

SAFEGUARDS

The Agency's statutory responsibilities of safeguarding that any project associated with the Agency is developed exclusively for peaceful purposes are closely related to its function as an intermediary for the supply of materials, equipment and services.

It was foreseen by the Preparatory Commission and confirmed by the Board of Governors that work on safeguards and the associated problem of inspection would be limited in the initial period of activities and in the absence of specific projects submitted to the Agency for review. In fact, the Department of Safeguards and

Inspection is not yet fully established. The Director of the Safeguards Division was appointed at the end of July 1958.

Parties to bilateral or multilateral agreements and individual states may request the Agency to apply safeguards to atomic energy undertakings and the possibility of such requests form part of quite a few existing agreements. The Agency must therefore - even in the absence of Agency projects - formulate methods and policies for the implementation of its safeguards function. Safeguards will be adapted to the specific character of each individual undertaking.

DEVELOPMENT OF INTERNATIONAL CO-OPERATION IN THE PEACEFUL USES OF ATOMIC ENERGY

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The development of the peaceful uses of atomic energy has stimulated important endeavours in international co-operation. It is not the least important aspect of atomic energy that it has provided a strong impetus for joint action among the nations of the world.

FIELDS OF INTERNATIONAL CO-OPERATION

International co-operation in the peaceful uses of atomic energy began with multi-national arrangements for the exchange of scientific information and the procurement of source materials.

The success of the first Scientific Conference in Geneva in 1955 was both the result of the first large scale declassification of scientific information and the stimulus for further declassification. With it begins the post-war era of a freer exchange of scientific information in atomic energy.

From the outset, the supply of materials was jointly organized by certain countries because ore deposits were scattered all over the world in such a way that the main producing countries were not in all cases those having the greatest demand and immediate use for these materials. The continuity of the necessary supplies could therefore best be organized internationally. Co-operation in this domain was recently extended to other materials and equipment and endeavours have been made to liberalize trade in order to develop broader markets. Furthermore, plans are now being made on a regional basis for joint enterprises for the reprocessing of fuel elements and may be developed in the future for the production of fissionable and other base materials.

International co-operation in the training of technicians also began relatively early. The spreading of the

peaceful uses of atomic energy depends to a large extent on the availability of qualified scientific manpower of which there is a world-wide shortage. This shortage can only be alleviated if, on the one hand, countries possessing the necessary installations and teaching staff make them available to students abroad and, on the other hand, the establishment of regional training centres is promoted.

Because of cost and complexity of laboratory installations and the need to draw on scientific talent from all available sources, research has been another subject of international co-operation. International work in this field is no longer limited to fundamental research but is being extended to research on industrial applications and the operation of experimental reactors. Furthermore, as atomic industries begin to develop the need is being felt for international standardization of certain parts of equipment.

Finally, since radiation hazards cross national and even regional boundaries, the elaboration of health and safety standards can best be undertaken internationally. The same is true of waste disposal problems. The first incentive for some international regulatory activity stemmed, however, from the general desire to establish a world-wide system of safeguards to ensure that the spreading of the peaceful uses of atomic energy does not increase the risks of potential military applications.

This enumeration would not be complete without mentioning the growing need for harmonizing the approach to certain legal problems arising from the application of atomic energy, in particular insurance and third party liability. Co-operative efforts in this field have recently begun.

APPRAISAL OF THE DIFFERENT METHODS OF INTERNATIONAL CO-OPERATION

Most of the methods and forms of international co-operation in the peaceful uses of atomic energy can be embodied in two different types of arrangements: namely, co-operation through bilateral agreements or through international organizations. A brief appraisal will therefore be attempted of the advantages and the problems inherent in these two approaches.

The bilateral method, because it applies to transactions between two parties only, makes it possible to meet the specific needs of a particular country for assistance in the development of an atomic energy programme. The agreement can furthermore be extended to provide for financial assistance in the execution of certain projects. The supplying country, being at liberty to choose its partner and to lay down the precise terms on which the international co-operation will take place, may be prepared to offer more extensive assistance than it would in other circumstances. At the same time the fact that specific conditions can be set and control retained by one partner to the arrangement is one of the principal limitations of this approach. Furthermore, since a particular country may not be able to obtain all the assistance it needs from one supplier, the country concerned may find it necessary to conclude several bilateral agreements. Should these agreements set different conditions, for instance with respect to health and safety requirements, accountability procedures and safeguards, their implementation will become extremely cumbersome. To meet this problem bilateral agreements now make increasing reference to international systems and provide, for instance, for the possibility of substituting international safeguards for bilateral controls. The extent to which such substitution will be made will determine whether the "bilateral" can be integrated in the "international" approach.

The second pattern of co-operation, namely that in which governments work through an international organization, presents three distinct advantages: it facilitates a non-political approach, provides the best conditions for co-ordination, and has a stimulating effect on activities at national levels. In order to achieve these benefits, certain difficulties must however be overcome.

The non-political character of assistance granted by an international organization is achieved to the extent that governments give up direct control over the services and supplies which they make available. Since the assistance is offered to an international organization which will make the allocation itself, the ultimate beneficiary may not even be known to the supplying country at the time the offer is made. That country may of course have a voice in the executive body of the organization, but it will not be able to determine the policy of the organization. On the other hand, because of the variety of the equipment and materials required in an atomic energy programme, it may, however, not be possible for an international organization to stock these supplies, and it may have to arrange for separate shipments direct from supplying member states to meet

each request from recipient countries. It is therefore important that the potential suppliers should be committed by the Statute of the organization or by the terms of supply agreements to implement their original offers in a non-discriminatory way and in accordance with the specifications set by the international organization for any particular transaction. A similar principle must be observed in connection with the acceptance of students and the exchange of scientists. The international character of its operations is, of course, enhanced if the international organization can provide assistance out of its own resources. The acceptance of voluntary contributions in kind always tends to raise delicate questions and restricts the freedom of action of the organization concerned. The desirability of securing the maximum possible supplies must therefore be carefully weighed against the risk of conceding certain indirect policy controls to major contributors.

International organizations, by providing a forum for discussion and making available the same composite body of experience to all their member states, can exercise a harmonizing influence and facilitate co-ordination.

In the field of research the interchange of information and experience in the framework of an international organization can provide an important stimulus to further progress. This is enhanced if the international organization is able to contract out research work among its members according to a central plan. However, here again its international character is best safeguarded if the organization disposes of a nucleus of resources of its own and does not have to rely wholly on the goodwill of individual countries.

The question now arises as to the optimal scope of international organizations. The answer depends on the functions they are to perform.



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Regional organizations have proved best suited for the promotion of joint enterprises, whose optimal size would be exceeded if these establishments had to serve several regions. For economic reasons it may be necessary that the territories of the participating countries should be contiguous, that their power grids should be interconnected, etc. Moreover, regional organizations have the advantage of grouping countries at a similar level of technological development whose research and industrial needs are closely akin. This factor is important when sizeable investments are required. Co-operation of these regional organizations with world-wide organizations is, however, desirable in order to achieve co-ordination especially with respect to standards, regulations and controls and to dispel any danger of a tendency towards regional autarchy which might retard the world-wide development of peaceful uses of atomic energy.

World-wide international organizations undoubtedly provide the best framework for the elaboration, adoption and enforcement of regulations with respect to health and safety and security safeguards where uniformity is essential. The adoption of uniform standards through the action of an international organization is particularly valuable if, as a result, these standards are recognized by different groups of countries which, for geographical or political reasons, do not formally follow similar approaches. It is by such means that the peaceful uses of atomic energy are providing a new bond in international relations. Furthermore, world-wide international organizations, by grouping countries advanced in atomic technology together with less developed countries, are particularly suited for the organization of technical assistance. Broad geographical coverage is also a distinct advantage for carrying out clearing-house functions. On the other hand, concomitant disadvantages are that these organizations must necessarily spread their available resources more thinly and cannot design their policies specifically to fit particular local circumstances. There is also a risk that international organizations, by promoting the peaceful application of atomic energy in all parts of the world, may induce certain countries to embark upon atomic energy programmes at a time when their limited scientific and financial resources could more economically be applied to other forms of development.

CONCLUSIONS

The impact of atomic energy on international co-operation has been significant.

The impetus for co-operation came from the realization of the vast potential benefits of the peaceful applications of atomic energy and the concentration of scientific, technological and material resources in a few countries. These countries agreed to share their resources as soon as it was recognized that the peaceful could be developed separately from the military uses of atomic energy and that safeguards could be created to prevent diversion. The economic and technical incentive for co-operation has been so strong that atomic energy has become a unifying force and has been used as an instrument to bring about political co-operation and even integration.

International co-operation was developed on bilateral, regional and world-wide levels. While the regional form proved best suited for certain operational programmes of countries with identical needs and at similar levels of economic development, and for the establishment of joint enterprises requiring large investments, the world-wide approach is normally desirable for technical assistance programmes, clearing-house functions and regulatory activities in the field of health and safety and security safeguards. International organizations with broad membership offer the most balanced approach. The major problem they encounter derives from the fact that this method of co-operation was developed last in time and that bilateral arrangements have largely pre-empted the field. The success of international organizations therefore depends on the additional advantages they can offer and the persuasion they can exercise on governments to shift some activities from the bilateral to the international level. This in turn depends on the confidence they can inspire which is a direct function of the quality of the international staff available to them. In order to attract first-rate scientific and administrative personnel it is not enough to offer competitive conditions of employment. The task to be performed must be challenging and creative imagination must be allowed to play its part.

Co-ordination is another major problem. Atomic energy, because of its novelty, its perspectives and its dangers, has led to an astonishing number of international initiatives by inter-governmental and non-governmental organizations. In many fields, such as training, information and technical assistance, overlapping of effort may not be detrimental; it may even be desirable. In others, duplication may lead to a waste of precious scientific resources and an undue claim on the time of a few highly qualified experts. In the fields of radiation protection and safeguards, lack of co-ordination would be extremely harmful and could lead to a competitive deterioration of standards. Co-ordination requires both the functional assignment of responsibilities among different organizations and the integration of similar activities performed on a bilateral, a regional and a world-wide level.

The initial step consists in bringing about consultations and a confrontation of draft programmes. In this respect, within the United Nations family, the Administrative Committee on Co-ordination, which groups under the chairmanship of the Secretary-General of the United Nations, the executive heads of the specialized agencies and the International Atomic Energy Agency, has proved a useful forum. As a further step, some of the specialized agencies have established joint committees such as the joint WHO/FAO Expert Committee on Radiochemical Methods of Analysis. Similarly, activities have been organized jointly by international and regional organizations and seminars and conferences have been planned under joint sponsorship. Finally, the use of the same body of scientific knowledge by different organizations has often achieved a co-ordinating effect. Thus, the basic standards developed by a non-governmental organization with high scientific standing, such as the International Commission on Radiological Protection (I.C.R.P.), have been used uniformly by most inter-governmental organizations concerned with radiation protection.

The key to the solution of the co-ordination problem lies of course with national governments. They have to determine which international organization they wish to entrust with the execution of a particular programme. The creation of the International Atomic Energy Agency as the newest and broadest international organization in this field may provide a useful focal point for international atomic energy activities. The Agency is for this purpose negotiating relationship agreements with the specialized agencies, and is planning to join the Expanded Programme of Technical Assistance of the United Nations and to establish contacts with appropriate regional and non-governmental organizations.

The present trend is towards more complex and integrated forms of international co-operation and an extension from scientific to industrial fields. International co-operation on an inter-governmental level has proved particularly helpful in the pre-industrial stage, where development programmes have to be carried out which require diversification of experimentation and economically unprofitable pilot

operations. As economic applications become possible, co-operation is being extended to private groups and may develop increasingly on a normal commercial basis. International co-operation must endeavour to achieve the full degree of interchange between nations which is necessary in order to ensure economic development and world progress.

The interplay between natural sciences and political science has yielded encouraging results. The methods of international co-operation which have to be developed by political decisions of governments are, however, always in danger of being outpaced by new scientific discoveries. The institutional forms in which co-operation is organized must therefore be kept sufficiently flexible to adjust themselves to new requirements so that they may be safe from ever becoming anachronistic international bureaucracies.

(This article consists of extracts from a paper submitted to the Second International Conference on the Peaceful Uses of Atomic Energy, Geneva, 1 - 13 September 1958)

CONFERENCES AND MEETINGS OF INTEREST TO I.A.E.A., OCTOBER - DECEMBER 1958

<i>Date</i>	<i>Title of Conference</i>	<i>Convening Body and/ or Secretary</i>	<i>Location</i>
September 20 - October 2	7e Colloque International de Spectroscopie	Association des Ingénieurs de l' Université de Liège, 22, rue Forgeur Liège, Belgique	Liège, Belgium
September 20 - October 25	Special Regional Conference	International Telecommunication Union	Geneva, Switzerland
September 29 - October 1	Second Conference Analytical Chemistry in Nuclear Reactor Technology		Gatlinburg, Tennessee, U.S.A.
September 29 - October 3	25e Congrès International de la Fonderie	Secrétariat de Congrès International de Fonderie 1958, 21, rue des Drapiers Brussels	Brussels, Belgium
October 2 - 6	8th General Assembly	International Council of Scientific Unions 29, Tavistock Square London, W.C. 1 or: Dr. W. Atwood National Academy of Sciences, Washington, D.C.	Washington, D.C., U.S.A.
October 16 - 17	Conference 2nd Energy Resources	National Resources Council of the Denver Chamber of Commerce 1301 Welton Street, Denver, Colorado	Brown Palace Hotel, Denver, U.S.A.