EBR-I, A HISTORIC LANDMARK

Experimental Breeder Reactor I, which was decommissioned on December 30, 1963, is dedicated today (August 26, 1966) to become an integral part of the history of man's peaceful victory over the atom.

Much of the knowledge contributed to current and future generations of fast breeder reactors can and will be attributed to EBR-I's operation for 11 years at the National Reactor Testing Station in Idaho. So much so, that the U. S. Atomic Energy Commission is now committed to a long-range fast reactor development program calling for the construction of successively larger power reactors on a schedule extending into the 1980s. Some time in that decade, a fast breeder plant capable of generating 1,000 megawatts (1 billion watts) of electricity should be in operation.

Argonne National Laboratory, which placed the world's first breeder reactor---EBR-I---into successful operation in 1951, has been given an AEC assignment as a principal center for the development of the fast breeder concept.

EBR-I, during its years of operation, has a host of "firsts" to its credit:

1. It was the world's first reactor to produce useful amounts of electricity from nuclear energy.

2. It proved the feasibility of "breeding"; that is, the ability to make fissionable plutonium, an excellent fuel, while it produced power.

3. It was the first sizeable power reactor to use liquid metal coolant.

4. It was the first reactor to produce power in useful amounts from a plutonium core. (The fourth and final core loaded into the reactor.)

5. It was the first reactor to be placed in operation at the AEC's vast National Reactor Testing Station, the home of about 20 reactors working in key AEC programs.

In November, 1963, one month before EBR-I completed its world-renowned mission, a more advanced fast breeder reactor, designed and operated by Argonne, the Experimental Breeder Reactor II, began operation just 26 miles to the east of the EBR-I national historic site. EBR-II, designed to produce 62.5 megawatts of thermal heat with 20 megawatts of electricity through a conventional steam system, is twenty times as large as EBR-I. As a second-generation reactor, its systems and components are more sophisticated. Still, it is a pioneer facility to develop the fuels of future power reactors and to process them through another conceptual "first", the on-site, Fuel Cycle Facility adjacent to the

reactor itself. In this demonstration of a closed cycle operation, fuel from the reactor is disassembled, processed pyrochemically, and reassembled, all by remote means for return to the reactor.

Argonne National Laboratory, operated by The University of Chicago under contract to the U. S. Atomic Energy Commission, currently operates the Transient Reactor Test Facility (TREAT), Zero Power Critical Facility No. 3 (ZPR-3), and Argonne Fast Source Reactor (AFSR), in addition to EBR-II at the AEC-Idaho site.