Science in the News

United States and Soviet Union Agree to Reciprocal Exchange in Peaceful Uses of Atomic Energy

V. S. Emelyanov, head of the U.S.S.R. Main Administration for Utilization of Atomic Energy, and John A. McCone, chairman of the U.S. Atomic Energy Commission, have signed a memorandum providing for a program of reciprocal exchange in the field of the peaceful uses of atomic energy between their respective countries. The memorandum will be included as an addendum to the U.S.–U.S.S.R. Scientific, Technical, Educational, and Cultural Exchange Agreement for 1960–61. The new atomic energy plan makes general provision for reciprocal exchanges of unclassified information, for visits of scientists to unclassified areas, and for exploration of the desirability of joint sponsorship of unclassified projects.

In order that the International Atomic Energy Agency and its interested members may benefit to the fullest extent from this effort toward further development of the peaceful uses of the atom, the agency will be given all reports and all results of the exchanges. The agency will be asked to assist, to the extent possible, in the consideration of possible joint projects by sponsoring meetings, symposia, or studies considered necessary for such planning.

Emelyanov and McCone have discussed unclassified exchanges in the fields of controlled thermonuclear research, basic research in nuclear physics (including high-energy physics), and civilian power reactor technology. Such exchanges in these and other areas will be proposed in specific detail under the general agreement reached by the two governments. The groundwork for the exchanges was laid in preliminary discussions between Emelyanov and McCone during the visit of Premier Khrushchev in September, during the tour of U.S.S.R. atomic energy establishments in October by McCone and a group of U.S. scientists, and during the recently completed tour of U.S. installations by Emelyanov and a group of Soviet scientists.

The text of the memorandum that has just been signed (except for the introduction) follows. The exchange arrangements described are subject to termination on 30 days' notice by either party.

Exchange of Visits

"For the purpose of exchanging information on further scientific and technical development on peaceful uses of atomic energy in their respective countries, the parties agree to the following exchanges of visits of specialized personnel composed of groups of three to five persons for periods of ten to fifteen days on an agreed and reciprocal basis.

"1. Delegations of scientists specializing in the field of thermonuclear research for visits primarily to the Princeton Project of the USA and the Institute of Atomic Energy of the Academy of Sciences of the USSR, but including short visits to additional facilities engaged in thermonuclear research in the USA and the USSR.

"2. Delegations of scientists specializing in the field of nuclear power reactors, including breeder reactors, for visits to facilities in the USA and the USSR.

"3. Delegations of scientists in the field of high energy physics, for visits to facilities in the USA and the USSR.

"4. Delegations of scientists working in the field of nuclear physics, neutron physics, and the structure of the nucleus, for visits to facilities in the USA and the USSR.

"The above visits, as well as additional exchanges of visits which may be developed in these and other fields of the peaceful uses of atomic energy, shall be carried out in accordance with the following procedures:

"1. The specific dates and duration of visits, the specific numbers and identification of scientists and facilities involved, and the specific field of activity contemplated by each side for each of the visit exchanges, will be developed between the U.S. Atomic Energy Commission and the USSR Main Administration for Utilization of

V. S. Emelyanov, head of the U.S.S.R. Main Administration for Utilization of Atomic Energy, and John A. McCone, chairman of the U.S. Atomic Energy Commission, signing a memorandum providing for a program of reciprocal exchange in the peaceful uses of atomic energy between their respective countries.

Atomic Energy and confirmed through diplomatic channels. At the same time, the respective governments will specify the permissive travel to be afforded beyond the location of the facility involved.

"2. In all cases the sending country will pay the salary, subsistence, travel costs and other expenses of their own scientists and personnel both to and from their main destination and within the host country. The host country will be responsible for making suitable arrangements such as hotel accommodations and travel and to provide necessary interpreters.

Exchange of Information

"The Parties agree to exchange information on a reciprocal basis through the exchange of documents, reports and abstracts. Conferences may be held as agreed.

"The Parties agree to:

"1. The exchange of abstracts of unclassified work in peaceful uses of atomic energy being conducted in their countries. This would include abstracts of both formal reports which are published in the technical literature as well as informal and progress reports which are normally only circulated within the atomic energy programs of their respective countries.

"2. In the research reactor and power reactor field, the provision of full-size copies of such unclassified reports as are listed in the abstracts and as are requested by the other party.

"3. The exchange of information on radio-isotope production and processing development, techniques of application and high intensity sources.

"4. Abstracts and reports exchanged by the Parties shall also be made available to the International Atomic Energy Agency.

Joint Enterprises

"The Parties agree initially to examine separately the feasibility of engaging in joint projects in various unclassified areas.

"Included in the initial exploration are joint facilities and undertakings in controlled thermonuclear reactions; the design and construction of an accelerator of large and novel type; approaches to waste disposal problems; nuclear data evaluation and compilation; and the development of nuclear standards.

"Representatives of the U.S. Atomic Energy Commission and the USSR Main Administration for the Utilization of Atomic Energy will meet in the first half of 1960 to consider what enterprises merit further study and will request the International Atomic Energy Agency to assist in arranging such meetings.

Instruments

"The Parties agree to consider the possibility of making available new scientific instruments under agreed terms and on a reciprocal basis. Such arrangements will proceed only to the extent mutually agreed and permissible under the laws and export policies of the respective countries."

Efforts To Control Locusts in Africa Described

Devastations, famine, and misery caused by locust plagues in Africa and other tropical countries have been recorded since the beginnings of human history. For a long time peoples of those lands have had no means of defense, and it is now natural to ask whether the recent rapid progress of science has insured that crops will provide food for men, not locusts.

Technical methods of locust control are now extremely effective. There are poisons, harmless to man and domestic animals if reasonably used, but so powerful against locusts that a few ounces, diluted in oil and sprayed by aircraft as a fine mist on plants or into the flying swarm, will kill millions of the pests. These methods are used on a large scale in many countries and have been particularly successful in Morocco, Mauritania, Senegal, Chad, Sudan, Ethiopia, Somaliland, Kenya, Tanganyika, the Middle East, Pakistan, and India. Swarms extending over scores of square miles have been exterminated, and impending danger from them has been averted.

Antilocust Organizations

Most of the countries threatened by locusts now have special antilocust organizations, but as recently as 1953 locusts caused losses in the Somaliland Protectorate estimated at £250,000 ($700,000), and in 1954 crops in Somalia suffered to the extent of £600,000 ($1,680,000), while Morocco lost valuable export crops worth £4 million ($11.2 million). In 1958, locusts destroyed crops in Ethiopia which would have been sufficient to feed 1 million people for a year. In 1959 a similar disaster occurred, and food had to be imported to prevent famine.

Such disasters are less frequent now because many countries can put up a defense against invading locust hordes, but this is achieved at great expense by maintaining defensive organizations even during quiet years. Thus, the East African territories (Kenya, Tanganyika, and Uganda) have spent, on the aver-

A locust control officer in Africa views an approaching swarm. A single swarm may number 500 million and destroy 200 square miles of vegetation.