



International Atomic Energy Agency

GENERAL CONFERENCE

GC(XXXVII)/1073
6 September 1993

GENERAL Distr.
Original: ENGLISH

Thirty-seventh regular session
Item 18 of the provisional agenda
(GC(XXXVII)/1052)

STRENGTHENING THE EFFECTIVENESS AND IMPROVING THE EFFICIENCY OF THE SAFEGUARDS SYSTEM

Report by the Director General

1. In resolution GC(XXXVI)/RES/586 the General Conference requested the Director General to inform it at its thirty-seventh regular session of the actions taken to strengthen the effectiveness and improve the cost efficiency of the safeguards system. The actions consist of a continuation of those reported to the thirty-sixth regular session of the General Conference in GC(XXXVI)/1017 and subsequent actions resulting from Board decisions and from initiatives of the Secretariat. This report provides information on the following:

- (a) Early provision and use of design information
- (b) Reporting Scheme endorsed by the Board on the export and import of nuclear material and on the export of specified equipment and non-nuclear material
- (c) Re-examination of safeguards implementation
- (d) New Partnership Approach with Euratom

Early Provision and Use of Design Information

2. The overall objective of efforts to strengthen the effectiveness of the safeguards system has been primarily to enhance the Agency's ability to detect, and secure access to,

any undeclared nuclear activities that should have been declared under safeguards agreements. Actions taken by States to make known to the Agency as early as possible any decision to construct, to authorize construction or to modify a nuclear facility will contribute to this objective and to confidence building. The Board's decision on the early provision and use of design information is incorporated in GOV/2554/Attachment 2/Rev.2^{1/} and was reported in GC(XXXVI)/1017. The Board called upon all parties to comprehensive Safeguards Agreements to provide the requested design information pending amendment of existing subsidiary arrangements and requested all parties to such agreements to adapt, where appropriate, the related Subsidiary Arrangements. To implement the Board's decision with respect to the adaptation of Subsidiary Arrangements in force, revision of Code 3.1 of the General Part of Subsidiary Arrangements and of Code 2.2 of facility attachments is needed. The revision to Code 3.1 would better ensure that the Agency is given early information about the design of new nuclear installations and further information on designs as they develop. The revision to Code 2.2 of facility attachments would better ensure advance information about planned modifications of existing installations.

3. The Secretariat informed 35 States and the Commission of the European Communities (CEC) of the Board's decisions on design information. To date eight of these States have written to the Agency giving their concurrence with the proposed revisions of the Subsidiary Arrangements. Also two States incorporated the appropriate text during the negotiation of Subsidiary Arrangements in connection with their recent Safeguards Agreements. In addition the CEC stated its support and that it would consult Community Member States; an amendment to the Euratom regulation -- a necessary step -- with regard to early transmission of design information was published in the Commission Official Journal on 31 July 1993 and entered into force 15 days after publication.

^{1/} These and other Board documents referred to in the text will be made available on request.

4. The other States have not yet responded to the Secretariat's correspondence and the Secretariat will continue communications with these States concerning the Board's decisions on design information.

Reporting Scheme Endorsed by the Board on the Export and Import of Nuclear Material and on the Export of Specified Equipment and Non-Nuclear Material

5. The Secretariat's proposals for a Universal Reporting System (GOV/2588 and GOV/2589) were considered at the Board of Governors meeting in June 1992 and the results were reported in GC(XXXVI)/1017. Pending further consideration by the Board of the terms of such a system, it was understood that all States willing to provide, on a voluntary basis, the information referred to in the papers would do so as they deemed appropriate. The Secretariat circulated to all Member States forms designed to enable them to provide information about exports, imports and inventories of nuclear material and exports and imports of specified equipment and non-nuclear material, in addition to the information required under existing Safeguards Agreements.

6. 26 Member States (including the 12 Euratom States) and the Commission of the European Communities responded to the Secretariat's invitation indicating their willingness to provide either all or part of the information requested, in some cases subject to certain conditions. An amendment to the Euratom regulation -- a necessary step -- was published in the Commission Official Journal on 31 July 1993 and entered into force 15 days after publication.

7. A revised Secretariat paper for reporting on exports, imports and production of nuclear material and exports and imports of specified equipment and non-nuclear material (GOV/2629) was considered by the Board at its meeting in February 1993. The Board endorsed a reporting scheme, noting that participation by Member States would be voluntary in nature and hoping that subscription to it would attain universality. The Board encouraged Member States to participate in the scheme, providing the Agency with relevant information relating to their exports and imports of nuclear material and exports of specified equipment

and non-nuclear material. The Board also invited States that were willing to do so to provide information on their production of nuclear material and on their imports of specified equipment and non-nuclear material. The Secretariat notified all Member States about the Board's decision and circulated forms designed to enable them to report this information.

8. Three Member States have responded so far to the Secretariat's communications about the reporting scheme endorsed by the Board in February 1993. Two of these States had earlier replied to the invitation in 1992 and elaborated upon their voluntary undertaking. The third State indicated its willingness to participate. It is anticipated that more of the 26 States which undertook voluntarily to provide information pursuant to the invitation in 1992 will agree to provide information under the endorsed reporting scheme. The Secretariat will follow-up with these States and also with those that have not yet indicated participation.

9. To date, eight States have submitted reports pursuant either to the invitation in 1992 or to the scheme endorsed by the Board in 1993. Three of these States have provided information on export licenses for specified equipment or non-nuclear material for nuclear purposes. One State has provided information on actual imports of such specified equipment and non-nuclear material. Three States have reported information on the exports of nuclear material. Three States have reported inventories of nuclear material and one State has reported information on its production of nuclear material.

10. The Secretariat will follow-up with States who are already providing information to the Agency to ensure that information is provided in a useful manner. The Secretariat will also be in further contact with States that have not so far responded or submitted any reports. Additionally, the Secretariat is taking steps to enable it to evaluate better the information received through the reporting scheme.

Re-examination of Safeguards Implementation

11. In May 1992 document GOV/INF/654, issued by the Secretariat, described the measures already taken to streamline and rationalize the Agency's safeguards system, so as

to reduce costs. Subsequently, in September 1992 the Director General asked the Standing Advisory Group on Safeguards Implementation (SAGSI) to advise on ways to reduce costs while meeting new requirements and maintaining effectiveness. For the duration of this work the Director General expanded the composition of SAGSI by appointing six additional members. SAGSI reported on 23 April 1993 to the Director General on its re-examination. SAGSI addressed improvements in cost-effectiveness through the use of new techniques, the use of procedures to detect undeclared facilities, the use of increased co-operation with State Systems of Accounting and Control (SSACs) and the use of alternative safeguards approaches. In the report, SAGSI indicated, *inter alia*, that it interpreted the cost-effectiveness of safeguards as meaning that the Agency should implement its safeguards to meet all its obligations in an effective manner while ensuring that costs are the minimum consistent with effective safeguards.

12. The Group also reported to the Director General its conviction that the Agency's safeguards system must be strengthened so as to provide significant confidence that no undeclared nuclear activities are being carried out in States with comprehensive Safeguards Agreements. SAGSI considered this as a positive, logical and necessary extension of the current safeguards approach.

13. The Group identified a number of measures, including environmental monitoring and a freer access to sites, which would enhance the Agency's ability to detect undeclared facilities and activities and recommended that these measures be further developed, assessed and implemented by the Secretariat, as a matter of priority.

14. SAGSI also recommended the continuing introduction of other new techniques, procedures and technologies to increase the cost-effectiveness of current safeguards approaches. SAGSI noted that the Agency currently takes advantage of modern advanced techniques and urged that it vigorously pursue developments in a number of specified areas, including the use of unattended surveillance and measurement systems which are being introduced with the assistance of Member States in some MOX fuel fabrication plants. These have already resulted in significant savings in current and planned inspection effort. The

Secretariat will continue to pursue the development and use of new techniques and procedures with the assistance of Member States. Member States are asked to provide information on additional techniques and equipment which might increase the cost-effectiveness of safeguards, as such techniques and equipment are identified or developed in the Member State.

15. In its consideration of increased co-operation with SSACs, SAGSI emphasized that the full co-operation of the SSAC with the Agency is necessary if the Agency is to carry out its inspections in a cost-effective manner. SAGSI urged that the most basic way to co-operate involved practical steps by the SSAC to enable the Agency to reduce the number of inspections or to carry them out with less effort. It identified several measures to accomplish this, e.g., field support to Agency inspectors and the provision by the SSAC of authenticatable data. The Group also identified a number of conditions which would need to be satisfied if greater use is to be made of an SSAC and urged the Secretariat to continue to investigate practical arrangements for this purpose. The Secretariat will further consider the measures and conditions identified by SAGSI and continue its efforts to find additional ways of making fuller use of SSACs while meeting the requirement that the Agency be able to reach its own independent conclusions.

16. With regard to alternative safeguards approaches in States with comprehensive safeguards agreements, SAGSI identified three elements which, in various combinations, might improve cost-effectiveness. One element is a different way of conducting safeguards at facilities where nuclear material is declared to be present. This element includes extended access for inspections and the provision of increased and more timely safeguards-relevant data about facility operations and about the State's nuclear programme. The other elements are measures to enhance the Agency's ability to detect undeclared facilities and to increase co-operation of the SSACs. The combination of these elements in various ways represent alternative safeguards approaches. SAGSI recommended that the Agency should develop, assess, and determine the potential cost-effectiveness of a number of these alternative approaches.

17. SAGSI is also of the opinion that the principle of a trade-off between the introduction of an enhanced capability to detect undeclared nuclear facilities and a reduction in certain routine inspection activities, for example, the elimination of interim inspections of spent fuel for timeliness purposes, is a valid one. Such reductions, together with possible savings obtained by the use of new techniques and a fuller use of the SSAC, would partially off-set the resources needed to be able to improve detection of undeclared facilities and activities. SAGSI did not identify any specific areas where immediate cost savings are possible. However, the Secretariat will continue to search for cost savings while meeting new requirements and maintaining the effectiveness of safeguards.

18. The Director General reported SAGSI's findings to the Board of Governors in June 1993 and described the Secretariat's recent and planned actions (GOV/2657). The Director General will submit to the December 1993 session of the Board concrete proposals relevant to implementation of SAGSI's recommendations. The proposals will have regard to the views expressed in the Board and in consultations with Member States. The Director General will also report on ongoing tests to assess the feasibility of SAGSI's recommendations. It is expected that the programme of development and trials will take no more than two to three years and will result in a more cost-effective safeguards system covering both declared and undeclared nuclear activities.

New Partnership Approach with Euratom

19. One component of reducing costs and improving cost efficiency involves the application of safeguards under INFCIRC/193, the agreement with Euratom and the non-nuclear weapon States of the European Community. In order to improve efficiency between Euratom and the Agency in the implementation of safeguards under this agreement, a New Partnership Approach (NPA) has been established. The new approach is based inter alia on optimization of the necessary practical arrangements and the use of commonly agreed safeguards approaches and inspection planning, procedures, activities, instruments, methods and techniques.

20. Practical arrangements have been agreed and are already being implemented at some types of facilities. Arrangements for other types of facilities are under discussion. It is expected that agreement on these arrangements will be reached before the end of 1993.

21. Other elements of the NPA which are in the process of being established are:

- (a) Performance of inspection activities on the basis of the principle of one-job-one-person supplemented by quality control measures to enable both organizations to satisfy their respective obligations to reach their own independent conclusions and required assurances.
- (b) Use of commonly shared analysis capabilities in order to reduce the number of samples to be taken, transported and analyzed.
- (c) Co-operation in research and development and in the training of inspectors with the aim to achieve a reduction of resources spent on both sides and to lead to commonly agreed products and procedures.
- (d) Increasing common use of technologies to replace, to the extent possible, the physical presence of inspectors by appropriate equipment.

22. The projected work load in safeguards inspections has taken the progressive implementation of the New Partnership Approach into account. By the end of 1993 savings of 1000 person-days of inspection (PDI) are expected. About half of this target has already been achieved, mainly as a result of a practical discontinuation of the "observation" and "joint team" approaches. Efforts have been directed to ensure that inspection activities are planned only to cover the requirements of the 1991-95 Safeguards Criteria. When fully implemented the New Partnership Approach is expected to result in a total savings of about 2000 PDI. The savings derived from the New Partnership Approach are being used for other purposes, notably for technical visits and safeguards-related activities in the newly independent States of the former Soviet Union.