EM Recovery NEWS FLASH

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Recovery Act Workers Clear Reactor Shields from Brookhaven Lab

Recovery Act Accomplishment Moves Lab Closer to Completion of Reactor Decommissioning

Recovery Act workers at Brookhaven National Laboratory load neutron shield pieces into a shielded container for shipment to a disposal facility.

UPTON, N.Y. – American Recovery and Reinvestment Act workers are in the final stage of decommissioning a nuclear reactor after they recently removed thick steel shields once used to absorb neutrons produced for research.

The Brookhaven National Laboratory is using $39 million from the Recovery Act to decommission the Brookhaven Graphite Research Reactor, the world's first reactor built solely for peaceful research purposes.

The decommissioning is slated for completion later this year and will end Office of Environmental Management legacy cleanup activities at the Lab.

The neutron shields were located on the north and south sides of a 700-ton graphite pile. The three-inch-thick shields absorbed neutrons that escaped from the graphite pile. The shields also limited movement of the pile when the reactor was in operation. Recovery Act workers removed the graphite pile from the reactor's core in 2010.

To keep workers safe from radiation as they removed the shields, the Lab employed robotic and remote technologies. Equipped with a remote-operated torch powered by fuel gases and oxygen, Recovery Act workers safely cut the shields into pieces that together weigh about 100 tons. They placed those pieces in containers awaiting transport to a disposal facility this month.

The neutron shields are internal parts of a 4,760-ton bioshield that wrapped around the reactor to protect personnel from radiation emitted from the graphite pile. Recovery Act workers are scheduled to finish dismantling the bioshield this spring. The last step in decommissioning efforts is the construction of an impermeable cap over the grounds of the reactor building.

The reactor operated from 1950 to 1968. It produced large quantities of neutrons, a type of subatomic particle. Scientists used the neutrons to study the atomic structure of a wide range of materials, leading to advances in fields such as medicine and physics.