

CHALLENGES OF THE SAFEGUARDS: A POINT OF VIEW

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nov. 2003

ABACC always recognized that the improvement of technical capacity had priority in order to implement an efficient and effective verification system. Therefore, a great deal of resources were invested to constitute a highly qualified staff of employees and inspectors, besides making available the best possible equipment and safeguard methods. After ten years of operations it can be said that the target was reached successfully, although ours is a permanent objective, which demands continuous efforts and investment. The provisions of the Bilateral Agreement, the Headquarters Agreement with the Brazilian government as well as the protocols of privileges and immunities signed by both countries ensured ABACC's necessary independence and credibility in order to put into practice the Common Accounting and Control System for Nuclear Materials (CACS). On that behalf, the Agency has been able to comply with the requirements of the Quadripartite Agreement and employ safeguards criteria compatible with those adopted by the International Atomic Energy Agency (IAEA). Considering these facts and the good cooperation between both Agencies, the two organizations come across an important challenge: fully implement the provisions of the Quadripartite Agreement.

According to the Quadripartite Agreement, the two Agencies must obtain independent conclusions and avoid the unnecessary duplication of ABACC's safeguards. Nevertheless, it is important to note that an institutional context that would enable the IAEA to verify the results obtained by CACS was still not established. This point must be seriously considered. In the recent past, the increase of the cooperation with the regional systems was much discussed, but very little of this discussion was translated into concrete actions. The acknowledgment of the importance of the regional systems demands more attention of the IAEA, as the maintenance of the present status quo for a long period of time might imply a waste of funds, as well as a loss of credibility for both institutions.

The CACS was established in the atmosphere of cooperation and trust existent between Argentina and Brazil. In this context, the creation of ABACC was an important mark in the approximation among both countries in the fields of technology, economics and politics. This is a unique situation and the full application of the CACS by ABACC is the guaranty that the nuclear programs of both countries are aimed exclusively at pacific purposes. Moreover, this guaranty does not suffer influence of changes in the international scenario.

Considering the international panorama in the area of nuclear safeguards and their consolidation through the implementation of the Additional Protocol, ABACC's role has been intensively discussed in both countries. It is generally understood that the new safeguard measures proclaimed by the said Protocol can hardly be simply transferred to the bilateral system. This would not be consistent with the very origin of the bilateral safeguards system, since it is based, as we already mentioned, on the development of mutual trust. On the other hand, the future implementation of the Additional Protocol certainly shall have impacts on the present safeguards activities. Therefore, the challenge for the institution as well as for the two countries continues to be that of establishing a reasonable and consistent role for ABACC in this new context.

When ABACC started its activities, one of the first problems to be faced was the application of safeguards in a small enrichment plant for the testing of centrifuges operating in cascade. This plant consists in several totally independent cascades, it does not operate on an ordinary basis and in order to preserve sensitive information, it possesses panels that don't allow visual access to the centrifuges and their surroundings. The safeguards in enrichment plants are aimed to detect the diversion of declared nuclear material and the misemployment of the facility. In what concerns small gas centrifuge plants, misuse scenarios seem to be dominant, in particular those associated to the supply of non-declared low enrichment uranium.

The next step will be the negotiation of a safeguard approach for the future commercial plant which is being built in Brazil. Since presently only the first two cascades of the first module are being constructed, ABACC approved a

safeguards approach based on the application of permanent perimeter control and random accounting conclusion of mass balance and of Separative Work Units (SWU) during announced and non-announced inspections, while new boundary conditions for the application of safeguards in the complete plant are being negotiated with the Brazilian authorities.

Although the surveillance systems have been improved over the last years, a considerable number of abnormalities still result from the failure of these systems in nuclear power plants. As a consequence, two problems occur, especially in reactors during reload operation, in which the access to the core is not allowed and there is no technical mean to solve entirely the anomaly regarding the possibility of non-declared plutonium production. Furthermore, a burden is imposed on the operator whether or not he is aware of the failure, since the irradiated fuel has to be reverified. The continuous improvement of the surveillance systems is strongly recommended and necessary in order to avoid such abnormalities.

Non-announced inspections can be applied to substitute or complement the surveillance in specific cases, as an efficient and effective mean to detect the diversion of nuclear material and the misemployment of the facility. In several countries, particularly in Argentine and Brazil, the circumstances allow the implementation of non-announced inspections. At the present moment, however, non-announced inspections are not being used very much, mostly because of the opposition of the operator or of the country and, in some cases, of the IAEA. In order to avoid difficulties and to make possible a broader application of non-announced inspections, practical arrangements with the operator and/or the country must be perfected.

The new IAEA safeguard measures applicable to conversion plants used for the processing of natural uranium mean, in practical terms, a change in the starting point of the safeguards. From ABACC's point of view, the policy paper recently issued by the IAEA exceeds the limits established by the Quadripartite Agreement, and thus it has necessarily to be approved by all parties involved in order to be put into practice. Nonetheless, measures such as the design verification procedures (DVP) can be improved under the scope of INFCIRC/153 to allow a better verification of the declared capacity as well as to confirm the design of the facility.

It is probable that, in the near future, the issues that were discussed here will predominate in the safeguards scenario, in ABACC's field of action. But, since ABACC can count on the support of the authorities of both Argentine and Brazil, as it always did, the Agency shall be able to keep on putting into practice the CACS in both countries, in an effective and efficient manner.