New AEC Division

The U.S. Atomic Energy Commission established a division of civilian application on 29 June. Harold L. Price was appointed director.

The new division takes the place of the division of licensing and carries out other civilian-use activities contemplated by the Atomic Energy Act of 1954, which encourages "widespread participation in the development and utilization of atomic energy for peaceful purposes."

The division is responsible for (i) developing AEC regulations and other instructions dealing with licenses, authorizations, and other activities related to civilian use, and providing for the issuance of these regulations and instructions; (ii) administering the AEC licensing program; (iii) developing pricing schedules for materials and services made available to licensees and prices to be paid by the AEC for materials produced or returned by licensees, and providing for the issuance of these schedules; authorizing the distribution of source, special nuclear, by-product, and other materials for licensed use; (iv) administering the AEC's program of access to restricted data for civilian use; and (v) handling authorizations to export equipment and materials or to engage in atomic energy activities outside the United States.

Radioactive Fallout in Great Britain

John Cockcroft, British physicist, reports [*Nature* **175**, 873 (1955)] that in Great Britain the average concentration of radioactivity in the air at ground level during the past 3 years owing to bomb explosions of all types is about 1 percent of the average natural radioactive dust content. The highest peak of activity was one-half of the average level. He states that the total expected human dose is 0.03 r, and 0.1 r in the United States where local fallout from Nevada is important. The radiation dose received by persons spending much of their time indoors will be reduced by a factor of at least 10.

Cockcroft cites H. J. Muller's consideration that doubling the natural mutation rate for several generations would produce disastrous results in a civilized population, and that it would be advisable to limit the dose received before reproduction to one-quarter of the doubling dose. He notes that the radiation dose required to double the natural mutation rate in mice is about 50 r, and that if the estimated safe limit of one-quarter of the doubling dose (12.5 r) per generation were taken, we are several thousand times below the maximum level.

Cockcroft concludes that "the level of radioactive contamination in the world produced by all the nuclear bomb explosions and peaceful atomic energy activities is at present so low that it should not cause any anxiety. The radiation-level which would give rise to serious harmful effects is at least a thousand times the present level of contamination. We do not at present know this figure with any accuracy, and long-term genetic studies are required to determine this."

For other data on human radiation dosages, see "Dosages from natural radioactivity and cosmic rays" by W. F. Libby [*Science*, **122**, 57 (8 July 1955)].—E. M. L.

Antarctic Observation Stations

The U.S.S.R. has told the organizers of the International Geophysical Year, in Paris, that it plans to occupy three outposts on the Antarctic Continent. These will be the first bases ever established by the Soviets in Antarctica, as far as is known. One station will be near the South Pole, a region in which the United States has already completed arrangements for a post.

Planning for new bases results from a conference in Rome last fall. At that time the nations that will participate in the International Geophysical Year, which begins 1 July 1957, met to discuss their program. One project calls for the establishment, by various nations, of Antarctic observation stations to study phenomena ranging from cosmic rays to weather. It was found that between the proposed stations there would be several gaps large enough to impair the results of the observations. Sites were proposed to close the gaps and participating nations were invited to fill them.

At the Paris meeting, which opened 6 July, the Knox Coast and the Princess Astrid Coast of Antarctica were the only two suggested spots that were still open. Australia, the U.S.S.R., Belgium, Japan, and the United States all expressed the desire to establish outposts on the Knox Coast, and the problem was referred to a working group for solution. The delicate matter of allocating base sites was resolved amicably, and it now appears that the United States and the U.S.S.R. will be the only countries to establish bases in that immediate area.

The following locations for Antarctic stations have been decided upon:

United States, 6 stations: Knox Coast, long. 110°E; McMurdo Sound; Kainan Bay (Little America); Marie Byrd Land; Vahsel Bay; South Pole.

Soviet Union, 3 stations: Knox Coast, long. 104°E; midway from there to the South Pole at long. 105°E; in the vicinity of the pole.

Britain and Argentina, Vahsel Bay; New Zealand, McMurdo Sound; Norway, on coast on the Greenwich meridian (probably in Byrd Bay); Australia, at Mawson on MacRobertson coast, and one station inland from that point; France, at Pointe Geologie in Adele Land, and one satellite station inland from there; Belgium, near Haswell Island at long. 95°E.

Japan, at the request of the conference, will occupy Peter I Island. There are also a number of permanent Argentine, British and Chilean bases on the Palmer Peninsula.

The U.S.S.R., Great Britain, and the United States all claim credit for the discovery of Antarctica, in 1821. Since then the Russians have not participated in exploration of the continent, although in recent years a Soviet whaling squadron has annually visited the Antarctic seas. The United States has not made a claim in Antarctica and does not recognize claims of other nations.

News Briefs

■ The Senate on 18 July passed by a unanimous voice vote a revision of S. Con. Res. 22, introduced 13 Apr. by Sen. Frederick G. Payne (R, Me.) and cosponsored by 27 other senators [*Science* **121**, 630 (29 Apr. 1955)]. The new version reads:

"RESOLVED, That the Senate endorses efforts of our chief delegate to the United Nations to take appropriate steps to work to establish within the United Nations procedures to receive, assemble, and report on radiological information collected by the various States with particular emphasis on radiation effects on human health and safety."

Payne, who was commended on the Senate floor for his initiative in this matter, said in explanation of the revision: "My substitute did primarily two things: It made the concurrent resolution a simple Senate resolution in order to give the Chamber most directly concerned with foreign affairs a chance to act finally on this matter before adjournment. It also revised the wording of the original resolution in order to make it more closely conform to the proposal of a similar nature made by Ambassador Henry Cabot Lodge in San Francisco on June 22, 1955."

■ The opening statement of an article in the 12 July *New York Times* reads:

"Dr. Luther H. Evans, director of the U.N. Educational, Scientific and Cultural Organization, said today (July 11) the agency would make a study of the world-wide peril of radioactivity as soon as the U.N. called for it."

Evans was in Brussels conferring with

Belgian government officials and addressing the second meeting of the World Brotherhood Conference, where he called for "an active role by the social scientists in analyzing the 'world's malaise' and cooperating in finding a cure for it."

At a news conference, Evans reported that UNESCO already had funds for a study of nuclear hazards and awaited only the signal from the U.N. He indicated that "More than half of a $45,000 appropriation could be used for such a work."

■ The Office of Scientific Research, which has been located at the Air Research and Development Command Headquarters since its establishment in 1952, will be set up as a separate activity and relocated in the Washington, D.C., area. The move is being made to increase emphasis on basic research and provide closer liaison with other research organizations.

The new office will be known as the Air Force Office of Scientific Research and will report directly to Thomas S. Power, commander of the Air Research and Development Command. Don Flickinger, at present director of research for ARDC, will be commander of the new office. William O. Davis will be deputy commander. In addition, there will be a civilian chief scientist and four civilian directors in the following fields: aerodynamics, materials, life sciences, and physical sciences. Although the organizational change will take place 8 Aug. 1955, the location of the office in Washington has not yet been selected.

■ Lewis L. Strauss, chairman of the Atomic Energy Commission, has announced that the AEC has formally determined that uranium-233 is special nuclear material. The determination will be effective upon publication in the *Federal Register*.

In accordance with section 51 of the Atomic Energy Act of 1954, the AEC's determination, together with the assent of the President, was submitted to the Joint Committee on Atomic Energy on 12 Apr. 1955.

In announcing the determination, Strauss said that it is designed to avoid a possible technical deficiency in the definition of special nuclear material contained in section 11 t. of the Act. Under this section, uranium enriched in the isotope 233 is one of the materials designated as special nuclear material. Unlike uranium-235, however, uranium-233 does not exist in nature and is not produced by enriching normal uranium in the isotope 233. The determination announced by Strauss will assure that uranium-233 is "special nuclear material," regardless of its method of production.

■ The Arctic Institute of North America has scheduled 22 field research projects for this summer, which will be supported by the Office of Naval Research, the Sir Frederick Banting Fund, and private contributors. The projects will be located at the Arctic Research Laboratory of the Office of Naval Research at Point Barrow, Alaska, and scattered throughout Alaska and northern Canada. Projects will include studies in geology, glaciology, biology, ornithology, soil formation, tundra vegetation, and hydrobiology.

Geophysical investigations will be concerned with disturbances in radio transmission, the relationship between auroral displays and disturbances in the earth's magnetic field, and studies of ground conductivity. An entomological project will attempt to locate the bedrock source of Alaskan amber as a means for studying cretaceous insects. The birds of the MacKenzie District, the marine flora of Ungava Bay, the hydrobiology of the Canadian Arctic Coast, and the waterfowl habitat in North America are other investigations included in this program.

Following is a list of the principal investigators: W. L. Boyd (University of Georgia); J. L. Chamberlin, A. M. Day, D. V. Ellis (McGill University); C. T. Elvey (Geophysical Institute, Alaska); C. J. Heusser (American Geographical Society); E. O. Höhn (University of Alberta); R. C. Hubley (University of Washington); Mrs. G. E. MacGinitie (California Institute of Technology); D. G. MacVicar (Yale University); B. E. Montgomery (Purdue University); R. M. Nardone (Catholic University); L. E. Nielson, F. A. Pitelka, R. L. Usinger (University of California); G. C. Ray, J. C. F. Tedrow (Rutgers University); E. B. Reed (Colorado A. & M. College); P. F. Scholander (Woods Hole Oceanographic Institute); R. E. Shanks (University of Tennessee); R. W. Wilce (University of Michigan); N. J. Wilimovsky (Stanford University).

■ A new instrument for measuring the effect of impact on metals and plastics has been developed in the Research Division of the New York University College of Engineering. The instrument, which is called the "impact tube," describes impact in terms of dynamic stress-strain relationships. In earlier instruments, stress-strain results have not been separated from the effects of waves propagated by sudden shock. In the new instrument the two elements are separated.

The impact tube consists, essentially, of a 14-ft-long steel tube 18 in. in diameter. It is divided into three chambers, a static chamber, a dynamic chamber, and a firing chamber. The test specimen, a circular metal plate, is mounted between the static and dynamic chambers. The other end of the dynamic chamber is sealed with a plastic diaphragm supported by a pneumatically controlled piston. Pressure is built up equally in the static and dynamic chambers. Impact is applied by a carefully controlled simulated explosion. First the diaphragm is ruptured. This sends an expansion wave from the mouth of the dynamic chamber to the specimen. Pressure at the specimen position drops in about 10^{-2} sec. The onrushing pressure from the static chamber slams against the specimen. This constitutes the impact loading.

With the new instrument, the effect of impact can be measured over the entire face of the specimen. Information is transmitted by pressure gages and transducers to an oscilloscope.

Scientists in the News

CHAUNCEY D. LEAKE, executive director of the University of Texas Medical Branch at Galveston and a member of the AAAS board of directors, has been appointed assistant dean of the College of Medicine and professor of pharmacology at Ohio State University, effective 1 Sept.

He will succeed JOHN A. PRIOR as assistant dean. Prior asked to be relieved of this position to devote his full time to teaching, research, and patient care in the department of medicine, in which he is a professor and director of the division of chest diseases.

RALPH R. SHAW, professor in the Graduate School of Library Service at Rutgers University, has been elected first vice president and president-elect of the American Library Association. Shaw is a member of the AAAS Publications Committee.

N. PAUL HUDSON has resigned as dean of the graduate school of Ohio State University, effective 1 Jan. 1956. After having served as dean for 9½ years, he will relinquish his administrative duties to return to the department of bacteriology, where he holds the title of research professor.

In addition to DHANVANTHI RAMA RAU [*Science* **120**, 823 (10 June 1955)], two other scientists received Lasker awards in planned parenthood: M. C. CHANG of the Worcester Foundation for Experimental Biology, and HOWARD C. TAYLOR, JR., chairman of the department of obstetrics and gynecology, Columbia University College of Physicians and Surgeons. Their citations read:

"To M. C. Chang—living proof that when East meets West in mutual respect and cooperation all humanity profits.