

PROSPECTIVE ON JOINT INSPECTION MODEL BETWEEN THE IAEA AND ABACC

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Abstract:

The co-operation between the ABACC and the IAEA improved significantly with the approval of the Guidelines for Co-ordination of Routine and Ad hoc Inspection Activities between the Agency and ABACC in 1997. This document established a generic framework under which both organizations began to cooperate in areas like inspection activities, common use of containment & surveillance equipment, calibration standards and sharing NDA methodologies and portable equipment. Based on these Guidelines, many sets of procedures for the common use of safeguard equipment have already been established and are under continuous review or updating. This paper summarises the present status of those procedures. The progress achieved in the different levels of co-operation allowed both organization to start establishing Guidelines for Joint Inspection Activities at specific facilities with the objective that each safeguards activity be performed only once during the inspection. The structure and content of the Guidelines are presented in this paper. The joint inspection activities will be gradually implemented in all facilities of the two countries. Presently Guidelines for nuclear power plants and fuel fabrication plants in Brazil and Argentina are being prepared. The present status of the Guidelines preparation is summarised.

1. Introduction

The Quadripartite Agreement [1] determines the application of IAEA comprehensive safeguards in Argentina and Brazil taking into account the Common System applied by the regional organization (ABACC). Special provisions are contained in the Quadripartite Agreement and in the General Part of the Subsidiary Arrangements regarding the co-operation and co-ordination of inspection activities between the IAEA and ABACC. Both organisations shall fulfil their responsibilities while reaching independent conclusions and avoiding unnecessary duplication of efforts.

The co-operation between the ABACC and the IAEA improved significantly with the approval of the *Guidelines for Co-ordination of Routine and Ad hoc Inspection Activities between the Agency and ABACC* in 1997. This document established a generic framework under which both organizations began to cooperate in areas like inspection

activities, common use of containment & surveillance equipment, calibration standards and sharing NDA methodologies and portable equipment. The co-operation in this field tries to encourage the sharing of containment and surveillance systems, the application of common NDA technique and the use of similar portable equipment and standards.

The progress achieved through increase co-operation also led to establish Guidelines for Joint Inspection Activities at all relevant facilities where specific procedures need to be applied. Such provision is required due to the simultaneous inspection regime of ABACC and IAEA and the need to protect sensitive information.

The ultimate objective of these guidelines, on a facility specific type basis, is that each activity can be carried out only once during the inspections, regardless which organisation the inspector comes from.

2. Guidelines for Joint Inspection Activities: selection criteria

The facilities were selected to have Guideline for Joint Inspection considering as criteria the relevance of the nuclear material inventory, the inspection activities and the inspection effort. Following these criteria, two reactor facilities, one conversion and fuel fabrication plant and two ultracentrifuge enrichment facilities were selected in Brazil and two on load reactors, one conversion plant, one fuel fabrication facility and the diffusion Enrichment facility were selected in Argentina. Guidelines for research and development facilities, research reactors and other location will be prepared only in the case that special procedures for DIV or verification activities are necessary.

3. Guideline Structure

The general structure of the document includes a general description of the facility, a description of the verification activities and necessary safeguards equipment with common use procedures approved, specific inspection procedures, working papers and provisions for resolution of discrepancies resolution and for document updating.

A summary facility description, based on the last version of DIQ is presented on the first item. It describes the main features and the relevant data from safeguards point of view. The second item is focused on the safeguard approach. It includes a description of diversion scenarios considered and the corresponding safeguard measures adopted to cover such diversion assumptions. The maximum inspection effort and provision for non-routine activities are also specified in this item in each document. The detailed description of the inspection activities at PIVs and interim inspections constitutes the nucleus of the document. It includes the description of criteria for book auditing and nuclear material verification. Recommendations for nuclear material stratification, sampling plans and selection of inspection equipment according to the past experience gained are also included. Provision for verification of domestic and / or foreign transfers, strategic points and design information are specified as applicable. In addition the material stratum subject to borrowing scenario is clearly identified. The equipment in common use at the facility is listed and the corresponding common use procedure referenced.

Procedures for the common use of safeguard equipment have already been established and are under continuous review or updating. Each specific equipment type authorised for inspection use by the IAEA and ABACC has its corresponding Joint Use Procedure having a similar structure. The first section defines general criteria and arrangements like provisions for packaging, transportation, availability of reference documents, hardware and maintenance responsibilities. If applicable, random selection of the provider organization is foreseen and its responsibility regarding operation, performance, servicing, maintenance and eventual assistance on the field to the no-provider organisation is clearly established. The second section covers the co-ordination arrangements to assure the equipment set up and availability on the field, the provision of the required calibration standards, the authentication measures, the application of authorised software and the use of common working papers. Finally, the third part of the Procedures contains the operating instructions and manuals for each specific equipment type.

Regarding eventual discrepancies, the guidelines recommend that the inspectors do the best effort to find a solution in field. If this is not possible, bilateral consultations between ABACC and the IAEA will take place to decide further actions. Advance notification is required for implementing verification activities not addressed in the guideline. The minimum timing for such notification is specified in the documents.

Standard working papers approved and currently in use by the IAEA are modified in order to take into account the existence of the regional system and amended for use in the field, otherwise they are developed and included as annex. In any case common working papers for specific equipment should be specified in the guideline, even if they are not included in the corresponding procedure for common use. Practical and specific instructions (for equipment owned by ABACC) are also included. An example of this type of instruction is the images review procedure followed by both inspectorates at ABACC headquarters using the GARS station.

Non routine activities like uranium scraps recovery campaigns, blending, transfers of spent fuels to dry storage, etc. and emergency situations such as unavailability of inspector from one organisation, are dealt with in special procedures agreed

between all parties and they are also included in the guideline as annex.

Application of Safeguards"; INFCIRC/435; IAEA. Vienna; March 1994.

4. Current status, prospective and conclusions

At present, the texts and annexes of the guidelines for joint inspections activities at two light water reactors have been agreed and are ready to be implemented in the field. The texts of the guidelines for a conversion and a fuel fabrication plant have also been agreed but the annexes are still under discussion. In addition four new documents are currently under discussion: two on-load reactors, a conversion plant and a fuel fabrication plant. It is expected that at least two of them will be ready for implementation in the second half of 2003.

For enrichment facilities the guidelines for joint inspection activities will consolidate and even complement procedures and activities already approved.

Nineteen sets of procedures for common use of equipment are currently in use. Priority was given to completing the corresponding procedures for the new authorised inspection equipment and on the revision of the existing ones when NDA methodologies or surveillance equipment are being upgraded or replaced. The good progress shown in this area will permit the gradual implementation of joint inspection procedures for all relevant facilities under the SCCC. It is expected at least five guidelines could be implemented from year 2004 covering the main nuclear power stations and fuel fabrication plants.

The full implementation of each guideline will improve the co-ordination between the inspectors from ABACC and the IAEA avoiding unnecessary duplication of verification activities as required by the Quadripartite Agreement. Furthermore the guidelines will facilitate the inspector job, especially for new inspectors not yet well familiarized with the facility and with the special provisions of the Quadripartite Agreement.

5. References

[1] *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*