

WASTE REDUCTION OPERATIONS COMPLEX/POWER BURST FACILITY

The Power Burst Facility was initially developed to perform tests of nuclear reactor fuels during off-normal reactor operations. Since the mid 1980s, several of the facilities at the PBF area have been decontaminated, decommissioned and dismantled. Others have been modified to support waste management activities at the Idaho National Engineering and Environmental Laboratory.

Current Missions

Former test reactor facilities now house waste management activities: the Waste Engineering Development Facility/Waste Reduction Operations Complex Lead Storage Facility, Waste Experimental Reduction Facility, and Mixed Waste Storage Facility. These facilities provide for the safe storage of radioactive, mixed and low-level wastes. Most of the

wastes stored here originated at the INEEL.

Employees

About 50 Bechtel BWXT Idaho (BBWI) employees work at the PBF/WROC facilities. All employees work four 10-hour days each week. The WROC/PBF employees have technical knowledge and expertise in waste management, storage and handling, waste treatment processes, and technologies

*Workers at WROC/
PBF size metal
waste, using torches
to cut it into smaller
pieces better suited
to handle and
dispose.*



such as stabilization and macroencapsulation.

Facilities

The WROC area has three main facilities dedicated to waste management activities:

Waste Experimental Reduction Facility is a versatile waste treatment facility that began operating in 1982. The purpose of the facility is to store RCRA-defined mixed (radioactive and hazardous) waste.

The **Mixed Waste Storage Facility** is a Resource Conservation and Recovery Act storage facility for interim storage of mixed low-level wastes. The facility can accommodate storage of polychlorinated biphenyl (PCBs), corrosives and flammables.

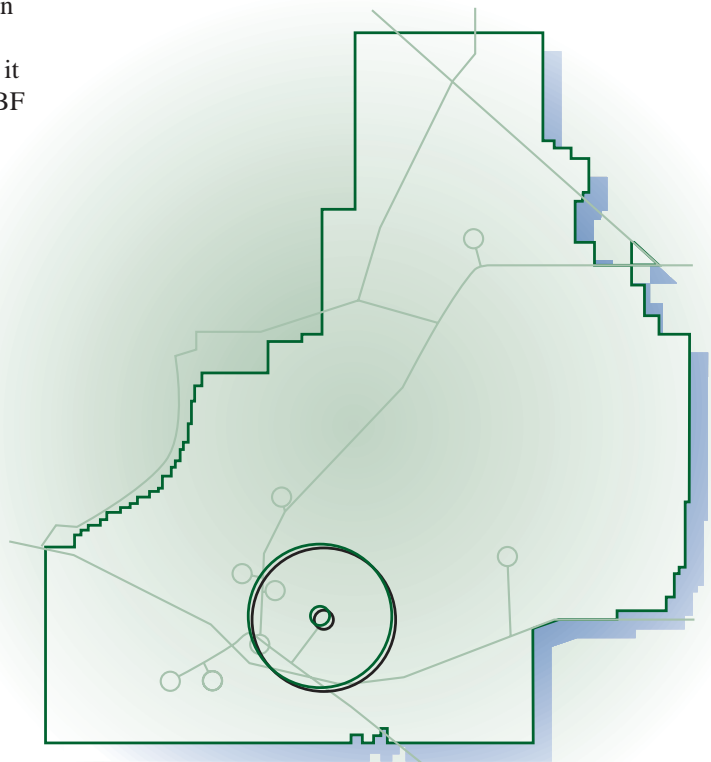
The **Lead Storage Facility** is used to store lead which has been or might be used in radiation shielding at the INEEL.

History

The PBF/WROC area, originally known as the SPERT area, initially consisted of four reactors used to test reactor behavior during off-normal operating conditions and to conduct safety studies on light-water-moderated, enriched-fuel reactor systems. The tests, known as the Special Power Excursion Reactor Tests, began in the late 1950's, and were some of the first tests in the world that helped set safe operating parameters for reactors worldwide.

The SPERT I reactor began operation in 1956. Upon completion of its mission, it was dismantled and the PBF

reactor was constructed at the same site. SPERT II began operating in 1960; today it houses the WROC Lead Storage Facility. SPERT III began operation in 1958; today, the SPERT III reactor building houses the Waste Experimental Reduction Facility. SPERT IV began operation in 1961 and today is a storage building for mixed waste (waste containing both radioactive and hazardous components).



The Waste Reduction Operations Complex consists of several facilities where the INEEL treats, stabilizes, encapsulates, or stores several types of waste.

The Power Burst Facility, built in 1970, supported Department of Energy and Nuclear Regulatory Commission studies of reactor fuel during normal and off-normal operating conditions. The PBF operated as a one-of-a-kind facility, with the ability to subject fuel samples to extraordinary power surges in milliseconds, causing the fuel to fail in an isolated, contained system. That information was then used in

developing safe operating limits for the commercial nuclear industry. In 1985, the PBF reactor was placed on stand-by status. In 1998, the PBF was placed in shutdown status and is currently preparing for defueling.

The Waste Experimental Reduction Facility began treating low-level radioactive wastes in 1982. Its incinerator – permanently shut down in October 2000 – once was used

to reduce the volume and increase the stability of a wide variety of low-level wastes prior to disposal at the INEEL's Radioactive Waste Management Complex. Waste was treated from the INEEL and from other DOE facilities under provisions in the INEEL Site Treatment Plan. The INEEL will use commercially available treatment for the processing of low-level waste and mixed low-level waste.



Distances to nearby cities or other INEEL facilities:

WROC/PBF is located 5 miles (8 kilometers) east of the Central Facilities Area.

51 miles (82 kilometers) west of Idaho Falls.

32 miles (51 kilometers) southwest of Mud Lake.

27 miles (43 kilometers) east of Arco.

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