

INL Intelligence

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A high-level monthly briefing on operations and activities at the U.S. Department of Energy's Idaho National Laboratory
Work at the lab advances the Department's strategic priorities of energy security,
nuclear security, scientific discovery and environmental responsibility.

■ INL Technology Supports National Emergency Response Exercise

INL recently showcased its Critical Infrastructure Protection and Resilience Simulator (CIPR/sim) during a national emergency response exercise called Noble Resolve. The CIPR/sim technology is a high-fidelity modeling and simulation program that allows first responders to visualize the cascading effects of a natural disaster or terrorist attack on infrastructure systems. During the exercise, INL's technology was used to simulate the effects of a large earthquake on the electric and telecommunications networks. Noble Resolve is a homeland defense campaign led by the United States Joint Force Command and U.S. Northern Command. Emergency responders from several states and federal agencies used information provided by the CIPR/sim technology to facilitate decisions and simulate how they would work together during an actual crisis.

■ Researchers Refine Promising Cancer Treatment

Researchers from Idaho and two other states are fine-tuning a promising technology that uses nuclear science to treat head and neck tumors. Those tumors have proven particularly resistant to traditional treatments. Now, INL researchers are collaborating with scientists from the University of Missouri and Washington State University to refine Boron Neutron Capture Therapy. BNCT treatment protocol begins with boron-10 being attached to a "delivery agent." Patients swallow or are injected with the agent, which attaches itself to the tumor. Then, technicians aim a concentrated beam of neutrons at the tumor. When the neutrons collide with the boron in the tumor, the boron atoms release radiation in the form of an alpha particle and a lithium ion. That radiation travels only far enough to destroy the tumor from the inside, without adversely affecting nearby healthy tissue.

■ Lab Announces \$33 Million Infrastructure Upgrade

INL officials this month announced a landmark \$33 million infrastructure improvement project in conjunction with NORESCO, considered one of the nation's premier energy services company. The project will modernize heating, lighting and other utility equipment, systems and controls at the Materials and Fuels Complex (MFC), one of the laboratory's three primary work areas. Once the work is complete, annual energy savings are expected to reach \$1.7 million. From an environmental perspective, the associated carbon reduction will be equivalent to planting 1,756 acres of trees or removing 1,120 cars from the roads. The carbon reduction will come from removal of oil-fired boilers which currently burn more than 580,000 gallons of fuel annually.

■ National Safety Conference Convenes in Idaho

More than 500 federal and contractor employees attended the annual U.S. Department of Energy Integrated Safety Management workshop in Idaho Falls the last week of August. Hosted for the first time by the DOE-Idaho Operations Office and Idaho National Laboratory contractors, the workshop focused on the critical roles worker safety and environmental responsibility play in agency and contractor mission accomplishment. DOE adopted ISM in 1996 to ensure all work is planned and performed safely and cost-effectively at all its sites nationwide.

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