

tary, defense, and other needs, and with the functions of scientists and other specialists. The Board would have final jurisdiction on appeals from call to active duty of reservists having special proficiency or experience.

Scientific Manpower Commission

The newly formed Scientific Manpower Commission, which will serve to present the point of view of professional organizations devoted to the advancement of science on questions concerning scientific manpower, has opened an office at 1530 P Street, N.W., Washington 25, D. C. Sixteen scientists, nominated by eight participating scientific organizations, will make up the Commission, which will study the nation's needs for scientists in education, industry, government service, and the armed forces, and will direct its efforts toward bringing the scientific manpower supply and demand into adjustment under changing international economic conditions, according to the president of the Commission, Howard A. Meyerhoff, former administrative secretary of the American Association for the Advancement of Science. Incorporated in the District of Columbia, the Commission was established through the cooperation of the AAAS, the American Chemical Society, the American Geological Institute, the American Institute of Biological Sciences, the American Institute of Physics, the American Psychological Association, the Federation of American Societies for Experimental Biology, and the Liaison Committee of the Mathematical Societies.

Submarine Reactor

Prototype Plant Begins Operation

The land-based thermal reactor which is to serve as the pilot model for the power plant of the USS *Nautilus*, intended to be the first atomic-powered submarine, is now in initial operation at the Atomic Energy Commission's reactor testing station at Arco, Idaho, and is expected to be brought to full power shortly. The Arco unit, known as the "Submarine Thermal Reactor", was brought to the critical stage some weeks ago, according to the AEC, and will now undergo further testing. The STR plant and the similar plant for the USS *Nautilus* have been a joint project of the AEC's Argonne National Laboratory, the Atomic Power Division of the Westinghouse Electric Corporation, and the Electric Boat Division of the General Dynamics Corporation, assisted by numerous subcontractors. The keel for the USS *Nautilus* was laid last June by Electric Boat.

The second land-based prototype, known as the "Submarine Intermediate Reactor", will serve as the pilot plant model for the second nuclear submarine, the USS *Sea Wolf*, which also is to be constructed by Electric Boat. Fabrication of the intermediate reactor was begun last year by the General Electric Company, through subcontractors. A section of the submarine hull in which the reactor will be assembled is to be contained within a steel sphere 225 feet in diameter that is now

under construction at West Milton, N. Y., eighteen miles north of Schenectady. Primarily a safety precaution, the sphere's 5.4 million cubic feet of "free space" is intended to confine hazardous material should all controls fail.

Fire Protection for Accelerators

Hazards Discussed by Insurance Group

Particle accelerator installations present unique problems in fire protection and insurance. Not only are substantial investments of time and money involved in the construction of such devices, but fire hazards resulting from the employment of high voltages and inflammable cooling oil and the use of wooden and other combustible building materials render this aspect of accelerator operation a matter of great concern.

In a recent report, *Fire Protection for Particle Accelerator Installations*, the Joint Fire and Marine Insurance Committee on Radiation considers this problem at length. Most of the 61-page booklet is devoted to an elementary exposition of the fundamental ideas involved in the design and operation of cyclotrons, synchrotrons, etc. Nine pages of very specific recommendations for fire prevention and protection follow which should be of interest to personnel engaged in work with existing and contemplated accelerators. For instance, one point made is that "geographic areas which are subject to floods, earthquakes, hurricanes, or tornadoes should not be considered as sites for particle accelerator installations"—which is interesting in view of the density of these machines in certain regions of California. Another item of some significance is their recommendation that water or special concrete be employed rather than paraffin for shielding purposes.

A rather complete list of accelerators now in use throughout the world concludes the report, which can be obtained from E. H. Williams, Associated Factory Mutual Fire Insurance Companies, Boston, Massachusetts for one dollar.

Himalayan Cosmic-Ray Expedition

19,000 Foot Altitude Reached

In a brief report in *Nature* for April 12, 1953, K. B. Mather of the physics department of the University of Ceylon describes an expedition to the Garhwal Himalayas carried out in 1951 to investigate cosmic radiation with nuclear emulsions. The plates were exposed at an altitude of 18,400 feet at the Mana Pass on the border of India and Tibet, although the party reached an altitude of 19,150 feet in the course of the expedition. Mather points out that a number of reasonably accessible sites where high-altitude stations of a temporary nature could be established at altitudes up to 20,000 feet exist in the Himalayas near the Tibetan border, and that electronic equipment as well as emulsions can be used at such stations if funds for porters are available.