 25: A researcher working with a radioactive element in solution at the Radiochemistry Laboratory detected contamination on their left hand upon completion of a work evolution. The researcher placed a glove on the contaminated hand and immediately notified the facility Health Physics Technician (HPT). The HPT confirmed the presence of contamination on the left hand. The researcher's contaminated hand was once again covered with a glove and they were taken to a decontamination facility. Decontamination efforts commenced and were successful at removing the contamination. [NE-ID--BEA-INLLABS-2017-0002]

April 30: A confinement door at the Advanced Test Reactor was found to have a broken latch strike plate rendering the door latch inoperable. The ATR was in a maintenance outage at the time of discovery and the confinement system was not required to be operable. [NE-ID--BEA-ATR-2017-0022]

May 24: A deep well pump at the Advanced Test Reactor was declared to be inoperable due to a reduced flow output rate. The pump was secured and placed out of service. Subsequent investigation has identified a damaged oil supply line to the shaft bearing. Due to the status of the reactor, a deep well pump was not required to be operable. [NE-ID--BEA-ATR-2017-0024]

May 25: An emergency coolant pump at the Advanced Test Reactor was declared out of service due to an inoperable motor. The ATR was not operating at the time of discovery. [NE-ID--BEA-ATR-2017-0026]

May 26: A primary coolant pump at the Advanced Test Reactor was declared out of service due to an inoperable discharge check valve. Primary coolant discharge check valves are required to be operable during operation and for 30 minutes following. The ATR was not operating at the time of discovery. [NE-ID--BEA-ATR-2017-0025]

June 23: The INL Fire Department responded to a report of acrid odor and smoke coming from a relay cabinet at the Advanced Test Reactor. The INL Fire Department arrived on the scene and assisted assessing the cabinet internals with thermal imaging equipment and clearing smoke from the immediate area. [NE-ID--BEA-ATR-2017-0031]

June 28: A worker exiting a hot repair area at the Materials and Fuels Complex discovered contamination on his inner left bicep. Follow up surveys performed by radiation control technicians also identified contamination on his modesty clothing. The Radiation Control technicians successfully decontaminated the worker. [NE-ID--BEA-HFEF-2017-0001]

Notable Accomplishments: **Idaho National Laboratory celebrates Advanced Test Reactor's 50th anniversary-** On June 29, employees and visitors gathered at Idaho National Laboratory's Advanced Test Reactor to celebrate the contributions of the ATR to advance nuclear energy research.

In a prepared video message, Idaho's congressional delegation recognized the achievement and the critical role the ATR plays in securing our nation's energy future. The video is available at this link.

The ATR, along with its predecessors, the Materials Testing Reactor and Engineering Test Reactor (now both decommissioned), has produced much of the world's data on the behavior of materials and fuels in the radiation environments inside nuclear power reactors. This information has contributed significantly to the safety of commercial nuclear power plants worldwide and the outstanding performance of the U.S. Navy's nuclear fleet.

INL Laboratory Director Mark Peters said, "The Advanced Test Reactor truly is one of the crown jewels of this laboratory. Capabilities at ATR and the Materials and Fuels Complex allow INL, working with industry and academia, to ensure the competitiveness of nuclear energy for decades to come."

Among its many features, the ATR is designed as a virtual "time machine" to study the effects of radiation on reactor materials and fuels. It enables scientists to place materials in the reactor and then expose those materials to high concentrations of neutrons, to duplicate in only weeks or months the years of exposure that such materials would experience in, for example, a commercial reactor's radiation environment. This capability enables researchers to understand how materials and fuels will behave over their lifetime in many types of reactors.
The ATR's core design allows many experiments to be conducted simultaneously, with each experiment receiving a different and carefully controlled level of radiation. The ATR has been safely performing these valuable tests since July 2, 1967.

The U.S. Navy is the ATR's primary customer. Results of those tests have allowed the Navy to maintain an outstanding safety record and extend the at-sea life of nuclear-powered vessels.
For many years, the ATR has supported tests for a number of other customers, including the nuclear agencies of other countries and industry. In 2007, the Department of Energy designated the ATR a Nuclear Science User Facility. As a science user facility, the ATR offers unique domestic capabilities for nuclear fuel and reactor materials system development that universities, industry and regulatory agencies can utilize.

The ATR has also been the source of valuable medical and industrial isotopes, such as cobalt-60. Medical isotopes can help treat cancer, diagnose disorders, or address ailments such as arthritis and hyperthyroidism. Millions of patients around the world benefit from nuclear medicine.