

RESEARCH FACILITIES AND PROGRAMS

Reorganization at Hanford

The Atomic Energy Commission intends to separate the operations of its Hanford Laboratory facilities in Richland, Wash., from the rest of the AEC contract activities in the Hanford complex. An announcement dated March 5 states that the Laboratory's program has expanded far beyond its original mission, the support of production operations, and that it will be transferred to a nonprofit organization capable of attracting research and development work from private organizations and other government agencies. The new contractor will also be expected to maintain close relationships with universities in the region, providing for participation in AEC research activities on both the graduate and postgraduate level.

The AEC and the General Electric Company, which assumed responsibility for operating the entire Hanford installation in 1946, have reached agreement on the transfer, and the Commission has invited proposals from a number of nonprofit organizations.

More recently, on April 3, AEC Chairman Glenn T. Seaborg announced that the AEC is inviting expressions of interest on the part of industry in two major phases of the Hanford plutonium production operation. At the present time, eight production reactors are being operated for the AEC by GE, and a ninth is being tested. It was disclosed in January that a decision had been made to reduce plutonium production by shutting down three reactors and one of the two GE-operated chemical facilities next year, and that the AEC and General Electric had agreed to transfer the operation of the remaining work to other contractors.

Am and Cm—Patents Pending

An Atomic Energy Commission application for patents on elements 95 and 96 has been upheld by the US Court of Customs and Patent Appeals. The

decision overrules the Patent Office's contention that the production of both americium and curium is inherent in the operation of a self-sustaining uranium pile, and is therefore protected by a patent granted to the late Enrico Fermi and others.

In the opinion of the Court, the amounts of the two elements produced by a uranium reactor are so small as to be undetectable against the background of intensely radioactive fuel, and that the methods of production and detection developed by Glenn T. Seaborg and his colleagues constitute different and patentable processes. Curium 242 was first produced in the summer of 1944 by bombarding plutonium 239 with 32-MeV alpha particles from the cyclotron at Berkeley; americium 241 was identified some months later after bombarding plutonium 239 with a neutron beam from a reactor.

Although Dr. Seaborg's name will appear on the patents, all rights will be assigned to the AEC. In 1940, Dr. Seaborg and three colleagues were awarded a patent for the method of plutonium production, but these are the first patents on elements, themselves.

Standard Boron

The Nuclear Cross Section Advisory Group of the Atomic Energy Commission and the European-American Nuclear Data Committee have announced the availability of standard boron samples in the form of H_3BO_3 . The committee emphasized the desirability of measuring boron neutron cross sections with boron from these standard materials.

The determination of many neutron cross sections is based on the thermal cross section of the ^{10}B (n, α) reaction, which is now known to 0.3 percent. However, the ^{10}B isotopic content of boron found in nature varies widely. Samples of standard boron stocks from various countries

have been investigated recently, and results published in EANDC (E-36), which can be obtained from EURATOM's Central Bureau of Nuclear Measurements, Geel, Belgium.

Application should be made in Europe to Dr. G. H. Debus, head of the Mass Spectrometry Group and of the Target and Sample Preparation Laboratory, CBNM, EURATOM, Steenweg near Retie, Geel, Belgium. Americans should write to Dr. R. S. Caswell, chief of the Neutron Physics Section, National Bureau of Standards, Washington, D.C. 20234.

The boron stock at NBS was originally prepared for Argonne National Laboratory, was analyzed at Argonne, and is being distributed with no further analysis by NBS. However, the Argonne results will be supplied, and work is under way which will lead to NBS certification of the material. The CBNM group will supply standard solutions and films with a certificate giving details, such as isotopic and chemical composition, if the results to be obtained justify the effort. The stocks at both centers have a ^{10}B content of about 19.8 atomic percent, and both stocks are identical in isotopic composition to within ± 0.02 atomic percent.

Stanford Linac Overhauled

Physicists at Stanford University have recently completed a three-month rebuilding of the Mark III linear electron accelerator at the University's High-Energy Physics Laboratory. The beam energy was increased ten percent (to 1163 MeV), and the beam current was doubled. The cost of the overhaul (\$150 000) was shared by the Atomic Energy Commission and the Office of Naval Research. The Mark III was built in 1951.

Project Moon Harvest

Farmers, children, and strollers through the countryside of western Iowa are being urged by the National Aeronautics and Space Administration to turn in any strange-looking rocks they may find to their local county agent or Soil Conservation Office. The organized search for moon fragments that may have fallen to earth after