and members of that organization and scientific delegates duly selected by the responsible participating scientific body in any country.

3) We endorse the spirit of the . . . statement approved in 1958 by the International Council of Scientific Unions, which (*a*) draws a distinction between the recognition of the activities of scientists and the political recognition of the government of the country or territory involved, and (*b*) affirms the right of the scientists of any country or territory to adhere to or to associate with international scientific activity without regard to race, religion, or political philosophy.

4) In view of the contribution of science to human welfare, we strongly believe that the foregoing considerations should be weighed in the formulation of governmental policy. We recognize that many other factors not primarily scientific must also enter into the formulation of this policy, but we urge that ingenuity and imagination be used to achieve the benefits of international cooperation in science.

Britain and U.S. Coordinate Time and Frequency Transmissions

The United Kingdom and the United States have begun coordination of their time and frequency transmissions to help provide a uniform system, which is needed in the solution of many scientific and technical problems in such fields as radio communications, geodesy, and the tracking of artificial satellites.

Participating in the project are the Royal Greenwich Observatory, the National Physical Laboratory, and the Post Office Engineering Department in the United Kingdom, and, in the United States, the U.S. Naval Observatory, the Naval Research Laboratory, and the National Bureau of Standards. This program is in line with previous cooperative efforts of these agencies to achieve uniformity and simplification in procedures.

The transmitting stations included in the coordination plan are GBR and MSF at Rugby, England; NBA, Canal Zone; WWV, Beltsville, Md.; and WWVH, Hawaii.

Coordination began in January. It is expected that by the end of 1960 the time signals from all the participating stations will be emitted in synchronism to the thousandth of a second.

In-Service Institute for High-School Teachers Announced

Opportunities for further study during out-of-school hours will be afforded about 9000 secondary school science and mathematics teachers in 1960–61 under the National Science Foundation's In-Service Institute Program. Grants to colleges and universities total about $2.1 million and provide for 191 institutes in 44 states, the District of Columbia, and Puerto Rico.

These institutes are designed to improve science and mathematics instruction by enabling teachers to obtain additional knowledge of subject matter, including recent developments, in biology, chemistry, mathematics, physics, earth science, or general science. Institutes in radiation biology at Texas Woman's University and the University of Washington will be jointly sponsored by NSF and the Atomic Energy Commission.

Participating teachers receive 2 or 3 hours of instruction during each of the 30 weeks of the typical institute. They receive allowances for travel and books and pay no tuition or fees. Sponsoring institutions receive support for direct costs of operation.

The In-Service Institute Program began in the spring of 1957 with two institutes. To date the program has enabled more than 12,000 teachers in public and private secondary schools to increase their knowledge of science while continuing regular classroom duties. Participants are chosen by the sponsoring institutions, *not* by the National Science Foundation.

Consulting Group in High-Pressure Techniques Formed

Last October a meeting was held in Erie, Pa., under the auspices of Autoclave Engineers, Inc., to form a consulting group of scientists and engineers with experience in high-pressure techniques. One of the purposes of the group, to be known as High Pressure Associates, is to offer consulting services to any organization or individual in the general field of high pressure. Other objectives are the initiation of standards and the preparation of a handbook of safety measures.

For the present a relatively loose organization is being set up as a central clearing house. Those interested in making use of the service should write to the chairman, Professor Barnett F. Dodge of Yale University, stating their problem. Dodge will put those who make inquiries in contact with whichever member of the Associates he believes most competent to give assistance.

Venezuelan Biological Station Invites Visitors from Abroad

The recently established Estación de Biología de los Llanos, in Calabozo, Venezuela, welcomes visits from research scientists abroad. The station occupies about 480 acres of pasture land on the edge of the central valley of the Orinoco River. It was established by the Sociedad Venezolana de Ciencias Naturales of Caracas, chiefly through private contributions. The new center can furnish laboratories and general facilities for field work and for preliminary work on the preparation and preservation of specimens.

In addition to the research that may be carried out at the station itself, which has a typical tropical lagoon and palm grove, interesting studies may be conducted in the area of the recently built Guarico Dam. There a new body of water, formed by the impounded Guarico River, has created conditions which provide an opportunity to observe changes in the plant and animal life of what was until recently a dry environment.

Only 5 hours by car or 1 hour by plane from Caracas, the Calabozo station offers excellent opportunities to the botanist, the zoologist, the ecologist, the pedologist, the geologist, and the physiologist to study the pasture lands of northern South America. Those who wish to conduct such tropical research will find that the station has comfortable lodgings. In addition to the station's facilities, visitors may make use of the facilities of the Universidad Central de Venezuela in Caracas, including the collections of the Instituto Botanica. For further information about the Estación de Biología de los Llanos, write by air mail to: Prof. A. Bonazzi, Correos del Este 4109, Caracas, Venezuela.

Survey of Water Use Planned

The Geological Survey plans to conduct an inventory of water use in the United States in 1960. Increasing demands for water are approaching the

limit of clean fresh water that is readily available at all times, although large quantities of water are still unused because they occur at the wrong times and places. To keep track of increasing demands, the Geological Survey is bringing up to date similar inventories made in 1950 and 1955. The inventory will be made by field personnel as part of their job of investigating the quantity and quality of the nation's water resources.

Information on water use will be compiled in six general categories: public supply; self-supplied industrial; steam-electric utility power plants; irrigation; rural domestic; and water power. These data will be tabulated by source—ground water or surface water.

Information on water use collected by municipalities, states, other federal agencies, associations of manufacturers, irrigation districts, and other organizations will be utilized in the study. Upon completion of the inventory, the Geological Survey will publish a report, probably by the end of 1962. Preliminary data will be available prior to that time.

The last previous report on this subject, *United States Geological Survey Circular No. 398*, stated that an average 240 billion gallons a day of water was withdrawn during 1955 for the nation as a whole, equivalent to about 1500 gallons per person.

Bradwell Nuclear Power Station Nears Completion

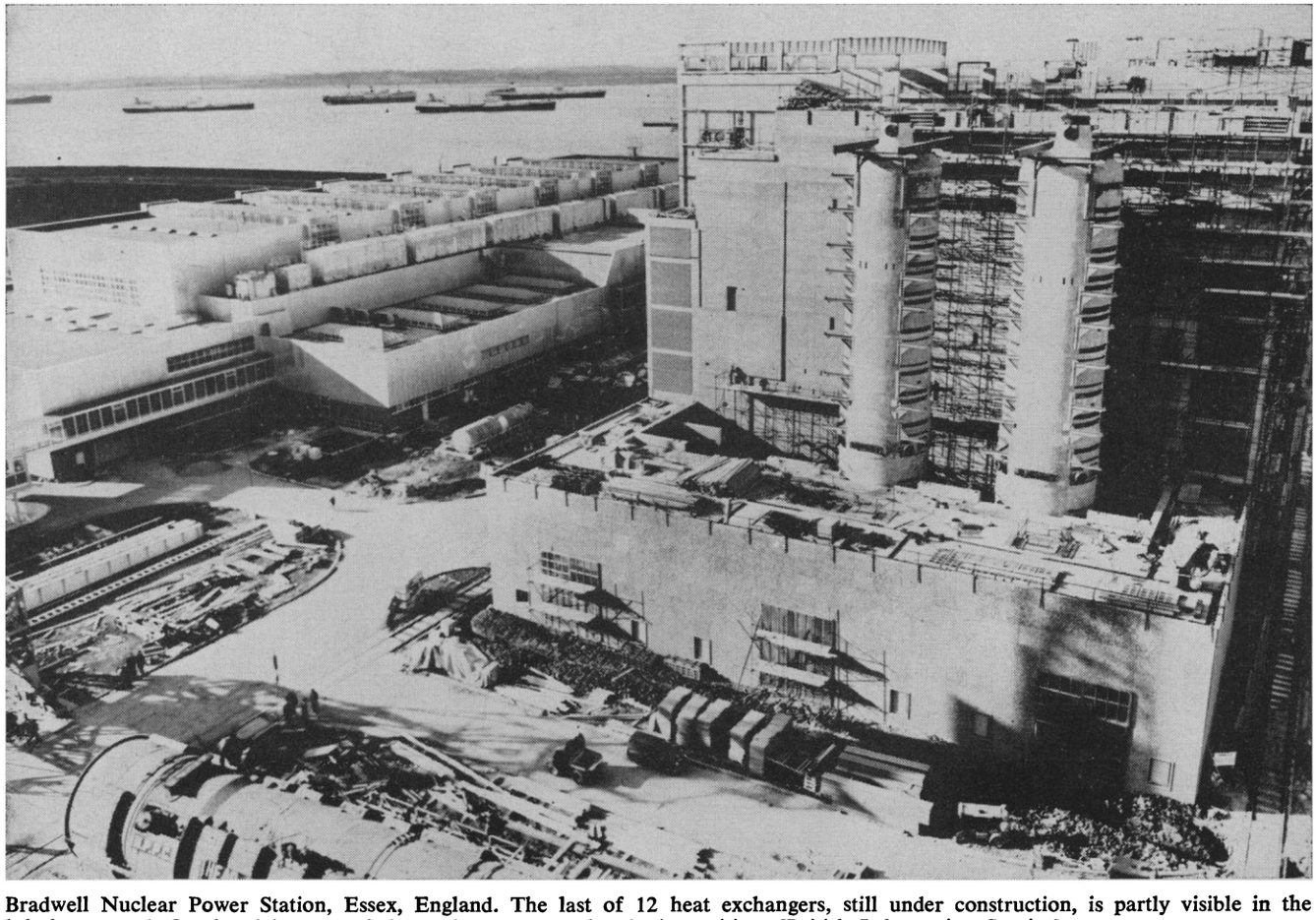
Bradwell Nuclear Power Station, which is being built in Essex, England, is one of more than a dozen such stations under construction or projected in Britain. Together they will give between 5000 and 6000 megawatts of electricity by 1966. Bradwell is scheduled to produce its first electricity this year. Its output when completed is expected to be 300 megawatts. The facility is a "descendant" of Calder Hall, the world's first station to produce power from nuclear energy on an industrial scale.

Britain Reports on Industrial Research

British manufacturing industry spent about £300 million on research and development in 1958, compared with about £190 million in 1955. This represents 4.2 percent of manufacturing industry's contribution to national production, as compared with 3.1 percent in 1955.

Ninety-five percent of the £300 million was spent in industry's own establishments, and about 5 percent on payment to outside bodies, such as cooperative research associations, universities, and other public and private research institutions. The main expenditures on research and development in 1958 were in aircraft (£100 million), electrical engineering (£64 million), and chemicals (£43 million).

These estimates are contained in a Department of Scientific and Industrial Research survey, *Industrial Research and Development Expenditure 1958*, published this month. The first report, that for 1955, was published in 1958.



Bradwell Nuclear Power Station, Essex, England. The last of 12 heat exchangers, still under construction, is partly visible in the left foreground. On the right, two of the exchangers are already in position. [British Information Service]