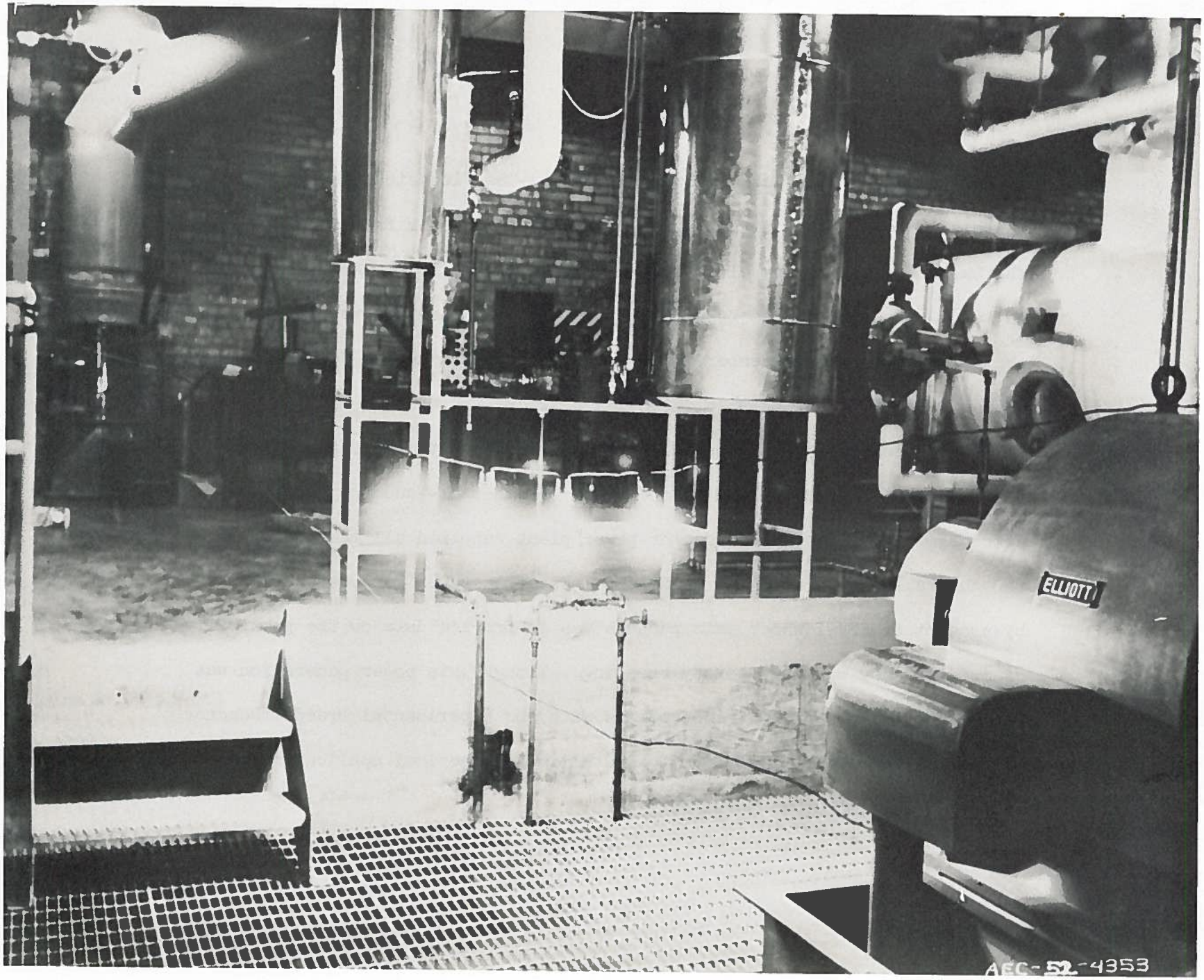
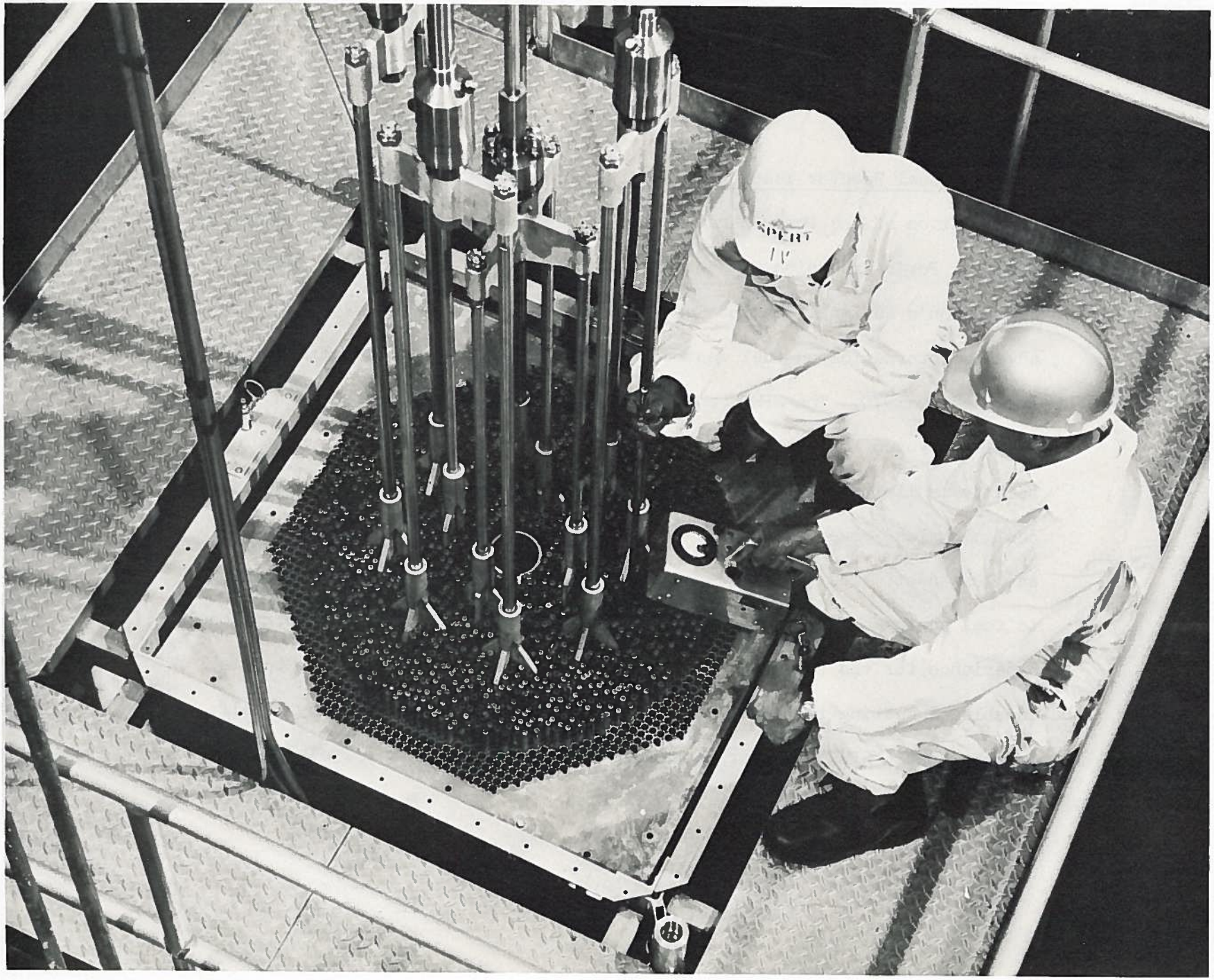
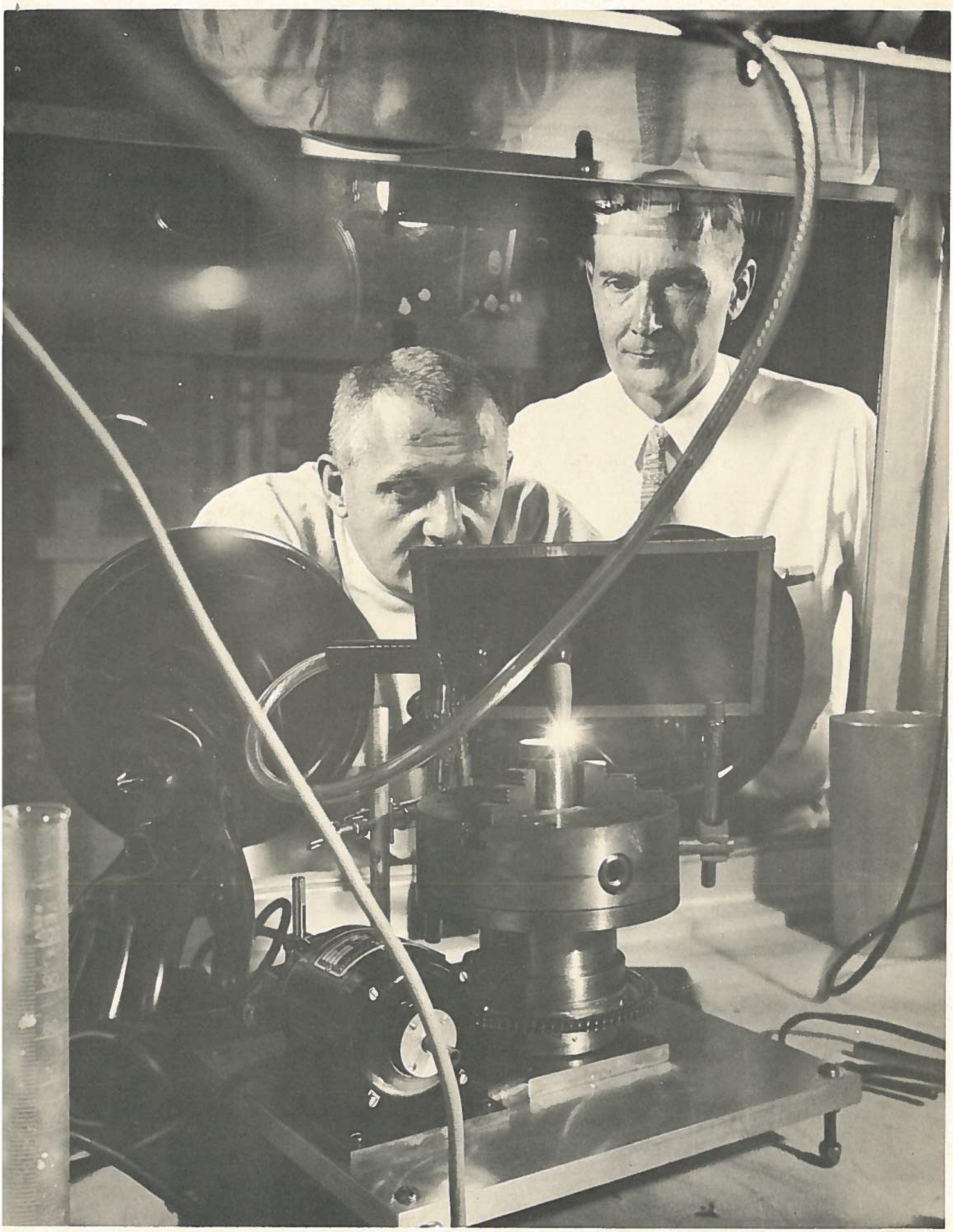

ELLIOTT
AEC-52-4353

National Reactor Testing Station, Idaho--The electric light bulbs in this photo show the first known use of electric power from atomic energy. The bulbs are lighted by electricity from the generator at the right which, in turn, operates on heat from the Experimental Breeder Reactor No. 1. This photograph was taken December 20, 1951, at the Atomic Energy Commission's National Reactor Testing Station in Idaho, where the reactor was operated by the Argonne National Laboratory. Argonne scientists and engineers also designed and constructed the reactor. On December 21--and frequently in subsequent operations--the reactor power plant supplied all the electricity for the building in which it is housed. Electric power generation was a by-product of EBR-I whose main purpose was to provide data on the possibility of creating new nuclear fuel by breeding. Though this power generation was incidental and uneconomic, experiments with the Experimental Breeder Reactor power plant were the first step toward ultimate practical application of atomic energy for power purposes.



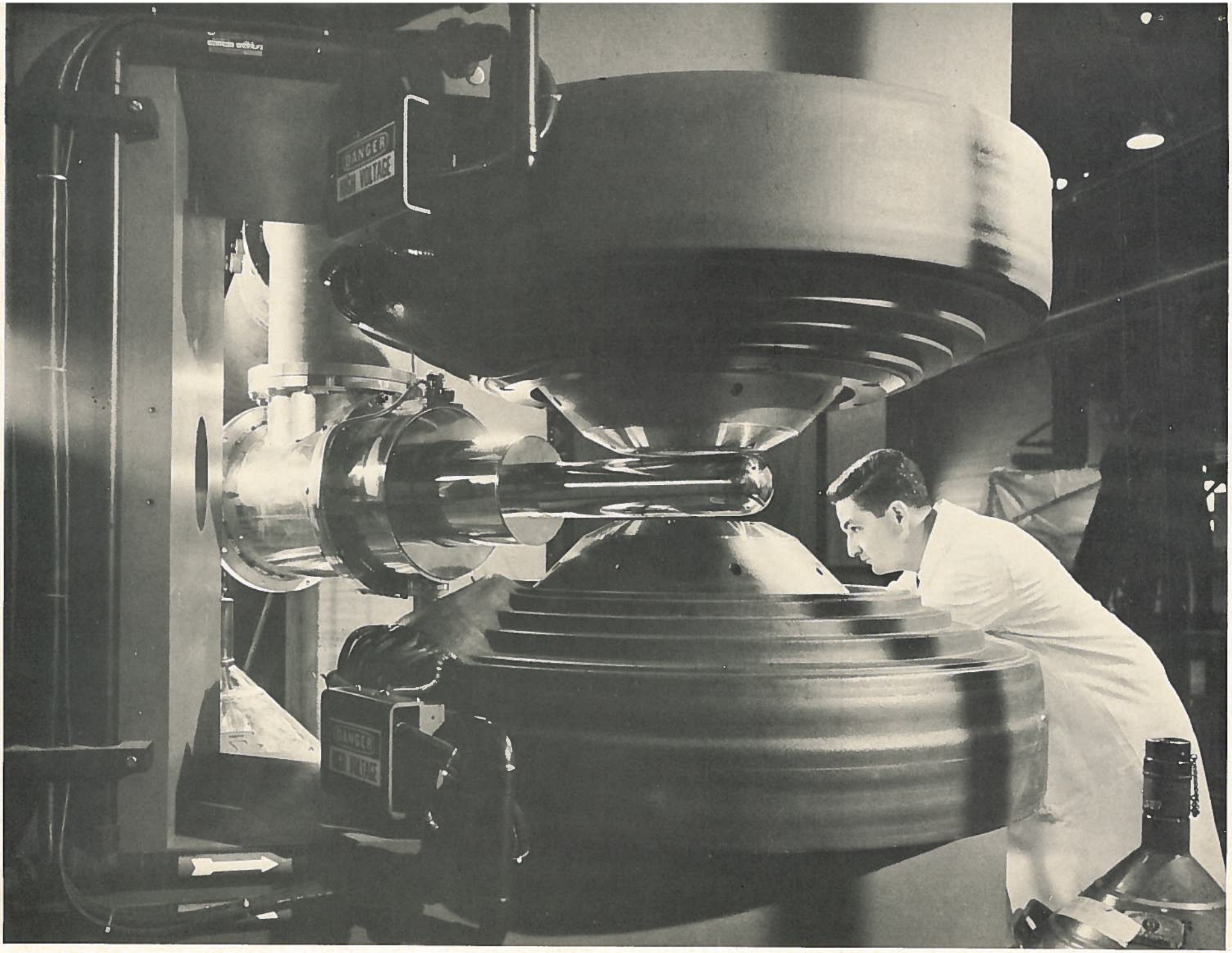
National Reactor Testing Station, Idaho--The Capsule Drive Core (CDC), a simulation of the Power Burst Facility (PBF), was operated in the SPERT IV (Special Power Excursion Reactor Test No. 4) reactor at the Atomic Energy Commission's National Reactor Testing Station in Idaho during 1967 to gain advance information on fuel destructive mechanisms prior to PBF completion, expected in 1970. The SPERT and PBF reactors are situated in an NRTS testing complex devoted to the AEC's reactor safety studies. By pushing reactors to extreme limits and studying their behavior, scientists are learning to design nuclear power plants for greater safety, operational flexibility, and less cost. The CDC program has provided significant results pertaining to fuel performance under accident conditions as well as valuable operational experience for the PBF--a reactor designed to produce intense power bursts capable of melting test fuel samples without damage to the facility itself. In this photo, SPERT reactor technicians are shown removing a fuel rod from the CDC for inspection.



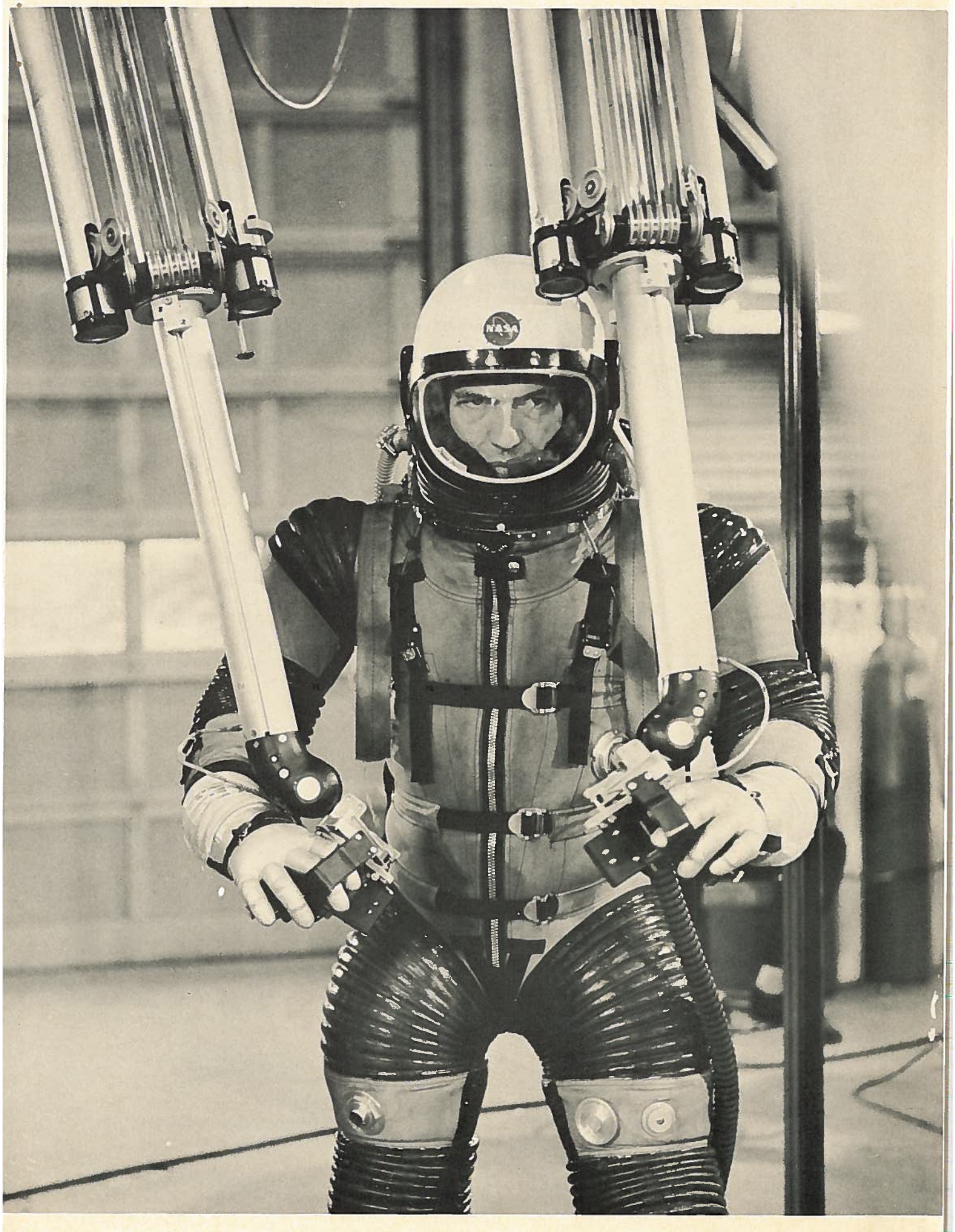
An end plug is welded to an irradiation capsule inside of a nitrogen filled glove box at Argonne National Laboratory. This capsule contains experimental plutonium fuel specimens which will be irradiated in an operating reactor. After the capsule has been irradiated, it will be disassembled in a heavily shielded cell and the specimens will be evaluated as potential fuel material for future reactors. No. 201-6572

The girl is examining a picture of nuclear particle reactions photographed in a 30-inch liguid hydrogen bubble chamber at the Argonne National Laboratory's Zero Gradient Synchrotron. The electronic measuring machine, in use here, automatically plots the selected tracks and digitizes the information for use on a computer.

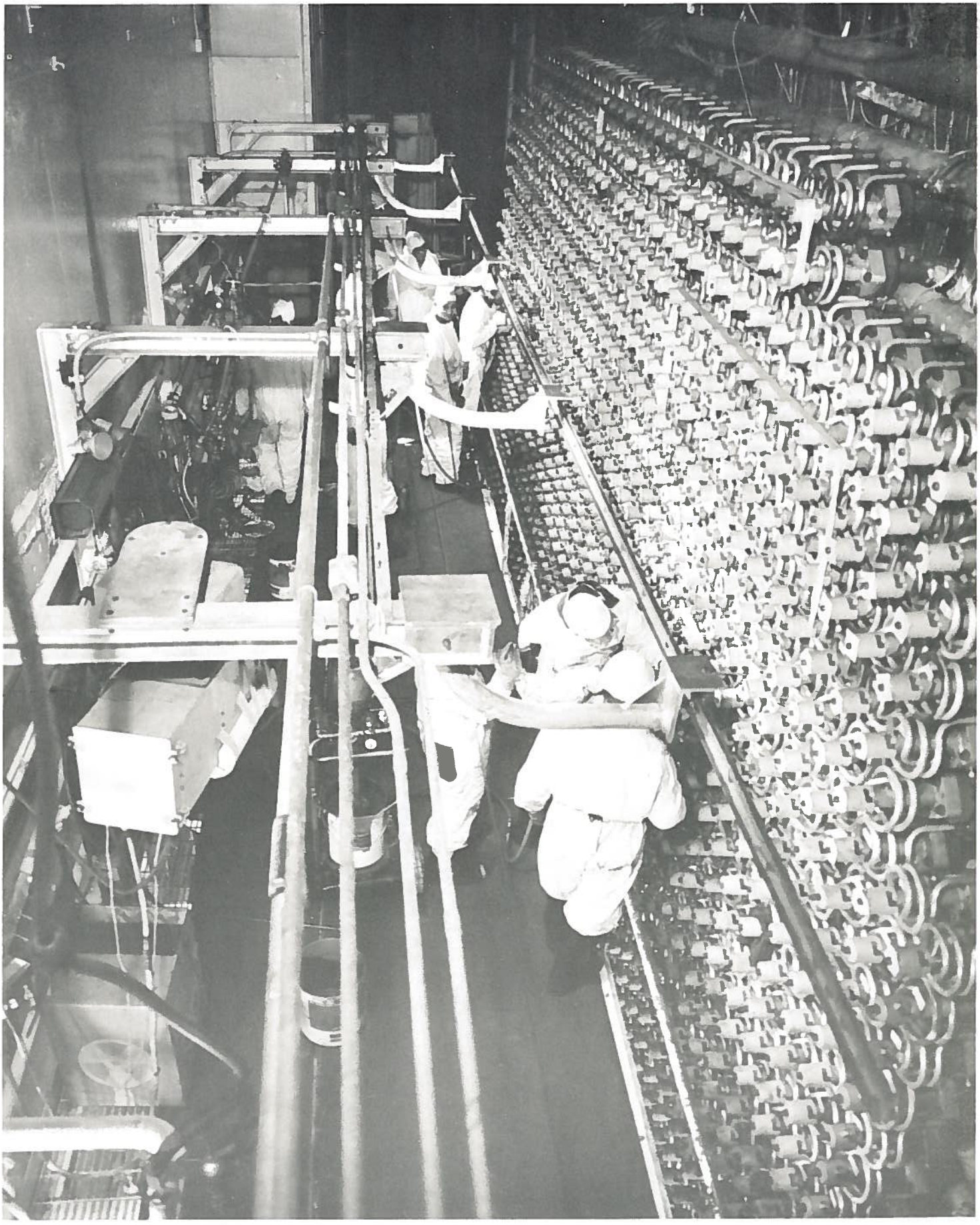
No. 201-7334


DANGER
HIGH VOLTAGE
DANGER
HIGH VOLTAGE

A polarized proton target being readied for use at Argonne National Laboratory's Zero Gradient Synchrotron. The silver tube contains a cryostat centered in a high magnetic field between the poles of a large magnet. The proton beam may then bombard the contents of the cryostat directly. No. 201-8286

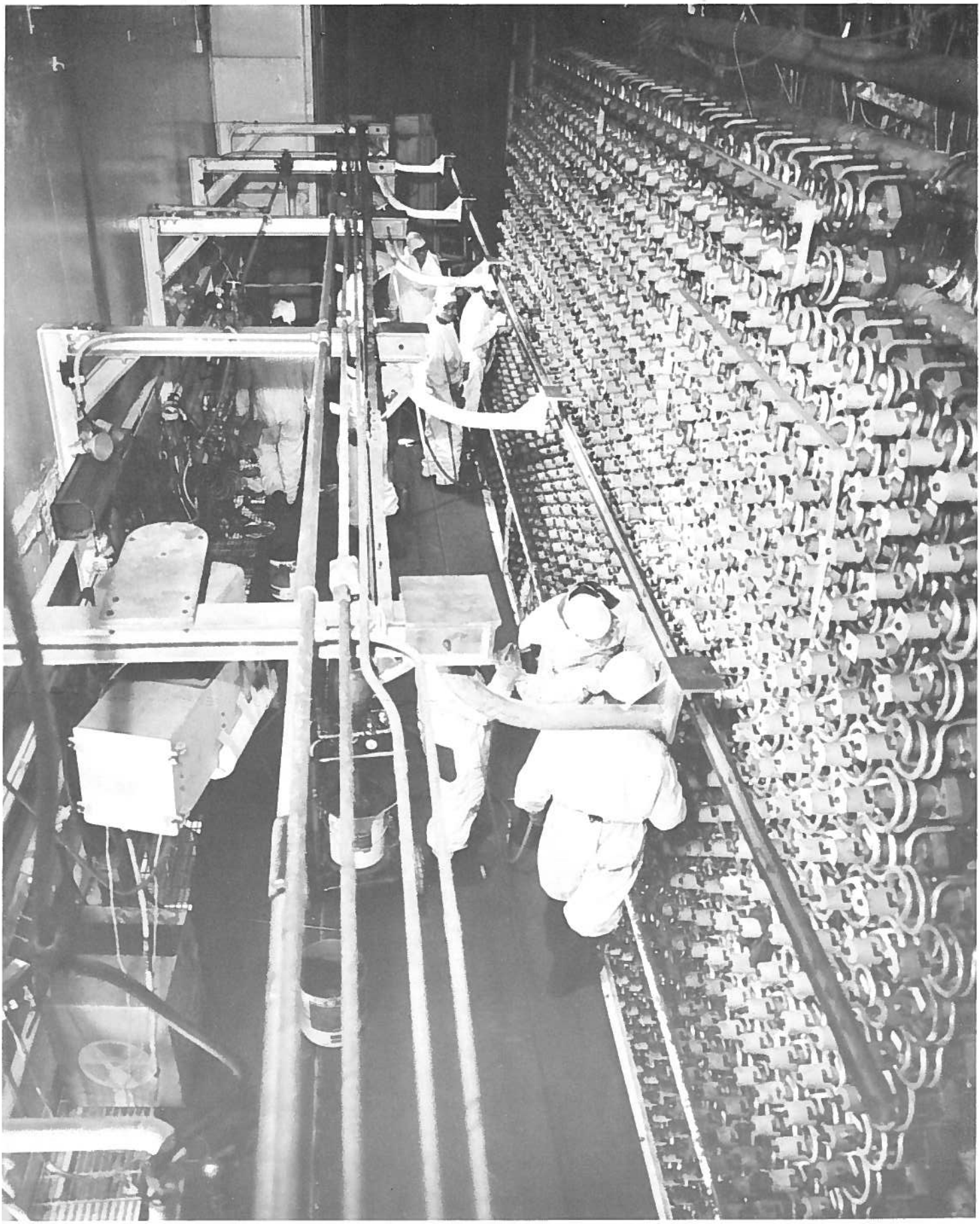

NASA

Tests to investigate the feasibility of using "mechanical hands" in space are being carried out by agencies of the National Aeronautics and Space Administration and Argonne National Laboratory. In this picture, Will Jackson of Argonne's Remote Control Engineering Division, performs a series of carefully planned tasks using Argonne'designed Master-Slave Manipulators. #201-7660-3



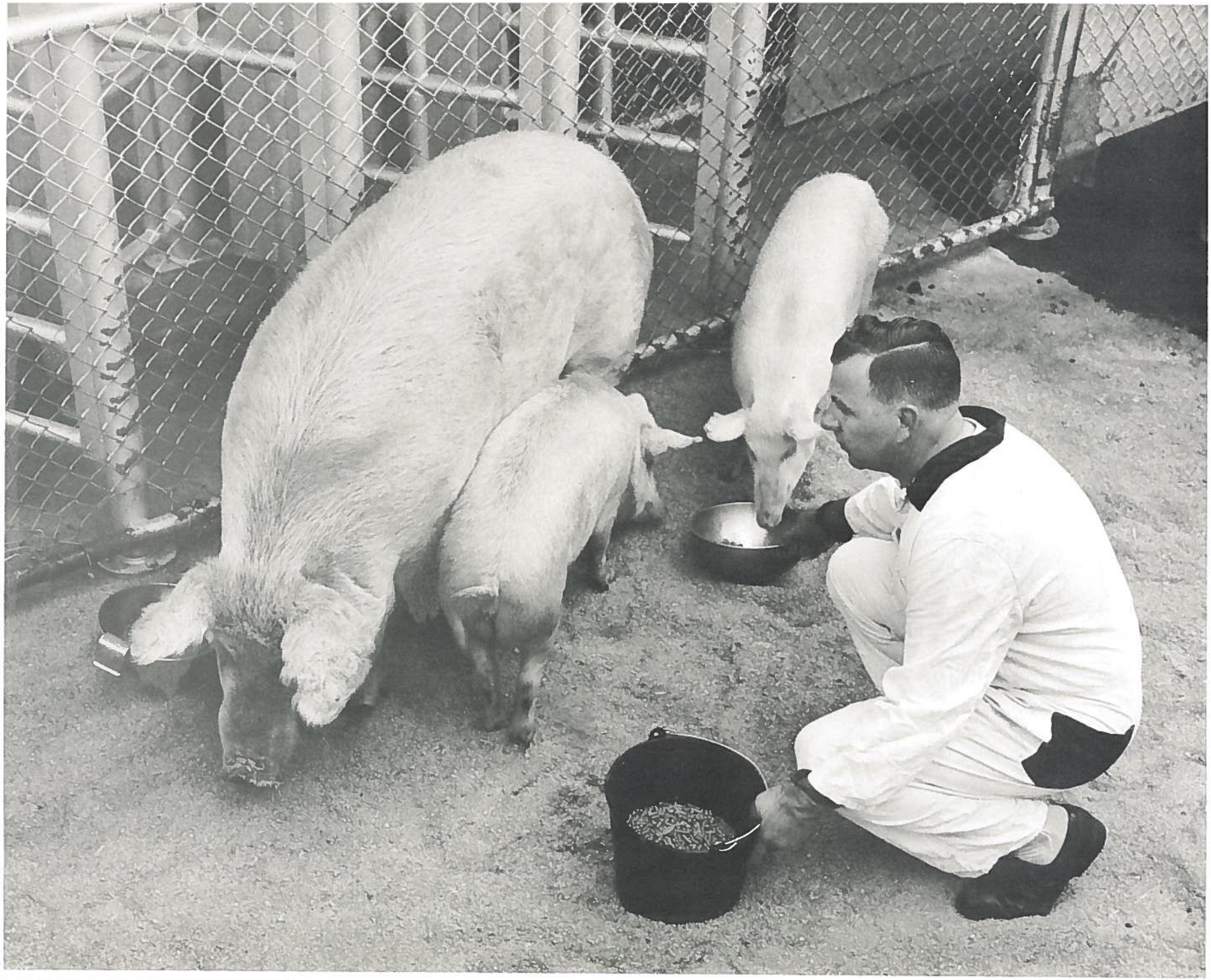
The front face of a plutonium production reactor at the AEC's Hanford Project shows the tubes in which uranium fuel elements are placed. Part of the uranium is converted to the new element, plutonium, when it is bombarded with neutrons. Water circulates through the tubes to carry away the heat generated in the nuclear process.

Neg. No. 0673152-1



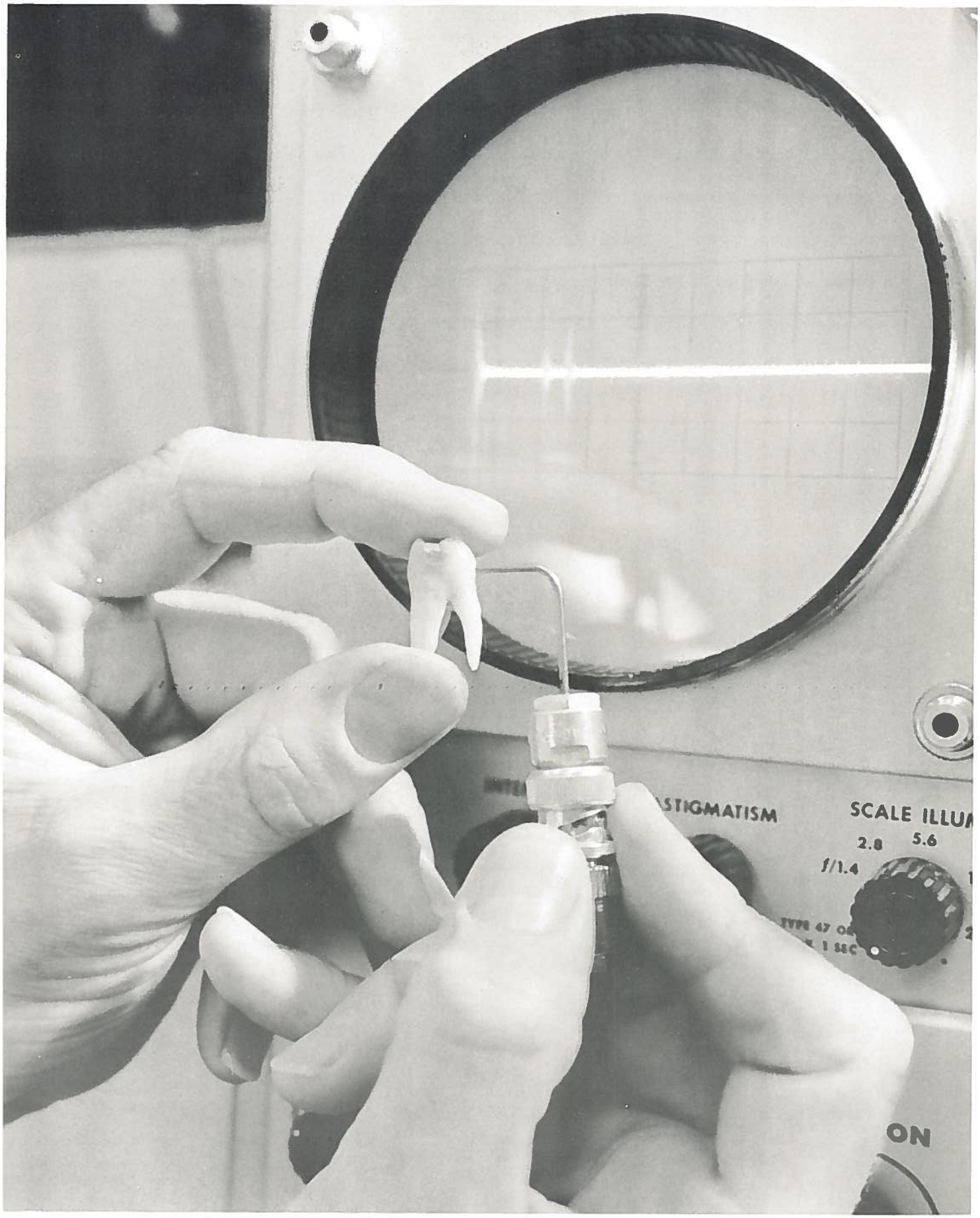
The rear face of a plutonium production reactor at the AEC's Hanford Project shows the tubes in which uranium fuel elements are placed. Part of the uranium is converted to the new element, plutonium, when it is bombarded with neutrons. Water circulates through the tubes to carry away the heat generated in the nuclear process.

Neg. No. 0673152-1



Two fully grown Hanford Miniature Swine demonstrate the difference in size from an ordinary Palouse swine. The Hanford miniature is a new breed developed at the Hanford Project to mature at the weight of an average man -- 170 to 180 pounds. The Palouse Swine matures at a weight of 700 to 800 pounds. Pigs are used as a stand-in for man in many laboratory experiments because of their similarity to man.

Neg. No. PNL 40474-3CN


STIGMATISM
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ON

The idea of applying ultrasonics to biomedical uses came out of extensive work in the field of nondestructive testing techniques in nuclear energy research. The picture shows how an ultrasonic probe is used to detect early dental cavities without the use of X-rays. The research was initiated at Pacific Northwest Laboratory, sponsored by the Atomic Energy Commission. Further studies are being carried out under the sponsorship of the U.S. Public Health Service.

Neg No. 0661744-1CN