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UNITED STATES
NUCLEAR REGULATORY COMMISSION

INFORMATION REPORT

June 1, 1978

SECY-78-292

For: The Commissioners

From: Lee V. Gossick
Executive Director for Operations

TNR for L.V.G.

Subject: INFORMATION REGARDING STAFF'S EFFORTS TO OBTAIN
INFORMATION ON IMPLEMENTATION OF INTERNATIONAL
SAFEGUARDS AND STATUS REPORT ON THE INTERAGENCY
ACTION PLAN TO STRENGTHEN IAEA SAFEGUARDS

Purpose: To inform the Commission on the subject matter.

Discussion: This is in response to Mr. Chilk's memorandum dated
May 18 conveying Commissioner Gilinsky's request for
a statement from me regarding the Commission's efforts
to obtain information on the implementation of safe-
guards abroad.

As you were informed in SECY 77-614, an Interagency
Working Group has been established to develop an Action
Plan to strengthen IAEA safeguards. Shelly Williams,
IP, and Ted Sherr, NMSS, represent NRC on this Working
Group.

As you will recall, the central purposes of the Action
Plan are (1) to elaborate in a single document the
principal actions the U.S. Government believes are
needed to strengthen IAEA safeguards and (2) to increase
specifically the quantity and quality of information
available to the U.S. Government regarding the imple-
tation of IAEA safeguards. With regard to the second
purpose, IP and NMSS staff members have on several
occasions sought to have the Action Plan reflect the
need to have improved information flows to the U.S.
Government regarding international safeguards implementa-
tion.

Contact:
S.L. Williams, IP (492-8155)
T. Sherr, NMSS (427-4004)

Classified by *James L. Sherr* (Name)
Director (Title)

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NATIONAL SECURITY
INFORMATION

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THIS DOCUMENT HAS BEEN DECLASSIFIED UNDER 1984
THE PROVISIONS OF E.O. 12958 4/17/95 (Insert year)
By Authority of *L. Sherr*

(Declassification Authority/Number)

Date of Declassification 12/1/2006

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With regard to the Action Plan itself, the staff believes that the interagency effort on the Plan has been serious and cooperative. From the inception of the Working Group's efforts to develop the Action Plan, IP and NMSS staff have attempted (1) to ensure that the Plan is a high priority item for the agencies concerned and to seek to develop a specific timetable for steps to carry out the Action Plan at an early date, (2) to resist any effort to weaken or soften the language in the initial drafts of the Plan regarding deficiencies in the IAEA safeguards system and the need to rectify them, and (3) to impress upon the other agencies involved the importance of increasing the information flow to the U.S. Government regarding the implementation of IAEA safeguards.

The present (May 12) draft of the Plan, which is at Attachment A, has the approval of all working group members, including NRC representatives, and has been forwarded to the Chairman of the International Safeguards Group (ISG), Mr. Louis Nosenzo of State. He intends in turn to circulate it to the membership of the ISG (including James R. Shea and Clifford V. Smith Jr.) and to certain Congressional committees. The Working Group intends to review the contents of the Action Plan annually, normally soon after release of the IAEA Safeguards Implementation Report (SIR). Thus, the May 12 draft will be reviewed upon completion of the detailed interagency assessment of the 1977 SIR and a new draft Plan is expected to be completed in approximately two to three months.

In the meanwhile, the Group is preparing work plans designed to detail the steps needed to implement the action items identified in the Plan. The work plans identify the action item, the steps to be taken, the implementing agency or agencies, and the time frames for initiating and completing the action item. The work plan drafting assignments, the work plan format, and the work plans completed thus far are at Attachments B, C, and D, respectively. The Action Plan and the work plans will be reviewed and modified over time. The Working Group anticipates revisions in the work plans as tasks arise or are completed.

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The staff will continue its efforts in connection with the Action Plan. It will participate in the annual review, work to complete the specific tasks assigned to it in the work plans and review the results of tasks completed by other agencies. It will also undertake any additional tasks assigned to it by the Commission as a result of the Commission's review of the Plan or a Commission decision regarding the issue of NRC's role in international safeguards assessments for exports discussed in SECY 78-35/35A.

In particular, the staff would like to call the Commission's attention to the fact that the NRC, along with other agencies, is tasked under item IB1 of the Action Plan to produce a statement by September 30, 1978 regarding what additional international safeguards information (i.e., beyond that current available on a routine basis) it needs. This will be a high priority item in the coming months and Commission guidance would be appreciated. The Commission will recall that additional safeguards information that might be of interest to the Commission was discussed in SECY 78-35/35A.

Also of relevance in this connection is item IC3 of the Action Plan, which calls for an analysis of the information currently classified in the safeguards confidential category by the IAEA, with a view to determining what data are there and why. IP and NMSS staff have also urged that priority attention be given to this analysis and Mr. Nosenzo of State recently assured Mr. Shea (in response to an inquiry) that this would be done. Under the work plan, the NRC staff is tasked with developing the analysis for this item; other agencies will provide substantial input and support to our effort. It is scheduled for completion in September, 1978.

At this time, the principal vehicle for acquiring information regarding the implementation of safeguards abroad is the IAEA's Safeguards Implementation Report (SIR). As the Commission is aware, the first part of the SIR was received recently. A second part and a technical annex are also expected to be available

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in the near future. NMSS and IP are now analyzing part of the SIR and they will participate in developing the USG's position on the SIR to be presented at next week's Board of Governors' meeting. It is clear that the final US position on the SIR will await receipt of the remaining parts of the document and that the US will request that complete discussion of the SIR be deferred until the September Board Meeting. The Mission's initial response to the SIR may be seen in the attached cable (Attachment E).

As a related matter, NRC staff will soon be providing the IAEA's Safeguards Evaluation Section (SES) cost-free expertise directed at improving the quality of the Agency's safeguards implementation evaluation effort. Two NMSS experts, G. Dan Smith on a full-time basis and Larry Wirfs on a part-time basis, will be made available to the SFS during the next year. These experts will have a privileged position which will allow them to assist the Agency in a highly sensitive area in which the NRC has considerable interest.

The staff will continue to work to obtain information regarding international safeguards implementation along the lines outlined above. Any additional Commission guidance or instruction would, of course, be welcome.


for Lee V. Gossick
Executive Director for Operation

Enclosures:

1. Attachment A - Draft Action Plan dtd 5/12/78 (CONF)
2. Attachment B - Work plan drafting assignments
3. Attachment C - Work plan format (CONF)
4. Attachment D - Work plans completed (CONF)
5. Attachment E - State cable from Vienna #4619 dtd 5/19/78 (CONF)

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Secretariat

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ATTACHMENT A

May 12, 1978

ACTION PLAN

MEASURES TO STRENGTHEN IAEA SAFEGUARDS

INTRODUCTION

The safeguards of the International Atomic Energy Agency (IAEA), in combination with Governmental political commitments and assurances, are key elements of non-proliferation policy and international peaceful nuclear cooperation. IAEA safeguards provide a technical basis for assuring all nations that nuclear equipment and materials are not being diverted to use for nuclear explosives, to further any other military purpose, or for purposes unknown. Their objective is deterrence of such diversion through application by the IAEA of verified material accountancy and surveillance and containment techniques. These are designed to provide reasonable assurance of the timely detection of diversion of any significant quantities of nuclear materials for unauthorized use or to purposes unknown. The history of IAEA safeguards has been one of increasing specificity and stricter standards, replacing earlier ad hoc approaches. In a number of cases we believe the measures and their implementation by the IAEA need further improvement in the degree of sensitivity, certainty and timeliness of detection and in the evaluation of safeguards information.

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THE PROVISIONS OF
By Authority of St. Dembel 4/17/95
(Declassification Authority/Number)
Date of Declassification 11/17/06

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Attachment A

The United States believes the effective application of IAEA safeguards is only one of several elements for determining that a nation is not misusing United States nuclear cooperation or engaging in activities to develop nuclear explosives or to use nuclear materials and equipment for proscribed military purposes. Deterrence of diversion, however, requires that IAEA safeguards be effective and that they be perceived as credible. Ensuring a sound foundation for this perception requires continued United States support, as well as actions and initiatives designed to improve the effectiveness and efficiency of IAEA safeguards to keep pace with the worldwide growth of nuclear power and development of nuclear technology.

The first Special Safeguards Implementation Report (SSIR) prepared by the IAEA Secretariat and covering IAEA safeguards activities during 1976 contains a critical analysis of IAEA safeguards and provides a unique opportunity for focusing United States support and other IAEA assets to correct recognized deficiencies. This action plan has been formulated in order to coordinate on-going United States efforts and identify additional United States efforts aimed toward correcting specific deficiencies noted in the SSIR, implementing its recommendations and, more generally, ensuring that the IAEA will continue to meet its growing responsibilities.

I. INFORMATION ON IAEA SAFEGUARDS

PROBLEM

In the past, the United States and other IAEA member states and the Board of Governors have not had available to them through formal channels sufficient information regarding the implementation of IAEA safeguards to enable them to draw conclusions concerning the effectiveness of these safeguards or to identify the need for and initiate corrective actions. Such information was not available to the US in some cases (generally due to lack of specified procedures) or was available only informally. The SSIR provides one vehicle for correcting this situation.

ACTION OBJECTIVE

A. Objective. Ensure the continued availability annually of quantitative and forthcoming information on the implementation of IAEA safeguards through the SSIR.

Status. The IAEA plans to submit annually to the June Board an SSIR covering the preceding calendar year. Work has been underway since January 1978 to prepare the 1977 SSIR. According to the Secretariat, the 1977 SSIR will be very similar in format and content to the 1976 SSIR and there will also be available a Safeguards Confidential Annex similar to that for the 1976 SSIR.

Proposed actions.

1. Confirm (during April or May) with the Secretariat (R. Parsick, who is responsible for drafting the 1977 SSIR) the status of the 1977 SSIR and whether it will contain as much information and be as forthcoming as the 1976 SSIR. In subsequent years monitor progress on preparation of the SSIR for the above reasons and to ensure that adequate resources have been allocated by the Secretariat for timely preparation of the SSIR.

2. Annually review the SSIR, prepare comments for discussion in the Board and ensure inclusion of the SSIR on the Board agenda (June or September Board, depending upon when the SSIR is distributed).

B. Objective. Identify additional information needed by the US and seek its availability in future SSIR's or through other mechanisms, as appropriate.

Status. The US has suggested and the Secretariat (Parsick) has agreed that the 1977 SSIR include new material reporting on the status of corrective actions recommended in the 1976 SSIR.

Proposed actions.

1. Taking into account the information contained in SSIR's, review annually any additional information needs

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of the US regarding the implementation of IAEA safeguards. Seek the inclusion of any such information in future SSIR or its acquisition through other mechanisms, if not appropriate for the SSIR. The kinds of additional information to be considered in the first such review include more detailed technical information on (a) the nature of deficiencies (including inadequate accounting practices, inspector access and cooperation by facility operators in implementing IAEA safeguards); (b) specific recommended corrective actions, including the establishment of target dates for correction of deficiencies, as appropriate; and (c) the status of corrective actions recommended in previous SSIRs. Where the SSIR fails to indicate an adequate corrective program, we should seek appropriate remedial actions by the Board.

2. In conjunction with the first review specified in paragraph 1 above, the US should undertake an analysis of the IAEA's information categorization system relating to safeguards confidential data to determine (a) the nature of the data and the constraints under which the IAEA must handle it and (b) the impact of this system on any additional US information needs.

C. Objective. Develop and achieve IAEA adoption of criteria for the submission by the Director General to the Board of Governors of information on specific significant

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deficiencies or problems in the implementation of safeguards, including but not necessarily limited to those involving the responsibilities of the Board under Statute Articles XII.A.7 and XII.C, Articles 18 and 19 of INFCIRC/153 agreements and relevant articles of INFCIRC/66 agreements.

Status. On no occasion has the Director General reported to the Board in accordance with Statute Article XII.C or with the relevant articles of any safeguards agreements. Such reporting would concern a specific safeguards agreement and would identify the state or states involved. The 1976 SSIR identified the existence of a number of problems and deficiencies which might justify such country specific reports, but no states were identified in the SSIR.

Proposed actions.

1. The US should seek to ensure a regular flow of information from the Inspector General to the Director General and from the latter to the Board of Governors to the extent necessary for the Board to fulfill its responsibilities under Article XII of the Statute, under Paragraphs 18 and 19 of INFCIRC/153 safeguards agreements, and under INFCIRC/66 safeguards agreements. Accordingly, the US should develop guidelines as to the types of circumstances and the information that the Director General should report as soon as possible

to the Board of Governors. The US should encourage adoption of these guidelines by the IAEA. The types of circumstances to be considered include: deficiencies in a state system of accounting for and control of nuclear material that adversely affect IAEA safeguards, inability of the IAEA to verify that significant diversion has not occurred, and certain kinds of changes in the use of a facility such as production of highly enriched uranium in an enrichment facility that has agreed to produce only low enriched uranium.

2. The US should encourage formalization of procedures assuring timely Board consideration of relevant information of the kinds established in paragraph I.C.1 above.

3. Recognizing that not all country specific information which the US may wish to have on safeguards implementation is appropriate for reporting to the Board, the US should consider other possible means for obtaining such information, as, for example, through bilateral understandings with states receiving US nuclear materials, equipment or technology.

II. IAEA SAFEGUARDS GOALS AND CRITERIA

PROBLEM

More detailed and quantitative specifications of the technical objectives of IAEA safeguards are needed than are

contained in (or are appropriate for) the safeguards agreements.

ACTION OBJECTIVES

A. Objective. Continue definition and refinement by the US of the safeguards objectives, goals and criteria to be achieved by the IAEA and the procedures to be used for their achievement and seek their adoption by the IAEA.

Status. During the past two years, the US has presented to the IAEA US views on various aspects of goals and objectives for IAEA safeguards, most recently in October 1977. At that time the US presented these same views to Euratom and to Australia, Canada, FRG, Japan, UK and USSR. Some but not all of these views are reflected in recent conclusions of the Standing Advisory Group on Safeguards Implementation (SAGSI) and in current IAEA negotiating positions.

Proposed actions.

1. US views on IAEA safeguards objectives and goals should be regularly reviewed and refined within the US Government on an interagency basis with a view to keeping these criteria up to date and to maintaining a firm technical basis for the criteria.

2. Continue to provide guidance on these US views to the US member of SAGSI and support the adoption by SAGSI

of recommendations consistent with US views.

3. Continue bilaterals with the IAEA and with selected member states to gain support for US views.

4. Give continued high priority to assuring that the objectives, approaches and procedures to be used by the IAEA for safeguarding sensitive aspects of the fuel cycle, particularly those involving weapons-usable materials, will be adequate. Continue to carry out analyses of the actual or potential technical effectiveness of IAEA safeguards at reprocessing and enrichment plants. Prepare coordinated US positions and actively participate in the IAEA advisory group meetings on reprocessing plant safeguards scheduled for June 1978 and on enrichment plant safeguards scheduled for November 1978, including the associated consultants meetings, to ensure that their results are consistent with US views on IAEA safeguards goals, objectives, approaches, and procedures.

5. Continue to assist the Secretariat in preparing the Safeguards Technical Manual, consistent with US views, as a standardized basis for inspection and evaluation procedures, and seek endorsement of the Technical Manual within the IAEA.

6. Continue to support IAEA efforts to bring NPT safeguards agreements and the associated subsidiary arrangements into force on a timely basis; and support IAEA efforts to ensure that the subsidiary arrangements and facility attachments under all safeguards agreements uniformly comply with adequate inspection and evaluation criteria.

III. IAEA SAFEGUARDS IMPLEMENTATION

PROBLEM

The effectiveness with which IAEA safeguards have been implemented to date has in a number of situations been adversely affected by limitations on the availability and use of appropriate safeguards technology and by the design aspects of some facilities.

ACTION OBJECTIVES

A. Objective. Improve the availability and use of safeguards technology appropriate for IAEA purposes, including measurements by sampling and analysis, non-destructive analysis, containment and surveillance, and processing and analysis of safeguards data.

Status. ACDA, DOE, and NRC have continuing research programs which support safeguards technology for the IAEA. Beginning in 1975 certain Foreign Assistance Act Funds have

been allocated for support of IAEA safeguards with a significant part of this support for safeguards technology development. An Interagency Technical Support Coordinating Committee is responsible for this support program which is managed by the International Safeguards Project Office (ISPO). An agreed program of 90 tasks was developed with the IAEA during the fall of 1976. In December 1977 the IAEA submitted proposals for an additional 40 tasks. The US has begun 30 of these additional tasks and is reviewing the others with the IAEA.

Proposed actions.

1. Continue to support improved safeguards effectiveness through US R&D on safeguards equipment and techniques which would overcome technical inadequacies. Beginning with current programs, review regularly the technical support programs and research programs to ensure that they are responsive to deficiencies noted in the SSIR. Recommend any action needed to reorient or accelerate ongoing or proposed projects to ensure maximum US assistance in IAEA efforts to correct more significant deficiencies on an expeditious basis.

2. Urge other states to undertake programs to develop improved safeguards technology for use by the IAEA. (An example is the recently begun program involving US,

French and Japanese efforts to test advanced safeguards technology in cooperation with the IAEA at the Japanese Tokai reprocessing plant.)

B. Objective. Achieve increased, uniform and efficient use by the IAEA of improved safeguards technology.

Status. The IAEA has experienced considerable difficulties in incorporating newly developed safeguards equipment and techniques into routine operational practice. While part of the solution lies in inspector training, discussed elsewhere, improvements in management practices and procedural aspects are needed.

Proposed actions.

1. Ensure that US supported safeguards technology development programs include inputs from and participation by IAEA inspector personnel sufficient to produce results (equipments and techniques) that are usable by IAEA inspectors.
2. As part of these programs prepare and evaluate instructional material and manuals necessary for effective use by inspectors.
3. Seek IAEA review of its management practices and procedures with a view to ensuring that IAEA safeguards are implemented as effectively and efficiently as possible,

that safeguards inspection procedures conform to stated technical objectives and that adequate procedures are developed and adopted for the evaluation of safeguards information.

4. Encourage a resident inspector program (regional IAEA offices) utilizing improved safeguards technology at facilities requiring continuous inspection, primarily fuel processing and fabrication plants utilizing significant quantities of plutonium or highly enriched uranium, reprocessing plants, enrichment plants, and perhaps CANDU reactors and critical facilities. Resident inspectors would not be needed at test and research reactors fueled with plutonium or highly enriched uranium or at plants involved in research and development activities unless significant quantities of these materials are possessed or processed each year.

C. Objective. Achieve design features in nuclear facilities which facilitate effective and efficient IAEA safeguards.

Status. Many existing facilities have been designed and built without consideration of IAEA safeguards requirements. The Nuclear Suppliers Guidelines state:

"Sensitive Plant Design Features

13. Suppliers should encourage the designer and maker of sensitive equipment to construct it in such a way as to facilitate the application of safeguards."

The US is taking into account possible IAEA safeguards requirements in designing the new gas centrifuge enrichment facility at Portsmouth, Ohio.

Proposed actions.

1. Develop information and guidelines for the design of facilities relevant to material measurement and containment and surveillance to facilitate effective and efficient IAEA safeguards for all types of facilities.
2. Provide such information and guidelines to utility companies, architect-engineering consulting firms, and other nuclear system suppliers so that they may better understand the IAEA safeguards system and effectively respond to its needs and requirements. The US should seek the inclusion of IAEA safeguards features, devices and instrumentation directly in facility designs.
3. Seek international acceptance and support of such guidelines, one possible mechanism being IAEA consultant and advisory group meetings on this subject.

IV. IAEA INSPECTORS

PROBLEM

The effective implementation of IAEA safeguards in a number of situations is limited by the numbers, qualifications and training of available IAEA inspectors.

ACTION OBJECTIVES

A. Objective. Ensure that the numbers of IAEA inspectors are sufficient to permit full implementation of safeguards procedures, including continuous inspection where required, to achieve desired safeguards goals.

Status. As of January 1978 there were 64 professional staff in the two Divisions of Operations available as full time inspectors. (A few additional staff in the Division of Development are temporarily augmenting the inspection staff.) The approved budget for 1978 provides for 88 full time inspectors. We are concerned that the Agency may not have sufficient inspectors to carry out all of its responsibilities and that the approved 1978 billets will not provide a sufficient increase to meet the increasing work load, particularly in the Euratom and Far East sections. The 1979 draft IAEA budget includes provision for 38 additional professional positions for the operations divisions in the Department of Safeguards.

Proposed actions.

1. Support increases at the earliest possible dates in the number of IAEA safeguards staff, particularly inspectors, to meet growing needs. This will require consultations with the Secretariat concerning inspector requirements and utilization in order for the US to assess inspector

staffing requirements and the adequacy of proposed increases. There may then be a need for a more active US intervention with the Secretariat, possibly in coordination with other concerned states, prior to final consideration of the 1979 budget and during the preparation of budgets in succeeding years.

2. Examine utilization of cost-free experts to alleviate indirectly shortages in inspector staffing.

B. Objective. Obtain higher qualified personnel to serve as inspectors.

Status. The IAEA puts strong emphasis on geographical distribution in hiring inspectors, as is the case for all IAEA professional staff. As a consequence many newly employed IAEA inspectors, especially those from states with little or no nuclear power program, have little if any expertise in areas relevant to safeguards operations. Article VII.D of the Statute provides for hiring on a geographical basis, but this same Article says that the "paramount consideration" should include "technical competence." In addition states properly have a legal right to refuse to accept any particular inspector proposed by the IAEA, but exercise of this right sometimes limits the use of qualified inspectors.

Proposed actions.

1. Determine ways to increase the number of top-qualified inspectors employed by the IAEA. (The US can set an example by nominating only highly qualified people as inspectors in the IAEA. This requires more emphasis upon background experience in plant operation and inspection and intensified efforts to inform US industry of IAEA inspector vacancies available.)
2. Efforts should be made to reduce political sensitivities related to accepting competent IAEA inspectors and the IAEA should be encouraged to hire with increased emphasis on merit and less concern for geographical distribution.

C. Objective. Provide improved training for inspectors and ensure continued employment by the IAEA of trained and qualified inspectors.

Status. The IAEA provides in-house and on-the-job training for new inspectors. The US through the ISPO program is providing specialized training in such areas as statistics and use of non-destructive analysis equipment. Normal IAEA employment practice is to limit professional staff to no more than two two-year contracts, although exceptions are being made for inspectors.

Proposed actions.

1. Provide increased US assistance in training inspectors. Consider training in additional aspects of inspection, e.g., auditing and sample preparation, and in operating practices and process technology relevant to certain types of facilities to be safeguarded by the inspector.

2. Determine whether current IAEA employment practices involving inspectors promote effective use of trained and experienced inspectors and identify any changes to be sought in these practices.

V. STATES' SYSTEMS OF ACCOUNTING FOR AND CONTROL OF
NUCLEAR MATERIAL (SSAC)

PROBLEM

Effective and efficient implementation of IAEA safeguards depends upon an adequate SSAC. In some states there are deficiencies in the SSAC which have an adverse effect on IAEA safeguards.

ACTION OBJECTIVES

A. Objective. Ensure improved definition and guidance to states concerning their obligations with respect to SSAC under IAEA safeguards agreements.

Status. During the Board discussion of the 1976 SSIR, the US suggested that the IAEA provide guidance to states on IAEA requirements for SSAC. The Secretariat with inputs from the US and other states has prepared a draft INFCIRC containing such guidance. An advisory group meeting took place in April 1978 to assist the Secretariat in completing this draft INFCIRC.

In addition, Article 90 of INFCIRC/153 agreements requires the IAEA to inform a state on the IAEA inspection results and verification conclusions for the state. These statements are safeguards confidential, but it is US understanding that they have been rather pro forma and have not been an effective tool in correcting problems with respect to SSAC or other factors affecting safeguards implementation.

Proposed actions.

1. Follow up the April 1978 SSAC advisory group to assist the Secretariat in completing this guide, which will provide guidelines to countries in establishing and operating their national systems of material accountancy and control.

2. Encourage the Director General to send more informative inspection letters to each state in accordance with INFCIRC/153 Article 90 inter alia summarizing the results of inspections, outlining any deficiencies found,

and recommending steps to correct them. Comparable letters should also be sent to countries covered by INFCIRC/66 agreements. The states, in turn, should be expected to inform the IAEA promptly of steps they will take (or have taken) to eliminate the problems.

B. Objective. Achieve better compliance by states with their responsibilities to establish and operate adequate SSAC.

Status. Except for the Board discussions of the 1976 SSIR there has been little if any attention outside the Secretariat focused on compliance by states with the SSAC obligations. The Board in its decisions on the 1976 SSIR provided only weak support to the Director General's efforts to put pressure on states to improve SSAC.

Proposed actions.

1. In any Board discussions of the SSAC INFCIRC and of SSAC problems, for example, the next SSIR discussion, the US should actively support the need for adequate SSAC and for any corrective actions identified by the Secretariat.

2. The US should bilaterally encourage states to upgrade their systems of material accounting and control and to remove any obstacle to effective implementation of IAEA safeguards. In this light, the US should establish a technical assistance program in which US material accountancy

experts are provided to states to assist them in developing or improving their systems of material accounting and control. The US should continue to support IAEA sponsored training programs for SSAC personnel. As required by Section 202 of the Nuclear Non-Proliferation Act of 1978, DOE in consultation with NRC is to establish a safeguards training program, including material accounting and control, for individuals from other states.

3. Seek, over the longer term, through the Nuclear Suppliers' Group, to have universal compliance with IAEA guidelines for an SSAC. Consider making compliance with such guidelines a widely accepted condition for future export agreements. Consider including appropriate provisions in new or amended US agreements for cooperation.

VI. RELATED ACTIONS

- A. Continue to encourage completion of the INFCE reports at an early date. The INFCE undertaking is highly important to the question of the potential effectiveness and costs of safeguards on all nuclear fuel cycles and whether some fuel cycles are more susceptible to diversion than others.
- B. Strongly promote universal adherence to the NPT and full scope safeguards as the means for broadening the coverage of IAEA safeguards and for meeting US

policy requirements that all nuclear activities in a state be under IAEA safeguards as a condition for continued US nuclear cooperation. Also encourage upgrading existing INFCIRC/66 arrangements that, in some cases, may confine effective application of IAEA safeguards. In connection with re-negotiating agreements for cooperation, seek to ensure that all IAEA safeguards agreements include adequate provisions covering such matters as the duration of safeguards, the requirements for a state's system of accounting for and control of nuclear materials, and the IAEA's right to apply effective safeguards measures including containment and surveillance.

- C. Accelerate efforts to implement the United States Voluntary Offer and ensure compliance with IAEA criteria and procedures in facility attachments as models for other NPT parties to the extent possible. Develop policy position on the degree of safeguards commitments, e.g., mandays of inspections, to be included in facility attachments; foster through example, the publication of at least the general part of the Subsidiary Arrangements.

ATTACHMENT B

US Action Plan

Work Plan - First draft** responsibilities

<u>Proposed Action*</u>	<u>Office</u>
I.A.1 (Completed) 3/14	
I.A.2 (Completed) "	
I.B.1	DOE/NA
I.B.2	NRC/OIP
I.C.1	ACDA
I.C.2	ACDA
I.C.3	NRC/OIP
II.A.1	NRC/NMSS
II.A.2	DOE/OSS
II.A.3	State/OES
II.A.4	DOE/OSS
II.A.5	ACDA
II.A.6	DOE/NA
III.A.1	DOE/OSS
III.A.2	DOE/OSS
III.B.1	DOE/OSS
III.B.2	DOE/OSS
III.B.3	ACDA
III.B.4	NRC/NMSS
III.C.1	ACDA
III.C.2	ACDA
III.C.3	ACDA
IV.A.1	State/OES
IV.A.2	DOE/NA
IV.B.1	DOE/NA
IV.B.2	State/OES
IV.C.1	DOE/OSS
IV.C.2	State/OES
V.A.1 (Completed)	
V.A.2	ACDA
V.B.1	DOE/NA
V.B.2	NRC/NMSS
V.B.3	DOE/NA

*Paragraph numbers in US Action Plan draft of 29 March.

**Due 1 May.

ATTACHMENT C

Work Plan Outline

WORK PLAN: _____

Date. _____

Proposed actions

(Reproduce the paragraph from the Action Plan.)

Background

(Optional entry. If used, it would contain information similar, with perhaps more detail, to that under Status in the Action Plan.)

Steps to be taken

(A textual presentation, with numbered paragraphs and lettered subparagraphs, of the specific individual steps to be taken to implement the proposed actions. The text should indicate when each step is to be carried out or completed. Also indicate the organization which is to implement the various steps. Substantial material where such has been prepared for an individual step, such as a draft of a cable, might be made an attachment to the work plan rather than including it in the text.)

Summary

(Optional entry. A summary in tabular format of the steps to be taken with dates and organizations indicated, as appropriate.)

Attachments

(Optional. These could include substantial material relating to an individual step, such as a draft statement of work or draft cable. Background material, if not available to other members of the working group and too long for inclusion in the work plan under Background, could also be attached.)

WORK PLAN I.A.1

3/29/78

e. How "qualitative" factors are being treated in the 1977 SSIR and whether reliance on them by the Secretariat is being reduced;

f. How deficiencies in SSAC's and needed corrective actions are being handled in the 1977 SSIR; and

g. Whether the 1977 SSIR includes the status of corrective actions called for in the 1976 SSIR.

ACDA is to arrange for meeting through the Mission; ACDA, DOE and NRC staff attending the SSAC Advisory Group meeting are to participate in the meeting with Parsick.

2. In subsequent years during January prepare a cable instructing the Mission to consult with the Secretariat as to who in the Secretariat will be responsible for preparation of the SSIR and what resources will be available to him. If the resources do not appear adequate for preparation of a satisfactory SSIR in time for the June Board, consult with the DDG for Safeguards on additional Secretariat resources.

ACDA is to prepare a draft of the instruction cable.

3. In subsequent years at the appropriate time (about March or April) prepare a cable instructing the Mission to consult with the Secretariat staff involved in the SSIR

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preparation for the purposes noted in paragraph 1 of this W.P. and for any additional aspects as may have been identified.

ACDA is to prepare a draft of the instruction cable.

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WORK PLAN I.A.2

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Proposed actions

Annually review the SSIR, prepare comments for discussion in the Board and ensure inclusion of the SSIR on the Board agenda (June or September Board, depending upon when the SSIR is distributed).

Steps to be taken

1. Annually upon receipt of the SSIR, and of any draft of the SSIR available to the US, review the SSIR.

2. Annually prepare comments on the SSIR for US statements in the Board discussion of the SSIR. (See State 227786, September 22, 1977; for comments made on the 1976 SSIR.) Cleared comments will be needed by mid-June and/or mid-September depending upon when the Board discussions take place.

State, ACDA, DOE and NRC are to prepare draft comments. ACDA is to arrange for meetings or other needed coordination to produce cleared comments and to prepare a draft cable to the Mission.

3. Request the Mission to ensure that the SSIR is on the Board agenda at the time the provisional agenda is prepared by the Secretariat.

State is to prepare a draft cable.

Attachment D

WORK PLAN I.A.1

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Proposed actions

Confirm (during April or May) with the Secretariat... (R. Parsick, who is responsible for drafting the 1977 SSIR) the status of the 1977 SSIR and whether it will contain as much information and be as forthcoming as the 1976 SSIR. In subsequent years monitor progress on preparation of the SSIR for the above reasons and to ensure that adequate resources have been allocated by the Secretariat for timely preparation of the SSIR.

Steps to be taken

1. During the week of April 3, 1978, in cooperation with the Mission meet with Parsick at the IAEA to determine:

a. Progress of the 1977 SSIR and if and when it will be available to the US in draft form and when it is expected to be ready for distribution to Board members;

b. Whether it will contain, at least, as much quantitative data as the 1976 SSIR;

c. Whether problems and needed corrective actions will be identified to at least the same degree as in the 1976 SSIR;

d. Status of the Safeguards Confidential Annex to the 1977 SSIR;

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WORK PLAN I.B.1

Proposed actions:

Taking into account the information contained in the Safeguards Implementation Reports (SIR), review annually any additional information needs of the US regarding the implementation of IAEA safeguards. Seek the inclusion of any such information in future SIRs or its acquisition through other mechanisms, if not appropriate for the SIR. The kinds of additional information to be considered in the first such review include more detailed technical information on (a) the nature of deficiencies (including inadequate accounting practices, inspector access, and cooperation by facility operators in implementing IAEA safeguards); (b) specific recommended corrective actions, including the establishment of target dates for correction of deficiencies, as appropriate; and (c) the status of corrective actions recommended in previous SIRs. Where the SIR fails to indicate an adequate corrective program, we should seek appropriate remedial actions by the Board.

Steps to be taken:

1. Identify additional routine information needs ^{1/} of the US. These may include other types of information as

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well as those cited under (a), (b), and (c) above, not merely with respect to safeguards implementation in general (and therefore possibly suitable for inclusion in SIR) but also with respect to specific facilities (and therefore clearly not suitable for inclusion in SIR).

DOE/OSS and NRC will each prepare annually a draft paper on their additional routine information needs by September 30.

2. State, on the basis of the drafts from step 1 and comments thereon, will prepare by October 30 a draft paper on the additional information needs to be sought and the mechanisms through which the information is to be obtained. This step would include consultation as appropriate with the Mission/IAEA on whether particular information would be sought by inclusion in future SIR or by other means.

3. The Mission will be requested to undertake discussions with the Secretariat, and with other nations' representatives in Vienna if this seems advisable, concerning inclusion of appropriate additional types of information in the SIR. State is to prepare a draft instruction cable upon completion of step 2.

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4. Seek to obtain those additional information needs identified in step 2 to be sought through means other than the SIR. These other means might include:

a. In negotiating Agreements for Cooperation or amendments thereto, seek other nations' agreement to provide or have the IAEA provide information on US request. State is to do so as negotiations proceed.

b. In bilateral discussions (unrelated to Agreement for Cooperation negotiations) with nations party to existing agreements, seek their agreement to provide or have the IAEA provide the desired information. State is to do so on an ad hoc basis as circumstances warrant.

c. Depending upon the types of information agreed to in step 2, DOE/ISA is to check with the intelligence community for any related information.

d. State is to determine on an ad hoc basis whether information can be obtained on a protected basis from the Secretariat.

e. State, in special cases, is to seek nations' acceptance to US visits to facilities which would enable the US to acquire the desired information.

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5. Seek appropriate remedial actions by the Board where the SIR does not indicate an adequate corrective program.

a. In carrying out the SIR review (Action I.A.2), give attention to whether the SIR shows an adequate corrective program and adequate progress on that program. ACDA is to include any appropriate comments in the draft cable prepared under W.P. I.A.2.

b. With respect to corrective action needed in specific countries (which would not be identified in the SIR and concerning which we may receive information in confidence), consult with the IAEA through the Mission to (1) encourage the IAEA to press for corrective action by the countries concerned and to consider bringing problems to the Board attention, and (2) ascertain what approaches by the US to such countries might be useful. State is to prepare a draft instruction cable to the Mission/IAEA as appropriate.

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WORK PLAN I.C.1

Proposed actions

The US should seek to ensure a regular flow of information from the Deputy Director General (Safeguards) to the Director General and from the latter to the Board of Governors to the extent necessary for the Board to fulfill its responsibilities under Article XII of the Statute, under Paragraphs 18 and 19 of INFCIRC/153 safeguards agreements, and under INFCIRC/66 safeguards agreements. Accordingly, the US should develop guidelines as to the types of circumstances and the information that the Director General should report as soon as possible to the Board of Governors. The US should encourage adoption of these guidelines by the IAEA. The types of circumstances to be considered include: deficiencies in a state system of accounting for and control of nuclear material that adversely affect IAEA safeguards, inability of the IAEA to verify that significant diversion has not occurred, and certain kinds of changes in the use of a facility such as production of high enriched uranium in an enrichment facility that has agreed to produce only low enriched uranium.

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WORK PLAN I.C.1

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Background

On no occasion has the Director General reported to the Board in accordance with Statute Article XII.C or with the relevant articles of any safeguards agreements. Such reporting would concern a specific safeguards agreement and would identify the state or states involved. The 1976 SSIR identified the existence of a number of problems and deficiencies; no states were identified in the SSIR. Upon adoption of more specific reporting criteria, some of these circumstances might justify country specific reports.

Steps to be taken

1. NRC/NMSS will prepare by July 15, 1978, a draft paper identifying the circumstances which should be reported to the Board and for each circumstance the information to be reported, the action to be requested of the Board, and the time frame for reporting and for Board response. Such circumstances might include the following:

i) Any strong indication of diversion (e.g., inability to locate materials listed as present, or the presence of dummy fuel elements).

ii) Possession of nuclear material in a form or assay other than that which it was the facility's declared purpose to produce. E.g.:

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- a) the presence of plutonium metal in a facility whose declared purpose was to produce plutonium nitrate solutions
- b) the presence of uranium with a U_{235} assay greater than 5% in an enrichment facility whose declared purpose was to produce material with assays no greater than 5%.

iii) Production of nuclear material significantly in excess of the stated nominal capacity.

iv) Facility design modifications relevant for safeguards purposes, not declared sufficiently in advance (as required by INFCIRC/153 paragraph 45 and INFCIRC/66 /Rev. 2 paragraph 31(d)) if such modifications interfere with effective safeguards application pursuant to the subsidiary arrangements.

v) Declared changes in the facility design for which the approval required in Article XII-A would not have been granted initially.

vi) Willful interference with stipulated IAEA procedures, e.g., any interference with IAEA surveillance devices, such as seals, or failure to provide for the ready access of inspectors to necessary locations and data.

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vii) The occurrence of a significant MUF.

The information provided to the Board should include the IAEA's evaluation of the occurrence.

viii) Inability of the IAEA to verify a significant quantity of material in a State during any one-year period. The information to be provided should include the IAEA's evaluation of the situation.

ix) Protracted or repeated failure to rectify equipment flaws which increase the limit of error of material unaccounted for significantly.

x) All factors which significantly increase the routine inspection effort beyond that expected on the basis of the facility attachment.

xi) Failure to make the reports, special reports, or report amplification or clarifications called for in INFCIRC/153 or INFCIRC/66 in a timely fashion.

2. Interagency review, revision and agreement on the product of step 1 by September 15, 1978. As part of the development of this agreed paper, DOE/NA will draft for each circumstance the statutory and legal bases for the provision of the indicated information to the Board and for the requested Board action. These possible bases include

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INFCIRC/153 and 66/Rev 2 and the Statute as follows.

Paragraph 18 of INFCIRC/153 permits the board to call upon a state to take an action "essential and urgent in order to ensure verification that nuclear material. . . is not diverted." Paragraph 19 of INFCIRC/153 indicates that the Board should consider "relevant information reported to it by the Director General in order to determine whether the IAEA is able to verify that there has been no diversion of nuclear material. . . ."

Paragraph 14(a) of INFCIRC/66 states that specific information relating to safeguards implementation in a state may be given to the Board "to the extent necessary for the Agency to fulfill its safeguards responsibilities." INFCIRC/66 agreements also stipulate that items shall be removed from safeguards inventories if there is a finding of non-compliance "or if for any other reason the Board determines that the Agency is unable to ensure that any material, equipment or facility listed in an Inventory is not being used for any military purpose." /Emphasis added/ Such provisions and others applicable under both INFCIRC/153 and INFCIRC/66/Rev 2 agreements presuppose a flow of information to the Board, to permit the indicated determinations in all cases where

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circumstances cast doubt on the IAEA's ability to fulfill its responsibilities, even if circumstances may not justify a finding of "non-compliance" (on which Article XII.C seems to require the Board to send reports to the UN Security Council and General Assembly and all members, but on which INFCIRC/153 and INFCIRC/66 agreements permit the Board to send such reports).

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WORK PLAN I.C.2

Proposed Actions

The US should encourage formalization of procedures assuring timely Board consideration of relevant information of the kinds established under proposed action I.C.1.

Background

1. There has been no instance to date in which the Director General has made a report to the Board of non-compliance with a safeguards agreement. The recent involvement of the Board with respect to negotiations of subsidiary arrangements for the Euratom/IAEA Safeguards Agreement, however, is relevant to the procedures that might be appropriate for some of the circumstances being considered under I.C.1.

2. The Director General has been reporting in increasing detail the status of these negotiations to the Board at its regular meetings beginning in June 1977 and has sought Board approval for extensions of the allowed time for bringing into force the subsidiary arrangement. With each passing deadline the Director General has been a little more direct in describing the problems and in ascribing them to Euratom.

3. At its meeting in February 1978 the Board decided to convene on 21 April 1978 a special session for the sole

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purpose of considering these negotiating problems. On April 5 the Director General distributed to Board members a status report on the negotiations, GOV/1884. At the April Board the Director General orally updated this status report; the FRG, speaking for the Euratom states, attempted to defend their position and explain the delays; the USSR charged that certain Euratom states were attempting to avoid accepting IAEA safeguards in violation of the safeguards agreement; the US rejected the Soviet charges; and the Board approved an extension for the negotiations to the next Board meeting which is June 1978 (Vienna 3805 reports on the April meeting).

4. The SSIR also provides an example of how information can flow from the Director General to the Board. A noteworthy aspect of this particular flow was that although Board (GOV) documents normally are distributed to all member states the Safeguards Confidential Annex to the SSIR was available only to members of the Board.

5. With respect to existing Board procedures, Article VI.G of the Statute authorizes the Board to meet at such time as it may determine and Article VI.E specifies that decisions, relevant to this proposed action, shall be made by a majority of those present and voting. Normal practice by the

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Board is to make decisions by consensus.

6. While certain situations considered under I.C.1, e.g., detection by IAEA safeguards inspectors that a large quantity of plutonium or highly enriched uranium is missing from a facility, would require very rapid information flow to the Board and rapid response by the Board, many of the situations will lend themselves to being reported to regularly scheduled Board meetings, as was done with the SSIR, or, in somewhat more urgent cases, to the convening of special sessions of the Board as happened in April 1978 for the Euratom negotiating situation.

7. The procedures appropriate for Board consideration of information regarding safeguards will depend upon the particular types of circumstances identified in I.C.1 and, in particular, upon the type of information to be transmitted to the Board and the urgency of the situation. Accordingly, development of the timeliness requirements for information flow to the Board and for Board action and, from these requirements, the development of appropriate procedures should be done in conjunction with the development of the guidelines

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called for in I.C.1. Our efforts to gain adoption by the IAEA of these procedures should be coupled with gaining adoption by the IAEA of the guidelines. The schedule for I.C.2, consequently, will be controlled by the schedule for I.C.1.

Steps to be Taken

1. On completion of step 2 of Work Plan I.C.1 State will prepare by October 15, 1978, a draft of proposed procedures, appropriate for each type of circumstance included in the guidelines, including the procedures to be used by the Director General in notifying Board members of the occurrence, the procedures to be used in convening a special meeting of the Board where required, and the procedures whereby the Director General would confirm to the Board (probably annually) with respect to each type of circumstance that there were no occurrences in the event that none had been reported to the Board.

2. Upon interagency agreement on step 1 State will by November 15, 1978, prepare, for interagency clearance, a proposed plan for consultations with other governments and the IAEA to determine the extent of support for the guidelines and for the associated procedures and the views of others on whether a formal Board decision on Agency use of the guidelines or adoption, by the Secretariat, either all at once or gradually, offers the best approach.

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3. Depending upon the results of step 2 State will prepare, for interagency clearance, draft cable instructions to the US Mission/IAEA.

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WORK PLAN I.C.3

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Proposed actions

Recognizing that not all country specific information which the US may wish to have on safeguards implementation is appropriate for reporting to the Board, the US should consider other possible means for obtaining such information, as, for example, through bilateral understandings with states receiving US nuclear materials, equipment or technology.

Steps to be taken

It may occur that for certain circumstances identified under Work Plan I.C.1 and being reported to the Board not all needed information is available to the US. The means for obtaining such information will depend on the circumstance and will be treated on an ad hoc basis. The possible means are those identified in Work Plan I.B.1.

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WORK PLAN II.A.1

Proposed actions:

US views on IAEA safeguards objectives and goals should be regularly reviewed and refined within the US Government on an interagency basis with a view to keeping these criteria up to date and to maintaining a firm technical basis for the criteria.

Background:

During the past two years, the US has presented to the IAEA US views on various aspects of goals and objectives for IAEA safeguards, most recently in October 1977 (State 254712). At that time the US presented these same views to Euratom and to Australia, Canada, FRG, Japan, UK and USSR. Some but not all of these views are reflected in recent conclusions of the Standing Advisory Group on Safeguards Implementation (SAGSI) (IAEA Documents AG-43/7 and 11) and in current IAEA negotiating positions. It is currently unclear in many cases what material control and accounting capabilities of the operators of nuclear facilities and what IAEA inspection procedures and resources would be necessary in order for the IAEA to achieve the currently suggested criteria. Analysis of the capabilities and procedures implied by these criteria will give the US a stronger basis for seeking the adoption

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WORK PLAN II.A.1

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of such criteria by the IAEA, as well as permit subsequent refinement of these criteria as indicated.

Steps to be taken:

1. An interagency group will be established, consisting of representatives of ACDA, DOE, State, and NRC, to oversee the study effort described in step 2 below. These members should be identified by June 1, 1978.

2. A contractual effort will be initiated by NRC. This effort, which will take about eighteen months, will identify and describe the facility material control and accounting capabilities as well as the IAEA inspection procedures and supporting resources which would be necessary to meet currently proposed IAEA safeguards objectives as well as alternative objectives. The proposed Statement of Work for this study should be received for review by the interagency group by June 15, 1978. A final work order acceptable to the group will be initiated on July 15, 1978. The group will receive and subsequently assure proper interagency review of all progress and final reports and briefings of the study.

3. During the course of this study, as circumstances require, existing US views will be reviewed and revised on an interagency basis, using available inputs including any interim results from the study.

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4. After completion of the study in January 1980, its results should be considered in the subsequent refinement and further analyses by the US government of the technical objectives. The results of the study may also serve as inputs to the following additional IAEA upgrade activities covered in other work plans:

- a. Future guidance to the US member to SAGSI.
- b. Encouragement of support of US views on technical objectives.
- c. Assistance in preparing the Safeguards Technical Manual in a manner consistent with US views.
- d. Analyses of actual or potential effectiveness of IAEA safeguards.
- e. Development of facility design criteria that facilitate IAEA safeguards.
- f. Analyses of IAEA inspector needs, including possible needs for resident inspectors.

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WORK PLAN II.A.6

Proposed actions:

Continue to support IAEA efforts to bring NPT safeguards agreements and the associated subsidiary arrangements into force on a timely basis; and support IAEA efforts to ensure that the subsidiary arrangements and facility attachments under all safeguards agreements uniformly comply with adequate inspection and evaluation criteria.

Steps to be taken:

1. Timely negotiations and entry into force

a. Request the Mission/IAEA to send information semi-annually (e.g., January and June) on the status of negotiation and entry into force of all NPT safeguard agreements and subsidiary arrangements, together with available information on reasons for any undue delay and steps being taken by IAEA in this connection. (Mission has sent status reports about once a year, with occasional updates; but it would be desirable to have information on a regular basis to permit a coordinated approach to tardy governments when this appears useful).

DOE/NA is to prepare a draft cable making this general request by June 15, 1978, and a telex or cable reminder by each January 15 and June 15 if report has not been received.

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b. In all cases except when intervention by the US seems unwise, periodically urge tardy governments, through their Washington embassies or through US embassies abroad, to take necessary action. State is to prepare draft instruction cables as appropriate after receipt of each semi-annual report.

c. Obtain the latest information on an ad hoc basis in individual cases and use circumstances (for example, when an export license is submitted or an Agreement for Cooperation is being negotiated) as leverage to spur progress on negotiation or entry into force of NPT agreements or subsidiary arrangements. State is to prepare draft instruction cables on an ad hoc basis, as appropriate.

2. Adequacy of Subsidiary Arrangements and Facility Attachments (under both NPT and non-NPT safeguards agreements)

a. Request the Mission/IAEA to obtain from the IAEA, to the extent it is able, specified information on subsidiary arrangements and facility attachments in all cases of sensitivity, particularly information on negotiating problems and on possible weaknesses in the provisions in any subsidiary arrangements. DOE/NA is to prepare a draft cable on a general request by June 30, 1978. Requests on specific cases will be prepared as cases arise.

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WORK PLAN II.A.6

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b. Review such information to determine whether in the US view the contemplated arrangements are consistent with adequate inspection and evaluation criteria. DOE/OSS is to prepare a draft assessment promptly after information is received.

c. When information indicates that the IAEA is not requesting, or is having difficulty in obtaining a country's agreement to, adequate subsidiary arrangements and facility attachments, seek to promote adequate arrangements/procedures through discussions with IAEA, support of IAEA positions in any Board discussions, and/or approaches to governments concerned, depending on circumstances. State is to prepare draft instruction cables as appropriate.

d. Seek cooperation by other governments (e.g., UK, Canada) in intervention activities, as may be appropriate. State is to prepare draft instruction cables as appropriate.

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WORK PLAN IV.A.2

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Proposed actions

Examine utilization of cost-free experts to alleviate indirectly shortages in inspector staffing.

Steps to be taken

1. DOE/IA is to initiate by July 1, 1978, exploratory discussions with the Mission, ISPO, and the IAEA on the question of whether and if so in what way(s) cost-free experts could be used for this purpose, without causing a perception of undue US dominance of IAEA safeguards operations, without undermining the US position that the costs of safeguards should be shared by all member states as part of the regular assessed budget and without leading IAEA to relax efforts to obtain sufficient staffing funds in subsequent annual budgets.

2. DOE/IA is to prepare by October 1, 1978, for interagency review a proposed plan for this use of cost-free experts, including the circumstances under which experts would be provided, the justification and the manner in which experts or funds for experts would be provided.

3. Appropriate follow-on steps (e.g., fund transfer to IAEA, recruitment, assignment of experts, and/or discussions with other nations) will depend upon the results of step 2.

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WORK PLAN IV.B.1

Proposed Actions

Determine ways to increase the number of top-qualified inspectors employed by the IAEA. (The US can set an example by nominating only highly qualified people as inspectors in the IAEA. This requires more emphasis upon background experience in plant operation and inspection and intensified efforts to inform US industry of IAEA inspector vacancies available.)

Steps to be taken

1. Increase competition for safeguards positions (thereby gradually increasing the quality of those selected) by the following means, to the extent that the necessary funds and other resources can be obtained.

a. Publicizing (through information pamphlets, posters, films, talks, etc., at schools, colleges, and nuclear facilities and on public TV and radio) the importance of IAEA safeguards in efforts to prevent the proliferation of nuclear explosive capabilities. Publicity activities should emphasize that only well-qualified persons can be considered; that nationals of all countries sponsored by their governments, are eligible for consideration but that the IAEA decides whom to appoint; and that the international

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Proposed actions

Participate in the April, 1978 SSAC advisory group to assist the Secretariat in completing this guide, which will be similar to INFCIRC/225 on physical protection and will provide guidelines to countries in establishing and operating their national system of material accountancy and control.

Steps to be taken

1. State, ACDA, DOE and NRC to prepare proposed changes to the IAEA's working paper (AG-43/12).
2. State, ACDA, DOE and NRC to coordinate and reach agreement on changes to AG-43/12 to be proposed in Vienna.

(Steps 1 and 2 completed on 3/28/78.)

3. Coordinate these agreed changes with the IAEA Secretariat in Vienna during March 30-31. (DOE/Bartels and US SAGSI member, Bennett.)
4. Participate in the IAEA Advisory Group meeting on April 3-7. (ACDA/Houck and NRC/Wirfs plus Bartels and Bennett. See State 73617 of 27 March 1978.)

WORK PLAN V.A.1

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5. State, ACDA, DOE and NRC to review product of the advisory group meeting and by May 20 prepare draft comments and proposed US position for any Board action regarding the product of the advisory group.

6. State to coordinate clearance of instruction for Board by June 5, 1978.

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WORK PLAN IV.B.1

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character of the IAEA Safeguards corps is a key factor in its acceptability and effectiveness.

Action: DOE Time: Beginning ASAP, in discussions with the AIF and perhaps other organizations such as NAS

b. Promoting the idea of a safeguards career:

(1) Encourage colleges and universities to include safeguards among nuclear-related careers for which they list "basic requirements" for the information of entering students; such requirements could include a semester or more of work-experience in plant operation and experience. Information disseminated should cover both domestic and international safeguards and should stress aspects common to both.

(2) Encourage college and university vocational offices to suggest the possibility of this career to seniors and juniors whose courses have included the basic requirements.

Action: DOE Time: Beginning ASAP

c. Encourage other countries with training capabilities to conduct similar informational activities.

Action: DOS Time: Beginning as soon as US activities are under way

d. Encourage nations without such capabilities to sponsor their nationals for safeguards education and training in the US or other advanced nuclear countries;

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WORK PLAN IV.B.1

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encourage the submission of requests for IAEA fellowship training in safeguards-related courses.

Action: DOS Time: Beginning ASAP, at all suitable opportunities

2. Encourage qualified NRC, DOE and DOE contractor employees to apply for IAEA safeguards positions, by:

a. Arranging for dissemination of pertinent information at appropriate facilities.

b. Strengthening assurances of re-employment rights to persons selected by IAEA, and recognizing that 4-5 years experience with IAEA could significantly increase an employee's usefulness on his return to the US.

Action: NRC/NMSS and DOE/OSS Time: starting ASAP

3. Persuade US industry to support this effort by:

a. Conducting informational activities such as those indicated under 1.a. and 1.b. above.

b. Accepting students for work-experience periods as part of their college/university training (see 1.b. (1) above).

c. Calling specific qualified employees' attention to IAEA inspector vacancies, encouraging them to apply, and strengthening assurances of employment rights to persons selected by IAEA.

Action: DOE Time: Beginning ASAP

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WORK PLAN V.B.1

Proposed actions

In any Board discussions of the SSAC INFCIRC and of SSAC problems, for example, the next SIR discussion, the US should actively support the need for adequate SSAC and for any corrective actions identified by the Secretariat.

Steps to be taken

1. In preparing comments for Board discussion of the SIR (Action I.A.2), include appropriate comments on safeguards implementation weaknesses related to SSAC, as identified in the SIR. ACDA is to include such comments in the draft cable prepared under W.P. I.A.2.

2. In any Board discussion of the SSAC INFCIRC, stress the need to complete this INFCIRC as soon as possible. Mention US concerns (if any) about the progress and contents of the current draft; and emphasize the fact that nations with deficient SSAC should not delay initiating corrections pending completion and issuance of the INFCIRC, but should do all possible to eliminate recognized deficiencies without delay. State that the US would be pleased to consult with any nations regarding possible improvements in their SSAC,

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WORK PLAN V.B.1

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if such discussions are desired. Note also that the US in accordance with the Nuclear Non-Proliferation Act of 1978 is preparing to offer a training program in SSAC. ACDA is to prepare a draft instruction cable at such time as SSAC issues are to be considered by the Board.

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WORK PLAN: V.B.2

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Proposed Actions

The US should bilaterally encourage states to upgrade their systems of material accounting and control and to remove any obstacle to effective implementation of IAEA safeguards. In this light, the US should establish a technical assistance program in which US material accountancy experts are provided to states to assist them in developing or improving their systems of material accounting and control. The US should continue to support IAEA sponsored training programs for SSAC personnel. As required by Section 202 of the Nuclear Non-Proliferation Act of 1978, DOE in consultation with NRC is to establish a safeguards training program, including material accounting and control, for individuals from other states.

Steps to be Taken

1. DOE/OSS is to prepare by July 15, 1978 proposed inter-agency coordination procedures for the provision of assistance to other states in developing or improving their systems of nuclear material accounting and control.
2. Develop estimates of US resources available for the provision of such assistance and determine IAEA plans for offering training.
3. Establish selection criteria for determining which states should receive this US technical assistance.

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4. Identify possible participant states:

a. Through informal consultations with the IAEA and bilateral consultation, develop a list of possible states needing or desiring assistance in their material accounting and control programs.

b. Apply the criteria set in Step 3.

c. Select the states to receive assistance, including ☐ states from among any that may have unilaterally approached the US.

5. Determine the form of technical assistance in material accounting and control most beneficial to a particular state.

a. US/IAEA training course.

b. US bilateral training course.

c. Cost-free material accounting and control expert.

6. Determine the resources required for the assistance identified in steps 4 and 5 and the availability of such resources and select the individuals to be involved in providing the assistance.

7. Implement the assistance including the support of training programs and provisions of guidance on SSAC programs.

a. Support and provide direct assistance to IAEA sponsored training programs for SSAC personnel. This is an ongoing program.

b. Support and provide direct assistance to DOE safeguards training program in the area of material accounting

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and control for individuals from other states. This should be an ongoing program starting November 1, 1978.

c. Under the administration of the Office of International Programs in NRC, provide an opportunity for on-the-job training within NRC for a limited number of individuals from other states in the areas of rule making, licensing, inspection, enforcement, standards development and regulatory administration.

(1) During FY 1979, establish the capability to accommodate four trainees.

(2) Thereafter, maintain the capability to accommodate six trainees per year.

8. Steps 4-7 are continuing activities.

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ATTACHMENT E

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USIAEA

DEPT PASS IO/SCT, OES/NET AND ACDA (HOUCK)
DOE PASS BARTELS, SS AND AMMONS, IA

E.O. 11652: GDS
TAGS: PARM, TECH, IAEA
SUBJECT: IAEA SAFEGUARDS IMPLEMENTATION REPORT (SIR)
FOR 1977

REF: VIENNA 3399

1. IAEA SECRETARIAT HAS FINALLY PUBLISHED FIRST OF TWO PARTS OF 1977 SIR (GOV/1897 DATED 16 MAY 1978 - RESTRICTED DISTRIBUTION). COPIES BEING POUCHED TO BORIGHT, LYON AND HOUCK. FIRST PART CONTAINS INTRODUCTION, MAIN CONCLUSIONS AND RECOMMENDATIONS AND INFORMATION RELEVANT TO CATEGORIES OF STATES.

2. SECOND PART, WHICH WILL PROBABLY NOT BE ISSUED UNTIL AFTER JUNE BOARD, WILL CONTAIN MORE DETAILED STATISTICAL AND TECHNICAL INFORMATION INCLUDING FINDINGS AT FACILITIES, ACTION PLANS AND INSPECTION EFFORT. THIS SECOND PART IS NOT RPT NOT THE 1977 EQUIVALENT OF "SEPARATE PAPER (AVAILABLE TO GOVERNORS ON REQUEST)" NOTED IN PARA 1.13 OF THE 1976 SSIR (GOV/242 DATED 8 JUNE 1977). WE UNDERSTAND SUCH "SAFEGUARDS CONFIDENTIAL" INFORMATION COVERING 1977 WILL BE AVAILABLE TO GOVERNORS, HOWEVER.

3. IN SUBMITTING FIRST PART OF 1977 SIR TO JUNE BOARD, DIRGEN SIMPLY INVITES BOARD TO "REVIEW AND TAKE NOTE OF" THE DOCUMENT.

BOTH PARTS HAVE BEEN (AND, IN CASE OF SECOND PART, IS STILL BEING) EXTENSIVELY REVIEWED AND REWRITTEN BY HIGH LEVEL COMMITTEES IN THE SECRETARIAT, INCLUDING LEGAL DIVISION, AND EXTERNAL AFFAIRS DIVISION STAFF AND DOG ROMETSCH. K. PARSICK (PROTECT), HEAD OF SAFEGUARDS EVALUATION SECTION, AND INDIVIDUAL RESPONSIBLE FOR PULLING TOGETHER INITIAL DRAFTS OF SIR, SAYS REWRITING HAS LARGELY BEEN OUT OF HIS HANDS. TYPICAL RESPONSE HE GETS WHEN HE ASKS WHY A SPECIFIC CHANGE WAS MADE IS "CAN YOU IMAGINE WHAT THE WASHINGTON STAR WOULD DO WITH THAT SENTENCE?"

4. SUMMARY STATEMENT, 1ST PARAGRAPH IN THE SIR, IS AS FOLLOWS: "IN 1977, AS IN 1976, THE AGENCY'S SAFEGUARDS OPERATION DID NOT DETECT ANY DIVERSION OF A SIGNIFICANT QUANTITY OF NUCLEAR MATERIAL. THE AGENCY IS ABLE TO CONFIRM, TAKING INTO ACCOUNT ALL CIRCUMSTANCES, INCLUDING QUALITATIVE OBSERVATIONS, THAT IN ALL 40 STATES WHERE SAFEGUARDS AGREEMENTS WERE IN FULL IMPLEMENTATION ALL SAFEGUARDED NUCLEAR MATERIAL REMAINED IN THE DECLARED PEACEFUL NUCLEAR ACTIVITY OR WAS OTHERWISE ADEQUATELY ACCOUNTED FOR."

5. OTHER TOPICS COVERED IN THE THREE SECTIONS OF PART

ONE INCLUDE:

(A) SECTION 1, COVERING DEVELOPMENTS INFLUENCING AGENCY SAFEGUARDS IN 1977, INCLUDING INCREASED WORKLOAD, "CLARIFICATION" OF SAFEGUARDS CRITERIA, AND ACTION FOLLOWING UP ON SSIR FOR 1976. DETAILS OF CLARIFIED SAFEGUARDS CRITERIA ARE PRESENTED FOR THRESHOLD AMOUNTS, QUANTITIES OF SAFEGUARDS SIGNIFICANCE AND ESTIMATED MATERIAL CONVERSION TIMES.

(B) SECTION 2, COVERING MAIN CONCLUSION AND RECOMMENDATIONS: IT INCLUDES RATHER INTRICATELY WORDED POINT THAT OF 40 INSPECTED STATES (EXCLUDING EURATOM); (I) 17 HAD SMALL QUANTITY OF NUCLEAR MATERIAL WHICH THEY CONFIRMED "CONTINUED TO BE AVAILABLE FOR THE DECLARED PEACEFUL NUCLEAR ACTIVITY OR WAS OTHERWISE ADEQUATELY ACCOUNTED FOR", (II) IN THESE AND AN ADDITIONAL 17 STATES "THE AGENCY'S VERIFICATION ACTIVITIES WERE CONSIDERED ADEQUATE IN 1977", "THE PRESENCE OF THE SAFEGUARDED NUCLEAR MATERIAL . . . WAS CONFIRMED TO THE SATISFACTION OF THE SECRETARIAT" AND "NO DEPARTURES FROM THE RELEVANT SAFEGUARDS AGREEMENTS WERE DISCOVERED, WHICH WAS TAKEN AS A BASIS FOR THE CONCLUSION THAT NO DIVERSION OCCURRED IN THESE 34 STATES" AND (III) FOR THE REMAINING SIX, "CONCLUSIONS COULD NOT BE QUANTIFIED PERMIT THE JUDGEMENT THAT DIVERSION . . . DID NOT TAKE PLACE . . .". MAIN RECOMMENDATIONS REGARDING STATES' SYSTEMS (SSAC'S) WERE FOR MOST PART SAME AS IN 1976 SSIR, ALTHOUGH, ACCORDING TO SIR, USEFUL PROGRESS OCCURRED IN SOME CASES DURING 1977. SOME RECOMMENDATIONS ARE MADE FOR SAFEGUARDS AT LIGHT WATER REACTORS, ON-LOWD REFUELLED REACTORS, RESEARCH REACTORS AND BULK HANDLING FACILITIES.

(C) SECTION 3, COVERING FINDINGS RELEVANT TO CATEGORIES

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OF STATES: THE SAFEGUARDED STATES ARE CATEGORIZED ACCORDING TO RANGE OF NUCLEAR ACTIVITIES, SIZE OF INVENTORY, TYPE OF NUCLEAR MATERIAL AND TYPE OF AGREEMENT. COMMENTS ABOUT SAFEGUARDS DIFFICULTIES AND FACTORS FOR THESE GROUPS ARE MADE. (THE GROUPING IS AN ATTEMPT TO ASSURE THAT INDIVIDUAL STATES ARE NOT READILY IDENTIFIABLE). A SUMMARY TABLE IDENTIFIES THE NUMBER OF STATES WHERE SPECIFIC DIFFICULTIES HAVE BEEN ENCOUNTERED. E.G., NOTING THAT IN 7 OF THE 9 STATES WITH A BROAD RANGE OF NUCLEAR FACILITIES, INCLUDING BULK HANDLING FACILITIES, IAEA VERIFICATION ACTIVITIES HAVE BEEN INCOMPLETE.

6. MISSION COMMENTS: NOTWITHSTANDING THAT SECOND PART OF SIR WILL BE ISSUED ONLY AFTER JUNE BOARD, MISSION RECOMMENDS OPPORTUNITY BE TAKEN AT JUNE BOARD TO COMMENT UPON FIRST PART. SUCH COMMENTS COULD RESULT IN REDRAFT OF FIRST PART AND ENCOURAGE SECRETARIAT TO PRODUCE MORE FORTHRIGHT SECOND PART, PARTICULARLY IF OTHER STATES MAKE CRITICAL COMMENTS. BASIC COMMENT WHICH WE BELIEVE SHOULD BE MADE IS: GIVEN THE SAFEGUARDS INADEQUACIES ELABORATED IN SIR FOR CERTAIN SITUATIONS (E.G., ACKNOWLEDGING THAT IN 7 OUT OF 9 STATES WITH COMMERCIAL BULK HANDLING FACILITIES, POWER REACTORS AND R & D FACILITIES, AGENCY VERIFICATION ACTIVITIES WERE INCOMPLETE), CONCLUSION STATEMENT THAT "ALL SAFEGUARDED NUCLEAR MATERIAL REMAINED IN THE DECLARED NUCLEAR ACTIVITY OR WAS OTHERWISE ACCOUNTED FOR" IS UNSUPPORTED. EXPLANATORY PHRASE SUCH AS "TAKING INTO ACCOUNT ALL CIRCUMSTANCES INCLUDING QUALITATIVE OBSERVATION", DOES NOT RPT NOT JUSTIFY FOREGOING CONCLUSION, UNLESS THAT PHRASE CAN BE SATISFACTORILY ELABORATED AND SUBSTANTIATED. SECRETARIAT SHOULD RESTRICT ITS "THERE HAS BEEN NO DIVERSION" CONCLUSION TO CASES WHERE QUANTITATIVE EVIDENCE PRESENTED FULLY SUPPORTS SUCH CONCLUSION. IN CASES WHERE QUANTITATIVE EVIDENCE IS NOT RPT NOT SUFFICIENT, SECRETARIAT SHOULD ACKNOWLEDGE THAT FACT TO THE BOARD AND, AT POST, CONCLUDE THAT, NEVERTHELESS, IT HAD NO BASIS FOR BELIEVING THAT DIVERSION DID OCCUR. SUCH CONCLUSION WOULD LEAVE IT TO THE BOARD, IN CASES OF NPT AGREEMENTS, TO DECIDE WHETHER IT SHOULD TAKE ONE OR MORE OF ACTIONS CALLED FOR IN THOSE AGREEMENTS (SEE PARA 19 OF INFCIRC 153).

7. MISSION IS PUZZLED BY THE SEMANTICS OF THE CONCLUSION STATEMENTS QUOTED IN PARAS 4 AND 5B ABOVE, AND WILL ATTEMPT TO OBTAIN CLARIFICATION FROM SECRETARIAT. WILL ADVISE IF WE FEEL OTHER WORDING WOULD BE MORE APPROPRIATE. LABOWITZ

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