

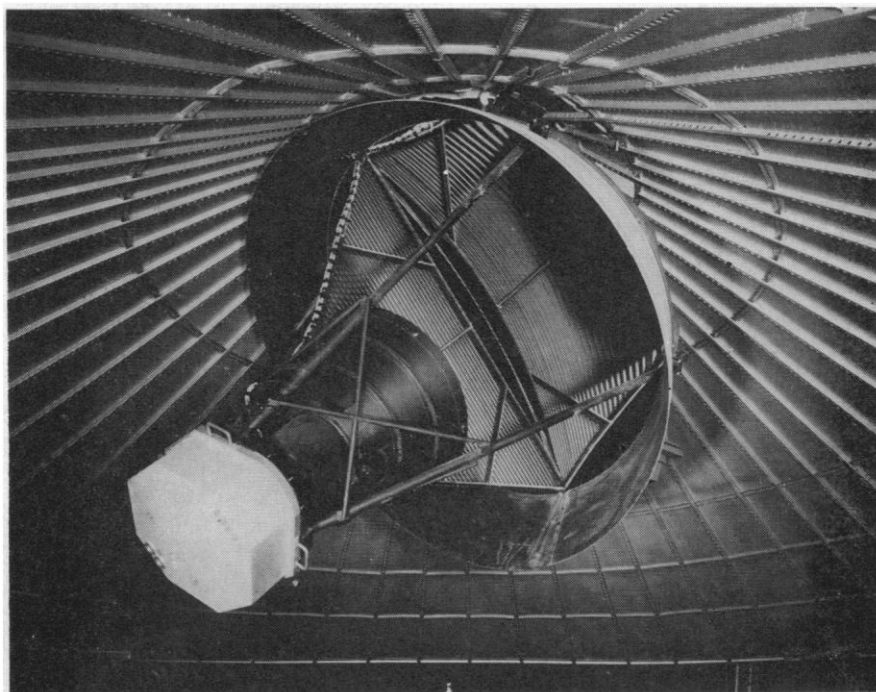
The afternoon sessions will be taken up with seminars, at which shorter papers will be read and discussed. Approximately 460 of these brief addresses, of which many will be read by title only, are listed in the program. Some of the titles for the first day's seminars are "Seismic waves from nuclear explosions and the structure under the Western Pacific," by D. S. Carder of the U.S. Coast and Geodetic Survey; "Pacific Oceanic crust," by R. W. Raitt and G. G. Shor, Jr., of the Scripps Institution of Oceanography; and "The exploration of an interplain deep sea channel," by A. S. Laughton of Great Britain's National Institute of Oceanography.

Among the tours and special events which are planned are a cocktail party at the American Museum of Natural History, a visit to the New York Zoological Park, a trip to the Bureau of Commercial Fisheries' Biological Laboratory in Milford, Conn., and various dinners. In addition, it is expected that the United Nations Building will be open for inspection. An information center will be located in the Hotel Commodore, 42nd St. and Lexington Ave., in the South Room, off the lobby. The center, which will also serve as a lounge for all registrants and guests, will be operated by the Woods Hole Oceanographic Institution.

U.S., International Atomic Energy Units Sign Contract

The first research contract between the U.S. Atomic Energy Commission and the International Atomic Energy Agency was signed recently. The contract makes \$20,000 available to the IAEA for research on the production of calcium-47, an important radioisotope now in short supply. This is the first contract negotiated under the U.S. offer, made at the second IAEA General Conference, held in Vienna last October, to explore with the Agency a program in which specific research projects could be assigned by the United States to the Agency. The latter would then make contracts with existing nuclear centers and universities throughout the world. As explained to the Vienna conference by AEC chairman John A. McCone, then also chairman of the U.S. delegation, the objective is "to bring the wealth of scientific and technical competence throughout the world to bear on the advancement of peaceful uses of nuclear energy."

Calcium-47 is of great potential sig-



Radiometer used by the U.S. Navy to measure the thermal power radiated by ocean surfaces. The device is attached to the underside of Naval airships.

nificance in biological and medical research. It can be used in clinical research and for limited routine diagnosis of disease. It can be used to study normal calcium metabolism, thus opening the way to investigations of malfunctions in calcium metabolism which occur in certain endocrine-gland and skeletal disorders. It is also expected to be of use in localizing the spread of bone tumors before they can be detected by conventional means such as x-rays. The contract calls for the IAEA to use the \$20,000 in a research effort to develop a cheaper method of enriching calcium-46. The funds were allocated from the Atomic Energy Commission's Division of Biology and Medicine, and the contract will be administered by the commission's New York Operations Office.

Airborne Radiometer

The Naval Research Laboratory, according to a report in *Naval Research Reviews*, has been engaged for the past few years in a study of the physical properties of the oceans as revealed by measurements of radiant energy from their surfaces, with particular emphasis on the optics of the atmosphere and sea. One of the tools developed for this study is a massive radiometer designed to be flown in big Navy airships, at an altitude of 1000 feet. The instrument measures and records continuously the ther-

mal power radiated by the sea, plus that small portion which originates in the sky and is reflected from the sea.

Radiometers of two different configurations are employed. The first utilizes a single receiver. It consists of a parabolic mirror 100 inches in diameter, with a focal length of 70 inches. The second radiometer has a differential configuration. The 100-inch mirror is split along a diameter and is opened outward 15 degrees, thereby forming two independent collecting areas.

By means of the radiometers, much has been learned about the radiometric properties of the sea and their relationship to the state of the sea. For example, the radiometers have revealed that man-made oil slicks alter the wave structure enough to effectively improve the reflectivity of the surface where the slicks occur, thereby making those surfaces reflect more sky radiation. This means that the slicks are colder, in general, than the surrounding water. The radiometer has also shown that isolated clouds casting their shadows on the water during the day produce colder areas, while clouds at night produce warmer areas. The opacity of the clouds acts as a shield against incoming solar radiation during the day and, similarly, against reradiation to the cold sky at night. When these clouds drift on, they leave detectable warmer or colder patches on the water.

Cat's paws (water surfaces which have been ruffled by the wind) differ radio-