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Translated from French

Report on the regional seminar for sharing experience and lessons learned on the implementation of  
the Code of Conduct on the Safety and Security of Radioactive Sources  
Ouagadougou, Burkina Faso  
30 January – 3 February 2012

The IAEA, in coordination with Burkina Faso's National Radiation Protection and Nuclear Safety Authority (ARSN), held a regional seminar for French-speaking countries of Africa on sharing experience and lessons learned on the implementation of the Code of Conduct on the Safety and Security of Radioactive Sources (the Code of Conduct) from 30 January to 3 February 2012.

This seminar was part of the formal process for exchanging information and experience which was established by IAEA Member States in 2006 and which includes the holding of regional meetings to discuss application of the Code of Conduct. The seminar was also held in response to the request made by the participants at the international meeting on the Code of Conduct held in Vienna in 2010.

The seminar was attended by 27 representatives of regulatory bodies in 17 French-speaking countries in Africa (Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Gabon, Madagascar, Mali, Mauritania, Morocco, Niger, Senegal, Togo and Tunisia). The safety authorities of France (ASN) and Belgium (FANC) also participated in the seminar to share their experience and know-how in the regulatory control of sources.

The meeting was opened by Mr Jean Couliaty, Minister of the Environment and Sustainable Development of Burkina Faso.

The IAEA began by presenting the main provisions of the Code of Conduct and listing the States which had declared their political support of the Code of Conduct and the Guidance on the Import and Export of Radioactive Sources, which included most of the countries represented at the seminar. Those countries which had not already done so were encouraged to write to the Agency's Director General using the model letter which was available. All the participating countries were asked to make sure they had a current point of contact for implementation of the Guidance on the Import and Export of Radioactive Sources.

The IAEA presented an overview of progress in the application of the Code of Conduct in Africa, encouraging countries to continue efforts to implement and maintain adequate infrastructure for the control of sources. The IAEA reminded participants that RASIMS (Radiation Safety Information Management System) was a very useful tool for countries to track progress and identify radiation safety infrastructure needs. The importance of each country's nominating a RASIMS coordinator in response to the note verbale sent in April 2011 was underscored.

Each participating country gave a brief report on its progress in applying the provisions of the Code of Conduct, touching on the following aspects:

- Regulatory control of sources (authorization/inspection/sanctions regime);
- Radiation protection training for regulatory body staff;
- Strategies for regaining control over orphan sources and their detection;
- Controlling imports and exports of sources;
- Managing sources at the end of their lifetime, public information and communication with users.

The presentations revealed many successes, but also widely varying outcomes and some problems in common, such as lack of financial resources, lack of experienced staff, and limited resources for staff training. Details of the subjects discussed are given below, following the order of the thematic sessions

which took place during the seminar. In each case, the discussions included the sharing of experience and problems encountered, as well as possibilities for improvement, particularly through strengthening direct cooperation between the French-speaking countries of Africa.

#### Regulatory control of sources (authorization, inspection, enforcement)

Following the country presentations on systems in place for the regulatory control of sources, the participants discussed the independence of the regulatory authority vis-à-vis possible pressure from users of sources, conditions preventing the issuing of authorizations, and the setting of fees to be paid by applicants for authorizations. Regarding the last point, several countries had implemented a scale and were invited to share its features with the whole group.

All French and Belgian regulations, forms and guides relevant to authorization requests are available on the websites of the ASN and the FANC.

Finally, the concept of cross-inspections by the authorities of neighbouring countries was discussed and noted as an action to be taken in the future by countries in the region to facilitate the acquisition and sharing of capabilities in that area. Participants also encouraged the “mutual support” approach for inspections in the context of strengthening the capacities of staff of regulatory authorities.

#### National inventories of radioactive sources

Most of the participating countries have in place a national register of sources established through a national inventory campaign and using the Regulatory Authority Information System (RAIS) made available by the IAEA. Exchange of data between national inventories and registers of suppliers and manufacturers, upon discovery of an orphan source for example, was discussed. The suggestion was made that sub-regional cooperation should be strengthened to improve the sharing of experience in using the RAIS.

Some countries did not yet have a national register but had begun or were planning to carry out a national survey of sources which would lead to the creation of such a register. The countries concerned indicated that they needed assistance from the IAEA and countries in the region in order to carry out successfully such a survey.

#### Feedback on source incidents

France and Belgium described several recent incidents involving handling or loss of radioactive sources. Participants also shared incidents which had taken place in their countries. It was agreed that the available incident reports (the 2009 incident in Benin involving a source in scrap metal, the 2009 irradiator incident in Burkina Faso, the incident in Senegal involving a gamma radiography device) would be made available to all the relevant authorities in the region for their information. It was also suggested that in the future documentation of incidents and of the analyses thereof should be more systematic and that there should be more cooperation among authorities in the region in that area.

#### Management of orphan sources and detection of radioactivity

The safety authorities of France (ASN) and Belgium (FANC) described their experience in the management of orphan sources and detection of radioactivity. A film about searching for radioactive sources in waste in Belgium was shown, which led to a fruitful discussion.

The IAEA presented the following:

- A draft document entitled “Non-binding instrument on the transboundary movement of scrap metal that may inadvertently contain radioactive material”;
- National Strategy for Regaining Control over Orphan Sources and Improving Control over Vulnerable Sources (safety guide SSG-17 [sic]);
- Control of Orphan Sources and Other Radioactive Material in the Metal Recycling and Production Industries (safety guide SSG-19 [sic]).

Several participating countries shared their experience regarding search campaigns for orphan sources currently in progress. The searches are focusing on restricted geographic areas or specific installations (scrap metal recycling).

Most countries use communication with customs, sometimes through a memorandum of agreement, to facilitate detection or identification of radioactive sources and equipment in containers at their ports of entry. The authority plays an important role in training and provision of detection equipment for customs services.

A few countries shared their experience as participants in the MEGAPORT project of the United States for the detection of radioactivity at large seaports.

The number of programmes in the region for monitoring radioactivity in the environment or in consumer products is very limited.

#### Control of imports/exports, implementing the guidance

Following a review of the provisions of the supplementary guidance to the Code of Conduct concerning modalities of administrative handling of imports and exports of sources, as well as its 2011 revision, their application was discussed and several practical examples of information exchange between the authorities of an exporting country and those of an importing country were described. No particular difficulty was noted. The specific case of the circulation of industrial gamma radiography equipment by one operator in the region was discussed. It was recalled that such an operator must have authorization for import, export and use in each of the countries in which he conducts his activities. In addition, each transfer of a source between countries was subject to the provisions of the Guidance on import and export. At the same time, the establishment of bilateral agreements between the authorities of the countries concerned, as suggested in the Guidance, or the invocation of exceptional circumstances, for which the Guidance also makes provision, should help simplify procedures.

#### Training of regulatory body staff

The ASN presented in detail its training plan for staff responsible for the control of sources. The FANC also presented its system. All the participants found these presentations very informative, particularly as regards the minimum level of training before recruitment and the programme of initial training of new arrivals, including mentoring by a more experienced staff member, as well as training in the field and the gradual taking on of responsibility in the capacity of inspector. Ongoing training and skills maintenance were also discussed.

These elements should allow the participating countries to further improve their own training plans. The training programme suggested by the IAEA is an important resource for the French-speaking countries of Africa, the challenge being to replace it gradually with training at national level or perhaps at regional level.

It was noted that staff training must be clearly planned for when preparing the authority's budget and it required particular attention from a supervisory standpoint.

### Communication with the public and users of sources

Communication, not only with the public at large, but also with more targeted groups of actors such as users of sources and policymakers, is recognized as an essential mission of authorities. It must be taken into account in the authority's financial planning and in planning for staff training. It must be addressed using a strategy adapted to the local context. In particular, the strong oral tradition in the French-speaking countries of Africa calls for the use of audio-visual communication techniques, rather than the production of written documents, for communication with the public at large.

Participants shared various one-time or regular activities which were in place to explain the hazards associated with ionizing radiation, as well as the functions of the authority, including preparation of an annual report, dissemination of a periodic publication, and holding of thematic seminars for the public at large, groups of users of sources or professional associations.

The role of communication in demonstrating the transparency, independence and impartiality of the authority's decisions was also underscored.

Development of good practice guides, and consultation with users during the preparation of regulatory texts, are other communication activities which serve to increase understanding, and therefore acceptance, of regulatory control requirements.

Communication with all other national actors (suppliers of sources, customs, civil protection, police, decision-makers, etc.) should also be the concern of regulatory bodies, in keeping with their legal responsibilities.

### Management of sources at the end of their lifetime (return, interim storage, storage, financial guarantees)

Belgium and France presented their general policies for managing sources at the end of their lifetime, which in both cases are based on the principle of returning the source to the supplier or manufacturer once it is no longer in use, the support of a national agency for radioactive waste management in cases where there are no suppliers, and the existence of financial guarantees to ensure return, if required.

The participating countries presented some cases in which the return of old, disused sources had succeeded and some in which problems had been encountered necessitating temporary storage on national territory. In all cases, the regulatory body plays a central role, provided there is no national agency responsible for radioactive waste management.

For countries in which returning a source at the end of its lifetime involves exporting it, it is important that the regulations not categorize the source as radioactive waste, so as not to risk running afoul of the regulations of the receiving country, which may prohibit the import of waste.

It was recalled that although returning a source to its original supplier should be the option of choice, each State should develop a national waste management strategy, including identifying a location for the storage of sealed sources at the end of their lifetime in case they cannot be exported.

The principle that there should be a return contract at the time a sealed source is imported has been adopted in most countries. On the other hand, financial arrangements for paying the costs of return have not been put in place in all countries, or in any case it is not required by the regulations.

The IAEA gave a brief presentation on the concept of final disposal of sources in wells and encouraged the participating countries to consider acceding to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, which covers sealed sources at the end of their lifetime.

## Conclusions and recommendations

All the participants were grateful for a seminar conducted in French. The use of their countries' official language made it possible to enter into detailed discussions of complex subjects, which is not always possible for those representing non-English-speaking countries at international meetings conducted in English.

The need to strengthen cooperation at regional level between regulatory bodies was recognized. The desire was expressed to facilitate the exchange of information among the French-speaking countries of Africa, drawing upon existing structures, such as the Forum of Nuclear Regulatory Bodies in Africa (FNRBA) and the International Regulatory Network/Control of Sources Network (REGNET/CSN).

The seminar provided a chance to evaluate not only the progress made within the region, but also the extent of activities which remain to be carried out to achieve full application of the Code of Conduct.

The recommendations below, formulated by the participants at the end of the seminar, are intended as guidance for making further progress in establishing infrastructure for the control of sources in accordance with the recommendations contained in the Code of Conduct.

### **Recommendations for the French-speaking States of Africa and their regulatory bodies:**

- States which have not already done so should declare their political support of the Code of Conduct and the Guidance on the Import and Export of Radioactive Sources, designate a point of contact, and return the self-evaluation questionnaire;
- States should ensure the effective independence of their regulatory authorities;
- States should accede to the relevant IAEA conventions for the control of sources and their management in normal situations or in the event of an incident or accident, particularly the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, the Convention on Early Notification of a Nuclear Accident, and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency;
- The regulatory bodies of the French-speaking countries of Africa should develop and sustain cooperation among themselves, in particular through establishment of a French-speaking commission within the FNRBA and creation of a special fund for financing activities in common;
- The regulatory bodies of neighbouring countries should sign memoranda of understanding concerning the control and transfer of sources;
- The regulatory bodies should define a strategy for communicating with policymakers to enlist and maintain their engagement;
- The regulatory bodies should strengthen public information and communication with the users of sources and other relevant actors (suppliers of sources, customs, civil protection, police, etc.), particularly by establishing national radiation protection associations;
- The regulatory bodies should strengthen the training of their staff, particularly in connection with inspections and through cross-inspections with countries of the region;
- The States and their regulatory bodies should continue efforts to establish or strengthen radiation safety infrastructure in accordance with the requirements for all thematic safety areas (TSA 1 through 6), and States should nominate, if they have not already, a RASIMS coordinator.

**Recommendations for the IAEA:**

- The IAEA should promote the translation into French of guides and technical guidelines which would be useful to French-speaking countries for the control of sources;
- The IAEA should promote regular seminars of this type conducted in French;
- The IAEA should continue assistance to States in the effective application of the Code of Conduct by strengthening the capacities of regulatory authorities in relation to regulatory infrastructure, control of sources, radioactive waste management and communication strategies, through expert missions, study trips and equipment.