

exchanging information

The Agency has a statutory mandate to foster "the exchange of scientific and technical information on the peaceful uses of atomic energy".

The prime responsibility for this work within the Agency lies with the Division of Scientific and Technical Information, a part of the Department of Technical Operations.

The Division accomplishes its task by holding conferences and symposia (Scientific Conferences Section), through the Agency Library, by publishing scientific journals, and through the International Nuclear Information System (INIS). The Computer Section of the Division, which offers services to the Agency as a whole, provides resources for the automation of data storage and retrieval.

Meeting face to face

Since its beginning the Agency has been actively engaged in organizing scientific meetings, open to scientists from all Member States. The annual programme of scientific conferences, symposia and seminars normally consists of 14—16 meetings. In 1970, 18 meetings drew 2876 participants from 74 countries and 31 international organizations. At these meetings, 862 papers were presented, the large majority of which contained original scientific work (about 90 per cent), the remainder being review papers giving the stage of progress reached in particular fields.

Because of the considerable size of the programme, the administrative complexity of this type of meeting and the desire to provide the necessary uniformity and coordination between meetings, the administration of the programme has been centralized in a specialized section of the Agency. This, the Scientific Conference Section, forms part of the Division of Scientific and Technical Information. An additional reason for centralizing this work is that most of the scientific staff have relatively short contracts with the Agency and correspondingly little opportunity to collect experience in conference organization. The scientists can, by relying on this section, concentrate more on the problems which are their proper concern — the scientific aspects of the meetings.

As indicated above, the Agency's conferences, symposia and seminars are open to scientists from all Member States. Following the pattern adopted by the United Nations at the Geneva Conferences on the Peaceful Uses of Atomic Energy, participants must be nominated by their governments. This is basically a requirement of the Member States themselves, but has also proved to be of great practical advantage to the Agency. Although the procedure of nomination is naturally somewhat delayed by using "official channels" instead of direct contact with the scientists, this is offset by the guarantee the information will be distributed to all the persons and institutions concerned within a given country, so that a certain national preselection is made of the papers submitted. There is no fee payable at Agency conferences, and the preprints of the full papers, the book of abstracts*, and the programme (which is available in the four working languages of the Agency) are distributed free of charge. The meetings are open to members of the public, who may listen to the proceedings without taking an active part in the discussions or receiving the printed material.

Travel and subsistence must be paid by the participants themselves, except when the Agency provides travel grants to a limited number of selected participants from developing countries. Simultaneous interpretation into English, French, Russian and Spanish of the presentations and discussions is provided at all meetings as required.

To conform with the wish expressed by the IAEA General Conference, the meetings are held in different regions of the world. On the invitation of Member States the Agency organizes more than half its symposia outside its Headquarters. Through cash contributions by the host countries, the extra costs of holding meetings outside Vienna are recovered.

As an important part of its activity in connection with scientific conferences, the Agency publishes quarterly a world-wide list "Meetings on Atomic Energy". This list serves both as a service of information and as a coordinating agent (i.e. to avoid overlapping of meetings) and has 335 subscribers.

The Library

The Library is an integral part of the Agency, and supplies information to the Secretariat and to Member States. Its total collection consists of 26 184 books, 1 358 serial titles, 139 090 technical reports and 4 431 bound United Nations documents. The Library receives annually about 600 requests for information from Member States and distributes about 3 000 publications that are announced in its "Duplicate Bulletin", which is published two or three times a year.

The stock includes an extensive collection of reports dealing with the peaceful uses of atomic energy.

The Library issues the following publications for free distribution:
IAEA Library New Acquisitions (monthly)
Film Catalogue (annually)
List of Serial Holdings (at irregular intervals)

*) When available (not issued for all meetings).

Conference Proceedings in the IAEA Library (annually)

Books and Articles in the IAEA Law Library (at irregular intervals)

IAEA Duplicate Bulletin (bi-annually)

At present a series of computer projects is being developed to increase the efficiency of the Library. The Agency has been co-operating with UNIDO on establishing a joint list of periodicals and, in the near future, a joint catalogue listing books available in both libraries will be published. In the preparatory work, consultation has been maintained with UNIDO on all Library computer projects and, whenever possible, both Libraries have been using the same programme.

The Library has cumulated its monthly "IAEA Library New Acquisitions" which is published as a book catalogue covering 1968 to 1970.

The Library collection has recently been re-arranged and this summer a new computer circulation system for the periodicals is being started. Much of the preparatory work has been done. This new method should reduce the clerical time now spent on journal circulation. In 1970 a computerized book circulation system for long-term loans was initiated. It has worked very well and it is expected that, within another year, this method will be used for the entire book circulation.

The Library also serves as a training centre for library personnel from Member States. During the past year (1970—1971) there have been six trainees from five countries.

The Library continues to work in close co-operation with INIS and with UNIDO to bring the maximum benefit to all users.

Scientific Journals

Two scientific journals, Nuclear Fusion and Atomic Energy Review, are published six times per year and quarterly, respectively, by the Agency and are the responsibility of the Division of Scientific and Technical Information.

Nuclear Fusion is devoted to research in plasma physics and thermonuclear fusion, including fusion reactor physics and technology. MHD energy conversion is also within the journals' scope. Its publication is arranged in Vienna by a managing editor and the Agency's scientific editorial committee and it is supervised generally by a board of editors from many Member States. The contents include review articles, papers on original research, letters to the editor, reports on relevant conferences and symposia, and book reviews. All articles are published in English, with the exception of those submitted in French, and each is provided with an abstract in English, French, Spanish and Russian.

Atomic Energy Review contains review articles in the general area of nuclear energy and reports of IAEA conferences and symposia. The subject matter includes scientific and technological problems that are of acute interest or subject to rapid change, experimental and theoretical physics, nuclear electronics and equipment, physics and technology of reactors, and other relevant fields. Comprehensive bibliographies are also provided. Its publication is arranged by a managing editor and a scientific editor in Vienna in co-operation with a board of editors from many Member States, and the same conditions as in Nuclear Fusion apply with regard to the languages of publication.

Supplements to, and special issues of, both journals are published from time to time.

INIS

The International Nuclear Information System (INIS) is the world's first computer-based international documentation service for which input is prepared on a decentralized basis. It was set up co-operatively by the International Atomic Energy Agency and its Member States to construct a data base identifying publications relating to nuclear science and its peaceful applications and commenced operation in May 1970. Each participating Member State and international and regional organization is responsible for scanning the scientific and technical literature it produces and reporting the input data for INIS to the IAEA. This ensures that there is no duplication of data. INIS processes what is received, merges it, and issues four services:

A magnetic-tape service (available only to participating Member States and organizations);

INIS Atomindex, which is produced each month directly by computer from the magnetic tapes and contains references to the items reported in to the System during the preceding month (available to the public for a subscription price which also covers the indexes);

Abstracts-on-microfiche: an abstract for every item reported in the magnetic-tape service and in INIS Atomindex (available to the public);

Full texts of "non-conventional" literature, i.e. all items other than journal articles and commercially published books (available to the public).

Since INIS is a world-wide information system and highly decentralized, standards were formulated for preparing the INIS document input which take into account the requirements and practices of the participants. These standards are laid down in the INIS Reference Series Nos 1—13. In addition, training seminars on input preparation are held both in Vienna and abroad and individual trainees from participating Member States take courses at the IAEA Headquarters in Vienna. Although English has been adopted as the working language of INIS, abstracts are accepted in any of the four IAEA official languages — English, French, Russian and Spanish — and non-conventional literature in the original language.

The input from the centres arrives at the IAEA in the following forms:

1. Bibliography and subject description on:
 - a) Worksheets,
 - b) Paper tape, or
 - c) Magnetic tape;
2. Secondary documents: abstracts;
3. Primary non-conventional documents: documents in their original languages.

All input received from the participants is immediately registered and checked for completeness by the INIS staff against the full description of each piece of literature which is provided by the inputting centre and is a requirement of the System. Input on worksheets or paper tape is then transferred to magnetic tape. Once it has been fed to the computer, all input passes a variety of validity checking programmes which deter-

mine whether a data element is correct. Manual checking, such as careful proof reading of computer printouts, is also performed for data which have been punched onto cards at the IAEA, but the responsibility for correct citation of references lies with the inputting centre.

In May 1971, INIS completed its first year of operation. During this initial period, the INIS subject scope was limited as recommended by the IAEA Board of Governors in 1969. In 1972, it will be expanded to the extent recommended by the Panel that met in July 1971. Currently, 39 Member States and 11 international and regional organizations are participating in the System. This membership includes the major producers of nuclear science literature, so that the INIS participants are responsible for 90% of the world's output of literature in this field. The principal INIS output products, i.e. the INIS Atomindex which is printed monthly and the computer magnetic tapes, have found wide acceptance in the world's scientific community, as evidenced by 143 subscriptions from 26 countries. In addition, there are 50 standing orders for INIS abstracts on microfiche and 10 standing orders for non-conventional literature on microfiche.

The experience acquired in handling input over the first year indicated that improvements were called for in certain areas, such as categorization of subject scope. These improvements are being studied by panels of experts. An experimental retrieval service (Selective Dissemination of Information) is currently being developed with the intention of making it available to scientists and engineers within the Secretariat in 1972. Retrieval services may, if required, be offered to participants at a later date on a cost recovery basis if such a proposal is approved by the Agency Board of Governors.

The Computer Section

The Computer Section provides the resources required by the IAEA and the United Nations Industrial Development Organization (UNIDO) for computerization of their respective activities. Any activity is suitable for computerization if it can be made significantly more efficient and/or effective by automation.

Some of the areas of application that have already been automated or are in the process of being so are:

- (a) Management of programmes and experts in the field (UNIDO).
- (b) International Nuclear Information System (INIS) for collecting, processing, and disseminating bibliographic information on the peaceful uses of atomic energy (IAEA).
- (c) International system for the collection, evaluation, and dissemination of Neutron Data (IAEA).
- (d) Information retrieval programme for industrial bibliographic data and for data on experts (UNIDO).
- (e) Programme for collecting and evaluating hydrological and agricultural data (IAEA).
- (f) Programme for processing and evaluating data on the non-proliferation of nuclear weapons (IAEA).
- (g) Programme dealing with various aspects of nuclear medicine and dosimetry (IAEA).

(i) Library activities — cataloguing, circulation control, acquisition, etc. (IAEA).

(j) Personnel administration and financial activities (IAEA, UNIDO).

The resources of the Computer Section, both in equipment and personnel, are modest. The equipment consists of an IBM 360/30 computer with tapes and disks, which is operated on three shifts.

