IAEA
International Atomic Energy Agency

ISSAS guidelines

Reference report for IAEA SSAC advisory service

Vienna, November 2005

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FOREWORD

All comprehensive safeguards agreements between the IAEA and Member States concluded on the basis of INFCIRC/153 (Corrected) require the Member State to establish and maintain a system of accounting for and control of nuclear material subject to safeguards. In the years following the negotiation of INFCIRC/153, the IAEA's Secretariat and a large group of experts from Member States collaborated in the production of a set of guidelines to assist Member States in establishing their State system of accounting for and control of nuclear materials (SSAC). These guidelines, termed "Guidelines for States' Systems of Accounting for and Control of Nuclear Materials", were published in 1980 as part of the IAEA's information series on the then developing safeguards system (IAEA/SG/INF/2). However, events over the past decade have changed the circumstances and requirements of the safeguards system.

The IAEA, with support and assistance from Member States, embarked on an extensive multi-year effort to strengthen the safeguards system by increasing the IAEA's capability to detect undeclared nuclear material and activities. The centre-piece of this effort is the Model Protocol Additional to Safeguards Agreements (referred to as the "additional protocol" and contained in INFCIRC/540 (Corrected)) approved by the Board of Governors in May 1997. The central components of strengthened safeguards and the additional protocol are increased access to information and increased physical access.

The effective and efficient implementation of the strengthened safeguards system requires the SSACs to be effective and to cooperate closely with the IAEA. To achieve this aim the IAEA is, inter alia, revising IAEA/SG/INF/2, providing training and equipment to SSAC Authorities and providing an advisory service to Member States known as the IAEA SSAC Advisory Service (ISSAS).

Accounting for and control of nuclear material is also key for nuclear security. General Conference resolutions (e.g. GC(48)/RES/11) have noted the "central contribution of Agency safeguards agreements and additional protocols and also of SSACs, to preventing illicit trafficking and to deterring and detecting diversion of nuclear material" thereby recognizing the usefulness of SSACs for both safeguards and security.

This publication describes the role and function of the ISSAS.

EDITORIAL NOTE

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CONTENTS

1. INTRODUCTION

Reliable accounting for and control of nuclear material is fundamental to Member States' ability to fulfil their international obligations as reflected in safeguards agreements with the IAEA. Legislative and regulatory systems need to be in place to implement such accounting and control of nuclear material. Technical and analytical capabilities need to be available to perform the necessary measurements, and administrative systems are required to fulfil safeguards reporting requirements. Such regulatory, technical and administrative systems are commonly referred to as State systems of accounting for and control of nuclear material (SSACs). The term "SSAC Authority" is used in this publication to mean the organizational entity that is part of the SSAC and responsible for ensuring that the SSAC regulations and procedures are implemented. A Member State may choose to designate its SSAC Authority as the organizational entity also responsible for the implementation of its additional protocol, but there is no requirement that it do so. For brevity, in the rest of this publication the term "SSAC" includes the laws, regulations, administrative system, procedures and Member State authorities that deal with the implementation of the Member State's safeguards agreement and additional protocol. For the effective and efficient implementation of IAEA safeguards it is essential that SSACs are effective and that the SSAC Authorities and the IAEA cooperate closely.

ISSAS missions will help to meet the objectives of increasing effectiveness and cooperation in the following ways:

- For Member States without SSACs, or with only rudimentary SSACs, recommendations from ISSAS missions will provide guidance on establishing the necessary regulatory, technical and administrative measures at the State and facility level appropriate to the Member State's circumstances. Mechanisms for cooperating with the IAEA in the implementation of safeguards will also be identified.

- For Member States with more substantial SSACs, the evaluation by ISSAS missions of SSAC performance with respect to international guidelines, safeguards commitments and good practice will allow recommendations to be made as necessary to improve the regulatory, administrative and technical systems and to increase cooperation with the IAEA.

An ISSAS mission will include a review of the performance of the SSAC with respect to the recommendations contained in *Guidelines for States' Systems of Accounting for and Control of Nuclear Materials* (IAEA/SG/INF/2) [1], and also with respect to the obligations contained in the Member State's safeguards agreement with the IAEA, which in most cases will be based on INFCIRC/153 (Corr.) [2] and, if applicable, a protocol additional to the agreement, based on INFCIRC/540 (Corr.) [3].

2. PURPOSE OF THE GUIDELINES

This publication has been prepared to provide a basic structure and common reference for ISSAS missions. As such, it is addressed, principally, to the team members of ISSAS missions, but it will also provide information and guidance to a host government receiving a mission.

This publication is intended to help the mission members to formulate their review in the light of their own experience. It is not all-inclusive and should not limit the members' investigations, but is better considered as illustrating the requirements for an adequate review.

3. OBJECTIVES OF AN ISSAS MISSION

The objectives of an ISSAS mission are to:

- evaluate the legal framework and regulatory, administrative and technical systems of the SSAC at both the State and facility level in the light of factors such as the types and amounts of nuclear material present in the Member State, the size and nature of the Member State's nuclear fuel cycle and whether an additional protocol is in force (or has been signed);

- evaluate the performance of those systems in meeting the Member State's safeguards obligations;

- identify areas where further cooperation with the IAEA could increase the effectiveness or efficiency of safeguards; and

- make recommendations on how any shortcomings identified could be rectified or further cooperation could be implemented, whilst recognizing good practices identified in the course of the mission.

An ISSAS mission will therefore review the national SSAC and will recommend any improvements to this system that it considers appropriate. Judgements are made on the basis of the combined expertise of the members. The mission is not a regulatory inspection. Rather, it is a comparison of the existing practices of a country with the SSAC Guidelines (IAEA/SG/INF/2) and the obligations under INFCIRC/153 and INFCIRC/540 (where applicable) which is made upon the request of a Member State.

4. ELIGIBILITY

In principle an ISSAS mission could be requested by any Member State regardless of the size or nature of its nuclear fuel cycle, including Member States with no significant nuclear activities.

5. INITIATION OF THE MISSION

An ISSAS mission will only be initiated after the IAEA has received a request from a Member State at an appropriate government level.

6. APPROVAL

All ISSAS missions will require the approval of the Deputy Director General, Department of Safeguards (DDG-SG).

7. SCOPE AND DURATION OF THE MISSION

The scope and duration of an ISSAS mission will be determined largely by the size and nature of the Member State's nuclear fuel cycle. It is expected that such missions would take from three to seven working days. The mission will deal only with issues relating to nuclear material and safeguards (including the additional protocol), unless there are specific reasons to include other areas, such as physical protection, trafficking or radiation safety. In such cases the host government would have to agree to broadening the scope and the membership of the team would have to reflect the broader scope. A broader mission may be more cost effective for Member States with very limited nuclear activities or amounts of nuclear material. In such a case the mission would be organized on an IAEA-wide basis, rather than at the level of the Department of Safeguards.

8. TECHNICAL OFFICER

On receipt of a request for an ISSAS mission, the Director of the Division of Technical Support (SGTS) will designate an IAEA staff member with appropriate experience (normally a member of SGTS/Training Section) as the technical officer who will be responsible for:

- initiating the approval process;
- coordinating the preparatory work and making the necessary arrangements to conduct an ISSAS mission;
- establishing liaison contacts with the appropriate counterparts of the host country who will be the primary contacts with the team during the mission;
- nominating a team leader for the ISSAS mission;
- selecting the members of the team, in consultation with the team leader;
- arranging for a preparatory meeting with the host country to plan the mission; and
- ensuring the follow-up action plan is fully implemented after the mission is completed.

9. TEAM LEADER

The team leader will normally be an IAEA staff member and should be approved by the DDG-SG. The team leader will be responsible for:

- liaising with the government counterparts before the ISSAS mission;
- coordination of the ISSAS team, including pre-mission team briefing where necessary and assignment of specific duties;
- representation of the team in the preparatory, entry and exit meetings;
- management of the mission, including ensuring that objectives are met, liasing with government officials during the ISSAS mission, resolving issues requiring decision and preparing for the exit meeting;

- coordination of the preparation of all presentations; and

- production of the final ISSAS report.

10. TEAM COMPOSITION

The size of the team will depend on the scope of the mission, which is primarily a function of the size and nature of the fuel cycle. It could vary, e.g., from two to six members. It is important to have a strong membership on the team of experienced representatives from Member States SSACs in order adequately to assess the host SSAC from the perspective of domestic requirements. Such national experts should come from different SSACs, the IAEA members will typically be chosen from: the technical officer, a senior safeguards inspector (normally **not** from the Safeguards Operations Division responsible for the Member State), the country officer or similarly knowledgeable staff member, and the Section for System Studies. Knowledge of the host country's language should be considered. Where a legal expert is considered necessary, he or she will be appointed in consultation with the IAEA's Office of Legal Affairs.

The technical officer will request experts to serve on the team from appropriate national authorities as agreed with the team leader. ISSAS team members will be selected so as to ensure that a variety of national approaches to regulation and implementation is represented. Each of the experts is likely to have, in addition to a particular area of expertise, knowledge of other national approaches and other relevant areas. Coupling this knowledge with the international guidelines allows the best practices to be identified. The team member(s) from the Operations Division will have the responsibility to ensure that full account is taken of safeguards implementation issues. The member from the Section for System Studies will aim to ensure consistency and coherence between different missions and that increased cooperation with the IAEA is fully addressed.

11. PREPARATION OF ISSAS MISSIONS

Advance reference material

To obtain a good understanding of the organisation, procedures, authorities, and legal basis of the SSAC, the following documents, translated into English, should be obtained by the technical officer at least two months prior to the team's visit.

(a) National legislation:

- Relevant law(s) and regulations governing the SSAC, nuclear facilities and the implementation of the safeguards agreement, including the additional protocol; and

- Synopsis of the responsibilities and structure of the various government organizations (specifying relevant departments) that deal with the SSAC, including additional protocol issues, and how they interrelate.

(b) SSAC authority organization and procedures:

- Legal status and responsibilities assigned by law to the SSAC Authority;

- Objectives of the SSAC Authority and how it maintains its independence;

- Structure, organization and staffing of the SSAC Authority;
- Description of the SSAC information system;
- Description of the mechanism for reporting to the IAEA;
- Description of the requirements of nuclear material accounting and control;
- Description of the procedures for implementing the additional protocol (including those for identifying the manufacture, export and import of relevant items);
- Procedures for cooperation with IAEA safeguards inspectors;
- Procedures for assessment and review of technical submissions;
- SSAC inspection practices and enforcement procedures;
- A typical licence where it includes SSAC requirements;
- List of applicable codes and standards; and
- Quality assurance procedures.

(c) Facility plans, information and procedures, including procedures for dealing with safeguards inspections, design information visits and complementary accesses.

Team meeting

The technical officer should convene a meeting of the team with the relevant Operations Division country officer and/or Unit/Section Head and a representative from the Division of Safeguards Information Technology (SGIT) together, where appropriate, with representatives from other divisions and departments. The meeting should review the above information on the host country's SSAC legislation and procedures; how these are implemented in practice in terms of SSAC resources, infrastructure and activities; and the experience gained by the Operations Division and SGIT as to how these operate in practice in the implementation of the safeguards agreement and additional protocol. The briefing from the Operations Division should, inter alia, identify strengths as well as any weaknesses or failures in meeting safeguards obligations and any potential areas for increased cooperation. The SGIT representative should focus on the quality and timeliness of reports to the IAEA. Responsibilities during the mission should be allocated. A note of the meeting should be made.

Preparatory visit

Normally, a preparatory visit should be held in the host country, with the team leader and the technical officer meeting senior management of the SSAC and other relevant Member State organizations. The meeting could consider:

- agreement on a schedule and the main features of the proposed ISSAS mission;
- preparation for the mission, including a list of the documents required before or during the mission;

- logistical support required;
- the identification and scheduling of meetings with relevant persons and representatives from organizations to be interviewed;
- arrangements for the exit meeting;
- preparation, review and confidentiality of the ISSAS mission report; and
- follow-up procedures.

12. THE MISSION

To meet the objectives listed in Section 3 above, the mission will review in detail the laws, regulations and other measures that govern the establishment and operation of the SSAC, including such provisions related to the implementation of the additional protocol, and will assess how effectively they operate in practice.

Activities to meet the first and second objectives (to evaluate the legal framework and regulatory, administrative and technical systems of the SSAC at both the State and facility level and to evaluate the performance of those systems in meeting the Member State's safeguards obligations) will include a review of those systems against the detailed guidelines set out in Parts 2 and 3 of the SSAC Guidelines (IAEA/SG/INF/2).

Activities to meet the third objective (to identify areas where further cooperation with the IAEA could increase the effectiveness or efficiency of safeguards) will include discussions with the relevant personnel from the Member State.

The means used by the ISSAS team to acquire the information needed to develop its conclusions and recommendations include:

- a review of written material;
- interviews with personnel; and
- direct observation of organization, practices and systems in place at the State level, at a facility handling nuclear material and at locations related to the additional protocol, if applicable.

The ISSAS team is expected to cover all aspects of the SSAC to the extent necessary to be able to make an informed evaluation. Matters of concern should be investigated to the extent required to document the concerns accurately and in sufficient detail to be readily understandable. Conclusions and recommendations should be formulated on the basis of the review. Similarly, good practices identified in the review should be documented and described in sufficient detail as to be readily understandable.

Documents and confidentiality

The basis for any review of a SSAC will consist of the ISSAS experts' reviews of (a) national legislation, (b) SSAC Authority organization and procedures, (c) regulations and guidelines, and (d) facility procedures, as appropriate. These and other relevant materials that should be provided prior to the review are listed in Section 11 above. All documents related to the

mission, including advance reference material, the presentations of findings, and the report of the mission, including drafts, will be treated in the appropriate manner according to the IAEA's procedures governing the security of information and in consultation with the Member State.

Interviews

After consideration of the relevant written material, the interviews with personnel can then be used to:

- obtain additional information;
- review issues arising out of the previous actions or briefings;
- form a judgement on the arrangements, duties and responsibilities of the SSAC Authority;
- determine whether the regulatory and administrative arrangements and SSAC measures meet established international guidelines and consensus;
- elicit individual opinions;
- form a judgement on the knowledge base, training and resources of the organization;
- examine the relationship between the SSAC Authority and the facility operator, in particular how the SSAC Authority regulates and assesses the way the facility is operated with regard to the requirements of the SSAC; and
- support, confirm or refute observations made during the onsite observation of measures in place.

The interviews could also provide an opportunity for important information to be exchanged between the team members and their counterparts. An interview should be an exchange of views and not an interrogation. Views should not be assigned to specific individuals in the report of the mission. Properly conducted, these interviews are a most important part of the ISSAS mission.

Direct observation

Direct observation of the implementation of SSAC measures at a facility or other location should be an important aspect of the review process. A substantial part of the review period should be devoted to practices in use. The observation of work should cover SSAC practices, facility procedures, routine and special reporting and quality control measures in use, and should also include a review of management controls in place.

On the basis of the interviews and observations, the experts can then, if necessary, modify their preliminary views to form a judgement of performance and effectiveness. It may be that more than one iteration through document review, interview and observation will be necessary in order to form a judgement.

13. MISSION REPORT

The objectives of an ISSAS mission are given in Section 3 above. The report of the mission should clearly address all of these objectives and document the team's findings and recommendations, including an action plan for follow-up.

During the course of the mission, individual team members will prepare detailed findings on the areas assigned to them, including initial conclusions, recommendations, and good practices. These findings are then the subject of peer review by all team members. The reviewed findings will form the basis of presentations at the exit meeting, where the SSAC Authority will have the opportunity to comment on them. One or more copies of the presentations will be given to the Member State authorities prior to the exit meeting.

On completion of the mission the team leader will prepare a draft ISSAS report. The report will summarize the team's main findings and conclusions, including all recommendations and good practices, and a follow-up action plan. A suggested outline of the report is shown in the Annex. The team leader will then pass the draft report to the team for final comment before submitting it to the IAEA within one month of the completion of the mission.

Appropriate IAEA staff will review the draft report prior to submission to the SSAC Authority of the host country. The SSAC Authority will be given the opportunity of offering comments before the text is finalized. The final report will be cleared by DDG-SG and submitted through official channels to the host country concerned within three months of the completion of the mission. The IAEA will restrict initial distribution to the authorities concerned, the contributors to the report, and relevant IAEA staff. Any further distribution will be at the discretion of the host country. Modifications to these report preparation procedures, as appropriate, can be considered at the preparatory meeting.

14. SUPPORT FACILITIES

Prior to the ISSAS mission and as part of the discussions at the preparatory meeting, the IAEA and the team leader will make arrangements with the host country being visited to ensure the provision of necessary support facilities. All reviews are conducted in English, and the host country should provide any necessary interpretation to enable the team members to do their work. At all times, there should be at least one meeting room at the disposal of the team of sufficient size to enable them to work and to hold discussions in reasonable privacy. The room should be equipped with electrical power and, where possible, a telephone and internet (e-mail) access. Computer printers and copiers should also be available if possible.

15. FOLLOW-UP

A detailed follow-up action plan, with targets and due dates agreed with the Member State, should form part of the ISSAS mission report. The responsibility for managing the implementation of the action plan lies with the technical officer, who will liaise with the Member State authorities and the relevant IAEA staff or donor country representatives as necessary. Upon completion of each action, the team leader and relevant Directors of divisions involved in the action should be notified. Upon completion of the whole plan, the team leader, DDG-SG and the head of the SSAC State Authority should be notified.

ANNEX

OUTLINE OF CONTENTS OF AN ISSAS MISSION REPORT

REFERENCES

[1] INTERNATIONAL ATOMIC ENERGY AGENCY, Guidelines for States' Systems of Accounting for and Control of Nuclear Materials, IAEA/SG/INF/2, IAEA, Vienna (1980).

[2] INTERNATIONAL ATOMIC ENERGY AGENCY, The Structure and Content of Agreements between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons, INFCIRC/153 (Corr.), IAEA, Vienna (1972).

[3] INTERNATIONAL ATOMIC ENERGY AGENCY, Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards, INFCIRC/540 (Corr.), IAEA, Vienna (1997).

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