

IMPLEMENTATION OF THE GUIDELINES FOR COORDINATION OF ROUTINE AND AD-HOC INSPECTION ACTIVITIES BETWEEN THE AGENCY AND ABACC

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ABSTRACT

Following the implementation of the Quadripartite Agreement (INFCIRC/435), the IAEA and ABACC were asked to establish coordination for routine and ad-hoc inspections. This paper describes the methodology used to develop this coordination and the guidelines and arrangements necessary for implementation. Special attention is given to the concept outlined in “Guidelines for Coordination of Routine and Ad-Hoc Inspection Activities between the Agency and ABACC” and to the Common Use of Equipment. The main coordination problems, their solutions and relationship are analyzed. Final conclusions on safeguards implementation and optimization are commented upon.

INTRODUCTION

After the Quadripartite Agreement (INFCIRC/453) [1] entered into force in March 1994, and after a period of knowledge and experience in performing joint activities, the IAEA and ABACC realized the importance and need to establish coordination between the two agencies on technical matters, including those related to the use of equipment in safeguards inspections. The two Agencies have also set about devising and agreeing on coordination arrangements,

taking into account the specific characteristics of both organizations.

The principle followed by ABACC and the IAEA when implementing their cooperation arrangement is that each organization should be able to reach its own independent conclusions whilst concurrently avoiding unnecessary duplication of effort.

Coordination between institutions of this nature requires a framework of confidence in concepts, methodology, background and technical development of both organizations. When coordinating safeguards activities, ABACC and the IAEA have to keep a balance between their willingness to accept different concepts of implementing and operating a safeguards system and the necessary requirement to be met in order to satisfy their own criteria.

COORDINATION GUIDELINES

After a long learning process, while performing inspections together, one of the most important results of the Bilateral Coordination Work was the approval of the “Guidelines for the Coordination of Routine and Ad-Hoc Inspection Activities between the Agency and ABACC” [2]. This agreement is being currently implemented during inspections performed jointly by both organizations.

The purpose of these Guidelines is to reflect the requirements of the Quadripartite Agreement, in so far as they are related to the coordination of ABACC and Agency activities with the aim of contributing towards the optimum implementation of the Agreement. The Guidelines consist of:

a) General considerations outlining the following:

- the assurance that each organization is able to draw its own, independent, conclusions;
- minimization, to the extent possible, of duplication of effort, both in manpower and/or equipment;
- the need for each organization to keep the other informed about their respective safeguards criteria and subsequent modifications thereto;
- the common use of equipment and standards, including the development and procurement of equipment, joint use procedures, acceptance criteria and maintenance of equipment;
- the equal sharing of the cost of common use equipment and standards as agreed between ABACC and the IAEA.

b) Specific coordination arrangements.

- providing common rules and principles for arrangements on containment and surveillance measures;
- providing common rules for acquiring, verifying, analyzing and archiving data and samples from measurement;
- general common arrangement for equipment sharing.

The Guidelines provide a basis for the coordination of activities between the two agencies. They can be reviewed and amended,

as appropriate, in the light of changing circumstances and developments, e.g. safeguards measures, and to accommodate new trends in the safeguard concepts, for instance, the strengthening of safeguards program. The development of ABACC and the need to apportion financial burden of shared activities as appropriately are also considered.

COMMON USE OF EQUIPMENT

Although it is relatively easy to establish arrangements on activities such as common archive sample for destructive analysis, verification of Design Information Questionnaire (DIQ), random selection of items to be verified, etc., some safeguards activities are complex and directly connected to the structure and safeguards criteria of each agency.

In terms of coordination, one of the most difficult tasks is the common use of equipment from both organizations. Many questions, such as the ones listed below, need to be answered :

- who is providing the equipment;
- who is operating the instruments, and when;
- how to guarantee independent conclusions based on data obtained through the other organization's equipment;
- how to guarantee that each organization keeps its continuity of knowledge while using each other's equipment;
- how to duplicate data;
- how to define a common seal;
- how to perform a joint authentication, and so forth.

Since the common use issue raises so many points to be solved in order to assure independent conclusions, ABACC and IAEA

decided to focus special attention on dealing with this task. Instead of formulating detailed individual procedures for each item of equipment, the agencies decided to come up with the concept of dividing the procedure for joint use equipment into three parts. The structure and contents of each part are as follows:

- Part 1: JOINT USE PROCEDURES FOR COMMON USE OF EQUIPMENT [3].

This is the general part, and is the same for all equipment. Part 1 describes the general rules, common for all equipment, and is basically an application of the concepts defined in the Guidelines reapplied to the equipment use.

- Part 2: PROCEDURES FOR ABACC AND IAEA COMMON USE OF EQUIPMENT BEING CONSIDERED[4].

Part 2 consists of Objectives, General Conditions and Specific Procedures for the equipment considered and the facility where it shall be used. Issues such as the equipment provider, set-up, localization, calibration, authentication, sealing, actions to be undertaken by the agencies based on the results of data verification and other specific equipment procedures, are included in this part.

- Part 3: OPERATIONAL PROCEDURES FOR ABACC AND IAEA COMMON USE OF EQUIPMENT BEING CONSIDERED.

Part 3 contains a set of operational instructions for the use of the equipment under consideration.

In these arrangements some interesting features can be highlighted:

- a) The work to be performed by an inspector of one of the organizations using equipment from the other organization raises a number of issues including some unrelated to safeguards and the type of equipment. The concepts of operating and servicing play an important role. Operation means: setting-up, energizing, connecting or disconnecting cables, pushing the “acquire button”, viewing of a set of parameters, execution of the “user program”, use of a software. Servicing means: activity of general preparation of a fixed equipment, functioning in unattended mode for the next inspection period and may comprise removal/exchange of recording media, recorder head cleaning, checking/retrieval of operating parameters and operational information, retrieval of the data collected by the equipment, battery exchange, replacement of failed equipment modules, etc.
- b) In the majority of cases the servicing and operating of any joint equipment are carried out in the presence of inspectors of both organizations. Nevertheless, the possibility that inspectors from only one organization may perform an activity without inspectors from the other organization being present needs to be taken into account in the arrangements.
- c) Sealing by both organizations, even if a common seal is used, are also addressed. Sealing interconnected to the activities performed by an inspector of one organization without the other organization being present (possible in the case of maintenance) needs to be dealt with.
- d) The IAEA and ABACC inspectors alternate randomly when operating/servicing the equipment. Specific training and common agreed working papers are vital to a successful inspection activity.

- e) In the case of an operation to be performed which is not covered by any joint use procedure, or of a certain operation that cannot be performed successfully when following the joint use procedure, the IAEA and ABACC inspectors should agree upon an alternative course of action

The IAEA and ABACC have made considerable progress in establishing an effective cooperation regimen in this matter. The procedures for the common use of equipment are being discussed, in detail, one by one. This is a very time consuming, but necessary, process.

The following equipment are in test of joint use by the IAEA and ABACC, using approved procedures:

COBRA SEAL
VACOSS SEAL
BUNDLE COUNTER FOR CANDU 600 MW
MIVS SURVEILLANCE SYSTEM
MUX-16 CCTV
CANNISTER VERIFIER SYSTEM
GEMINI DIGITAL VIDEO SURVEILLANCE
AUXILIARY PORTABLE VIDEO SYSTEM
COSMOS& MINOLTA
SPENT FUEL TRANSFER NDA SYSTEM
MORE REVIEWING SYSTEM
BALANCES AND STANDARDS WEIGHTS

Other equipment are under discussion between ABACC and the IAEA.

CONCLUSIONS

Some particularities of the Quadripartite Agreement are not easily accommodated in the inspection coordination arrangements, if one bears in mind that some facilities were under the IAEA safeguards before ABACC was

created and that some facilities were for some time under ABACC safeguards only.

Coordination of activities between the two safeguard agencies is a task which requires a strong commitment and a lot of good will from both parties. As soon as the parties started to implement actions together a process of confidence building made the relationship easier. The development of this coordination has already brought a reduction of equipment and manpower expenditure and inspection effort. However, it should be stressed that the capacity of each organization to reach independent conclusions must be preserved in all arrangements between agencies.

During the discussion and implementation of arrangements for the coordination of activities and common use of equipment, a positive relationship has developed between ABACC and the IAEA in a spirit of cooperation. It is believed that the experience acquired while performing inspections under the framework of the Guidelines and Common Use Arrangement has allowed both agencies to increase their confidence in each other's safeguards approach and results. This will, no doubt, allow for the optimization of safeguard efforts and for the improvement of the quality of the work performed.

REFERENCES

- [1] IAEA: "The Agreement between the Republic of Argentina, the Federative Republic of Brazil, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials and the International Atomic Energy Agency for the Application of Safeguards",

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- [3] IAEA/ABACC: “Joint use procedures for common use of equipment”, Intern Paper, Vienna/RJ Jun.1998. **(CLASSIFIED DOCUMENT)**
- [4] IAEA/ABACC: “Procedures for common use of specific equipment working arrangements”, Intern Paper, Vienna/RJ Aug/Set.1998. **(CLASSIFIED DOCUMENT)**