TOM) large-scale power plants using nuclear reactors of types on which research and development have been carried to an advanced stage in the United States, having a total installed capacity of approximately one million kilowatts of electricity, by December 31, 1963 (except that two reactors may be selected to be in operation by December 31, 1965), and under conditions which would approach the competitive range of conventional energy costs in Europe."

No specific deadline for the submission of proposals is being established in this continuing program; however, those proposals which are on hand by 1 April will receive early consideration by the joint board. The guide for submission of proposals may be obtained by writing to the EURATOM-U.S. Joint Research and Development Board, 51 Rue Belliard, Brussels, Belgium, or to the Director, Division of International Affairs, U.S. Atomic Energy Commission, Washington 25, D.C.

Pioneer IV

At 11:30 A.M., Friday, 6 March, Pioneer IV, America's first artificial asteroid, sent its last message to earth. It had by then reached a distance of more than 410,000 miles from the earth and was traveling at a speed of almost 4000 miles an hour into an orbit around the sun.

Before the mercury batteries went dead, the asteroid had established a long-distance record for communication, after a lifetime of more than 83 hours. The Soviet Union said it had tracked its Mechta space probe—now in orbit round the sun—to a distance of 370,000 miles before the batteries became exhausted, after 62 hours of flight.

At perihelion, its closest approach to the sun, which it reached on 17 March, Pioneer IV was 91.7 million miles from the sun, or 1.2 million miles inside the earth's orbit. At aphelion, its farthest point from the sun, it will be 106.1 million miles from the sun, or 13.2 million miles outside the earth's orbit. It will reach that point on 29 September. It will circle the sun every 394¾ days, traveling in its orbit at an average speed of 60,000 miles an hour, as compared with the 66,000-mile average for the orbital speed of the earth.

Pioneer IV is expected to produce more scientific information than Mechta. From Pioneer's radio, NASA personnel got information about temperatures, radiation, and cosmic rays. NASA scientists said that, according to information already evaluated, no major band of radiation has been encountered above the two previously discovered by the United States' Explorer satellites.

Congress Asked for Larger Science Budget

Alan T. Waterman, director of the National Science Foundation, has strongly protested the Administration's reduction of the foundation's budget and has suggested, further, that the present $280-million level of government support for basic research be increased by about 50 percent. In testimony presented on 12 March before the House Select Committee on Astronautics and Space Exploration, Waterman reported that the NSF budget for the coming fiscal year had been cut from the $206 million that had been requested to $160 million. Most of the $46-million reduction was in the programs for support of basic research and for construction of new research facilities.

Pointing out that universities and nonprofit research institutions could no longer afford to modernize or replace their facilities, Waterman said that some laboratories "have become obsolescent to a point which is detrimental to the country's research effort." He then described a number of the foundation's programs that would have to be sharply curtailed, or eliminated completely, if more funds were not provided. Included was the program for building university nuclear research reactors and computer centers.

Test Detection Study

It has been reported that a panel of leading United States earthquake specialists, assembled by the Government to map a program aimed at foolproof detection of underground nuclear blasts, has recently completed its work.

The group met in secrecy. Its recommendations, now being transmitted to the White House, may not be made public for several weeks or months. The group, known as the Panel on Seismic Improvement, is an offshoot of President Eisenhower's Science Advisory Committee, headed by James R. Killian, Jr.

The task of the panel was to evaluate the most recent detection techniques and to report to the White House on an appropriate research program. Its recommendations may have a crucial bearing on the progress of the East-West talks in Geneva on the banning of nuclear arms tests. The negotiations appear deadlocked on the issue, among others, of inspecting regions where detection has suggested the possibility of a blast. The Soviet Union has charged that such inspection could be used to cloak espionage. The problem primarily concerns underground explosions, since it is difficult to distinguish between the shock waves of earthquakes and those produced by bomb blasts. Surface and aerial shots can be observed in a number of ways and with sufficient accuracy so that on-the-spot inspection is not essential. If an equally foolproof system could be devised for underground blasts, the Geneva log jam might be broken. However, such a system seems some time off.

Science Honor List

The University of Bridgeport, Bridgeport, Conn., will have a "Science Wall of Honor" in the Charles A. Dana Hall of Science that is now under construction. A roster of 25 names will be chosen, and suggestions are invited. Any individual in the world's history may be nominated, except that only those who have been deceased at least 10 years will be considered. Recognition in all instances will be limited to accomplishments in the fields of natural science—not in philosophy, history, or the social sciences.

To be considered, an individual must have made a fundamental discovery regarding the laws of nature or have been responsible for an invention not based on a previously known fundamental law of nature. The discoveries and inventions will be rated on their general value to mankind as well as on their contribution to man's knowledge. In most cases preference will be given to those who made discoveries, rather than to those who followed with practical applications.

After the selection of the original 25 names, one additional name may be added every year for 25 years until such time as there are a total of 50 names on the wall. At that time, only one name may be added every 5 years.

News Briefs

The World Health Organization has announced that World Health Day is scheduled for 7 April. Its theme this year will be "Mental Illness and Mental Health in the World of Today." Although generally more acute in countries of high economic development, mental illness is an international problem, one that no nation escapes. And it may become greater as the world level of industrialization and technology rises.

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The Atomic Energy Commission has announced that the public is now permitted to participate in consideration of the safety aspects of all reactor projects in the commission's Power Demonstration Reactor Program. Heretofore, the public has had opportunity to take part in the review of safety aspects of only those reactors in the program that were

privately owned, and, therefore, subject to licensing by the commission. The new policy extends to the public the same opportunity with respect to reactors in the program that are commission-owned.

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A behavioral science computer newsletter is being started as a department of the quarterly journal *Behavioral Science,* which is published by the Mental Health Research Institute of the University of Michigan. Behavioral scientists are making increasing use of high-speed computers in many novel ways, but there is a rather serious lack of communication among them, leading to duplication of effort. The newsletter, which will appear in April, has been established to help remedy this situation.

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Seventeen more countries will participate in the Public Health Service's international research training program, Surgeon General Leroy E. Burney has announced. The program, started a year ago, provides medical research training in this country for scientists from abroad. With the 17 announced this month, 30 countries are now participating in the program.

The 17 new participants are: Argentina, Australia, Brazil, Ceylon, Chile, Colombia, El Salvador, India, Iran, Japan, Mexico, New Zealand, Pakistan, Peru, the Philippines, Thailand, and Uruguay.

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Insect collections of the Smithsonian Institution have been enriched by more than 30,000 beetles gathered in El Salvador by O. L. Cartwright of the U.S. National Museum. The specimens consist chiefly of scarabs, which include some of the largest and most fantastic members of the class Insecta in their world-wide distribution and which are known in art as the Egyptian symbols of immortality. The El Salvador collection, which awaits systematic study, apparently contains no very unusual types but represents an area hitherto almost unrepresented in collections.

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An 85-foot-diameter steel tracking antenna, capable of receiving radio signals from a distance in space of more than 400,000 miles, has provided a wealth of scientific data obtained from Pioneer IV. The antenna is located in a natural bowl-shaped area in a remote site on the Camp Irwin Armor Combat Training Center reservation of the U.S. Army near Goldstone Dry Lake in California.

The intricate unit is specifically designed for tracking and communicating with far-reaching space vehicles as part of this country's space exploration program. The initial range of 400,000 miles will be increased to 40 million miles in 1960, and 4 billion miles in 1962, by improving the efficiency of the "dish" as a receiver and by improving the power and size of space vehicle radio transmitters.

Grants, Fellowships, and Awards

Cardiovascular reporting. The American Heart Association has announced the seventh annual competition for the Howard W. Blakeslee Awards for outstanding reporting in the field of heart and blood vessel diseases. Selections will be made from among newspaper and magazine articles, books, radio and television programs, and films published or produced between 1 March 1958 and 28 February 1959. The deadline for entries is *1 May.* The number of winners to be selected will be determined by the judges. The awards carry an honorarium of $500 each. Entry blanks and rules folders may be obtained from local heart associations or from the American Heart Association, 44 E. 23 St., New York 10, N.Y.

Laboratory equipment. Scientists and science teachers in colleges, universities, and nonprofit organizations have been invited by the National Science Foundation to submit proposals for the construction of better laboratory equipment for use in the nation's schools. Under the terms of a new, experimental program, the foundation will consider proposals for the design and construction of improved laboratory equipment and for the development of new instructional materials for lecture demonstrations and for laboratory and field work for courses at elementary, secondary, and undergraduate college levels in mathematics, astronomy, earth sciences, physical and biological sciences, and engineering.

Proposals, signed by the project director and a responsible officer of the sponsoring college, university, or scientific organization, should clearly describe the work to be done, give the qualifications of the personnel involved, show how the proposed material will be evaluated and eventually made generally available, and present a detailed budget. Support under this program will not be provided for the purchase of equipment for refurnishing school and college laboratories or for commercial production of equipment or materials.

Because the new program is experimental in nature, funds are limited and grants will be relatively small. Although proposals may be submitted at any time, those to be considered for support during the current fiscal year should be sent *before 15 April* to the Course Content Improvement Section, Division of Scientific Personnel and Education, National Science Foundation, Washington 25, D.C.

Scientists in the News

LEONARD J. BRASS, associate curator, and HOBART M. VAN DEUSEN, assistant curator, of the department of mammals of the American Museum of Natural History left on 13 March on the sixth Archbold expedition to New Guinea. The main purpose of the trip, which will last at least 7 months, is to study the geographical and ecological relationships of the animal and plant life of the New Guinea and Australian area as a whole.

This series of expeditions is sponsored by Richard Archbold, research associate at the museum. The present trip is also being supported by a National Science Foundation grant to Brass, and by a grant to Van Deusen from the Explorers Club of New York.

The following scientists from the United Kingdom are now visiting the United States:

B. A. NEWTON, member of the Medical Research Council's Chemical Microbiology Research Unit, School of Biochemistry, Cambridge, England, arrived on 31 March to visit protozoological research centers in New York, Atlantic City (N.J.), Amherst (Mass.), Detroit, Chicago, Cleveland, Washington (11–18 May), Oak Ridge and Nashville (Tenn.), New Orleans, Houston, Los Angeles, San Francisco, and Montreal. He will leave the country on 10 July.

J. A. POPLE, superintendent, Basic Physics Division, National Physical Laboratory, Teddington, England, arrived on 31 March to attend a meeting of the American Physical Society (High Polymer Physics Division) Cambridge, Mass., and to attend some of the meetings of the American Chemical Society in Boston. His itinerary also includes Washington (7–12 and 20–23 April), Ottawa, Durham (N.C.), and New York. He will leave the country on 23 April.

KENNETH E. NEWLAND, director of the department of aviation at Stephens College, Columbia, Mo., has been appointed curator of the National Air Museum, Smithsonian Institution, Washington, D.C. He will take up his duties at the museum in June.

Twenty-five physicians, teachers, and research workers on the faculties of medical schools in the United States and Canada have been appointed Markle Scholars in Medical Science by the John and Mary R. Markle Foundation, New York. Each appointment carries with it a $30,000 grant, appropriated to the medical school where the scholar will teach and conduct research, to be used for 5 years for his support and to aid his