So little is known about the actual performance of this radical design that elaborate safety precautions are being employed in the pretest preparations. A two-mile railroad track will carry the reactor from the engineering center to the instruments that will test its performance. It will then be returned to the engineering center for further examination.

As an additional safety precaution, the test center itself is laid out in the form of a triangle, with the test bunker, the engineering center, and the control center placed at the three angles. A distance of two miles separates each unit from the adjacent units.

Radioactivity Catalog

A world-wide search has been launched to locate at least 2000 persons who were exposed to radium poisoning during the period 1920–1930.

A program initiated by the Massachusetts Institute of Technology looks toward the establishment of a central catalog agency which would serve as a major source of information on the effects of radioelements in the body. The search is primarily directed toward locating persons who were exposed to radium either in connection with their work (for example, the painting of luminous watch dials) or as a part of medical treatment.

The central catalog, to be set up at the Radioactivity Center of the institute, will record information on persons who have carried radioactive material in their bodies for a generation or more. All physicians have been requested to aid in the search, which is being conducted with the cooperation of the division of biology and medicine of the Atomic Energy Commission.

Uranium Isotopic Standards

The National Bureau of Standards, in cooperation with the Atomic Energy Commission, has prepared the first of a series of uranium isotopic standards for use by educational and research institutions and industry in the United States and abroad. Ten standard uranium isotopic samples became available from the bureau on 1 October 1958. Five additional uranium standards are in preparation to complete a series of fifteen.

Standards for other atomic energy materials such as plutonium and thorium will be made available under a continuing program intended to provide materials of known certified composition which will be universally acceptable as analytical standards.

Order forms for domestic use (AEC contractors and licensees) may be obtained from the National Bureau of Standards, Washington 25, D.C. Orders from foreign sources should be submitted to the Division of International Affairs, U.S. Atomic Energy Commission, Washington 25, D.C.

New Detector for Infrared Radiation

Scientists at the Westinghouse Research Laboratories have developed a new infrared detector. The device, so sensitive that it can respond to less than 0.05×10^{-9} watt of infrared (heat) radiation, was developed by Max Garbuny, J. R. Hansen, and T. P. Vogl, in consultation with Henry Levinstein of Syracuse University.

Every object above the absolute zero temperature of outer space emits infrared radiation, which is generated inside the molecules of a material as a result of their own thermal motion. The higher the temperature, the faster the molecules move, and the more energetic and shorter in wavelength is the infrared radiation emitted by the body. The infrared wavelengths lie between the wavelengths of visible light and microwaves.

The function of an infrared detector is to convert infrared radiation into electrical signals that can be amplified and seen. It is the "heart," as well as the most critical component, of complete infrared systems, which are assuming ever-increasing importance in a variety of scientific and military tasks. These systems are used for guiding missiles to a target, for detecting missiles and fast-flying aircraft, for making "heat pictures" of the ground in the complete absence of light, for studying the radiation from stars and other celestial bodies, and for a variety of similar purposes. The detector is potentially very useful in medical research, astronomy, exact scientific experimentation and industrial control.

Since the sensitivity and frequency response of a photoconductive infrared detector are increased by operating it at low temperatures, the new detector is cooled to a temperature of $-320°F$ by surrounding it with liquid nitrogen in a special container.

Grants, Fellowships, and Awards

Mathematics. The School of Mathematics of the Institute for Advanced Study will allocate a small number of grants-in-aid to gifted young mathematicians and theoretical physicists to enable them to study and to do research work at Princeton during the academic year 1959–60. Candidates must have given evidence of ability in research comparable at least with that expected for the degree of doctor of philosophy. Blanks for application may be obtained from the School of Mathematics, Institute for Advanced Study, Princeton, N.J., and are returnable by *1 January 1959.*

Medicine and dentistry. The University of Rochester has established a program of postdoctoral fellowships to be awarded graduates of approved medical schools to enable them to pursue research in any of the departments of the School of Medicine and Dentistry. The Buswell fellowships are intended to assist well-qualified doctors of medicine to prepare adequately for academic careers. Junior fellowships will be awarded to medical graduates who have completed at least 1 year of internship or equivalent training. Research experience is not required but will be of advantage. Research interest and promise are essential. Stipends range from $4500 to $6000 per year. Senior fellowships will be awarded to medical graduates who have held a junior fellowship for 2 or 3 years or have had comparable experience in medical research and wish to continue in an academic career. Stipends range from $5500 to $8000 per year.

Applications for Buswell fellowships will be received at any time. Additional information and application forms may be obtained from Dr. L. E. Young, Chairman, Committee on Buswell Fellowships, University of Rochester Medical Center, 260 Crittenden Boulevard, Rochester 20, N.Y.

News Briefs

A major oceanographic research program for the Indian Ocean is being prepared by the Special Committee on Oceanographic Research of the International Council of Scientific Unions. The study, to take place during the period 1961–62, will be an international effort with scientists from the United States, the Soviet Union, the countries bordering the Indian Ocean, and others participating. Among the problems to be studied will be the mass mortality of fish, the ocean's floor, and the effect of monsoon winds on the currents and layers of the ocean. A fleet of at least 16 research ships is expected to be used in the program. A total cost of $4 million is the current estimate for the year-long program.

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The more than 600 technical papers presented by American nuclear scientists at the second International United Nations Conference on Peaceful Uses of Atomic Energy held in Geneva 1–13 September have been published by the Atomic Energy Commission and are for sale by the Office of Technical Services.