

# Workshop on the Security of Radioactive Sources — The Road to Sustainability and Resilience

Stockholm, Sweden. 23 and 24 January 2018.

## Report

### Background

In the last few years, many States have markedly increased the security of their radioactive sources. Three important initiatives have strongly contributed to this progress. The first is the Code of Conduct for the Safety and Security of Radioactive Sources that was published by the International Atomic Energy Agency (IAEA) in January 2004.

This non-binding Code describes the main attributes of legislative frameworks, regulatory programmes and import/export arrangements that IAEA Member States should implement to ensure effective control over their high activity radioactive sources. The IAEA also published two dedicated documents in its Nuclear Security Series that provide guidance on implementing the Code and security measures for radioactive sources: NSS No. 11, Security of Radioactive Sources, and NSS No. 14, Nuclear Security Recommendations on Radioactive Material and Associated Facilities.

The second initiative consists of four Nuclear Security Summits held between 2010 and 2016 that brought heads of state together from approximately 60 countries to find ways to strengthen global nuclear security and reduce the continuing threat of nuclear terrorism. An important focus of these events was the need to strengthen security to prevent terrorists, criminals, and other unauthorised persons from acquiring radioactive materials that could be used in radioactive dispersal devices.

The third initiative consists of a gift basket that 28 States signed during the 2016 Nuclear Security Summit in Washington, D.C. Titled Strengthening the Security of High Activity Sealed Radioactive Sources, the gift basket (now referred to as INFCIRC/910), committed signatories to increase their efforts to manage high activity sealed radioactive sources (HASS) throughout their entire lifecycle.

### Summary

On the 23<sup>rd</sup> and 24<sup>th</sup> of January 2018, the *Swedish Radiation Safety Authority (SSM)* and the *World Institute for Nuclear Security (WINS)* successfully conducted an International Best Practice Workshop on the *Security of Radioactive Sources – The Road to Sustainability and Resilience*. This event was attended by 50 delegates from 15 countries and 4 international organisations who represented key radiological security stakeholders, in particular regulatory agencies and end-users.

One primary objective of the event was to review the different mechanisms that exist for achieving source security and reducing radiological security risks (e.g. security regulations, use of best practices, security by design, alternative technologies). A second objective was to assess the level of maturity of the international framework and selected national regimes. A third was to review the role of IAEA INFCIRC/910 - *Joint Statement on Strengthening the Security of High Activity Sealed Radioactive Sources (HASS)* and identify incentives that will encourage additional countries to endorse it. A fourth objective was to give participants the opportunity to share lessons learned in regard to implementing security measures for radioactive sources and to explore options to encourage regulators and practitioners to share their experiences with their peers.

This interactive, professionally facilitated event was built around a number of presentations from invited Swedish and international expert speakers. It also included breakout sessions that enabled participants to further explore certain topics and to listen to each others' experiences. In addition, an instant electronic voting system was used to allow participants to anonymously share their views on selected questions related to the effectiveness, resilience and sustainability of radiological security arrangements.

During the discussions, participants expressed a high level of satisfaction with what has been achieved in these areas at the **international level**. They recognised the central role of the *Code of Conduct on the Safety and Security of Radioactive Sources* and valued the multiple and successive political commitments that have been made to strengthen radiological security, in particular through the Nuclear Security Summit process and the follow-up INFCIRC/910. Participants also recognised the contribution that alternative technologies to radiological security are making. In addition, they agreed that international recommendations and guidance, in particular the IAEA Nuclear Security Series, are of good quality and an effective way to help Member States implement appropriate security arrangements for radioactive sources.

However, participants also mentioned that additional efforts are needed to ensure the dissemination of these important documents to all organisations and individuals who may benefit from them. They also recognized that current international forums primarily target State officials and regulatory staff and that end-users and law enforcement agencies are not represented enough. Participants noted, however, that the coordination among various international organisations and initiatives has improved and said they valued INTERPOL's participation in the workshop as a step forward toward better engagement with law enforcement agencies.

In regard to the development of **national regimes**, participants highlighted the significant progress that has been made in the last few years amongst high-income countries generally and reported the specific efforts initiated by many countries to ban or significantly reduce the use of Cs-137 category 1 radioactive sources. The participants also emphasised during the discussions that mechanisms for sharing experiences and lessons learned are now in place.

Nevertheless, participants also noted that despite multiple political commitments, some countries have not yet issued security-related regulations or have done so only recently. In addition, some participants noted that it is still difficult to convince some people that the threat is credible. They also said that some countries are still promoting radiation protection and safety above security instead of aiming towards integrated and equal disciplines.

Similar to many other forums, participants said that attention still needs to be paid to transportation issues and the management of disused sources. They also noted that more efforts should be made to consolidate the experience of countries with mature regulatory regimes and transfer it to countries with less mature regulatory regimes, especially in medium and low-income countries.

In terms of **implementation**, participants agreed that effective security for radioactive sources can be achieved at reasonable cost with minimal impact on operations. They also agreed that most end-users are conscious of the risk and aware of their security responsibilities. End-users participating in the event indicated that clear, transparent and stable regulatory requirements are a pre-requisite to effective implementation.

Participants further agreed that they welcome opportunities for facilitating the exchange of experience, lessons learned and best practice. They agreed that professional associations have a role to play in this area, but they also said that additional work is needed to improve engagement with them. Finally, participants agreed that responding to a security incident involving a radioactive source at a facility or during transport is challenging. They identified this issue as a possible weakness in the radiological security framework and called for concerted efforts to address it.

## Workshop Agenda

### OPENING SESSION

- 09:00 – 09:15 Welcome remarks (Lars van Dassen, SSM)
- 09:15 – 09:30 Workshop Agenda and Objectives (Pierre Legoux, WINS)
- 09:30 – 10:15 Introductions and Participants' Expectations (Carl Reynolds, Workshop Facilitator)
- 10:15 – 10:45 **Presentation** on Different mechanisms for achieving radioactive source security and reducing radiological security risks (Andrew Bieniawski, NTI, USA)
- 10:45 – 11:00 Coffee Break

### SESSION I: STRENGTHENING THE INTERNATIONAL FRAMEWORK FOR THE SECURITY OF RAD. SOURCES

- 11:00 – 11:30 **Presentation** on International efforts to strengthen the security of radioactive sources (Allison Parnell, IAEA)
- 11:30– 11:45 **Table discussion** to review the international framework
- What are we most satisfied with?
  - What needs to be improved?
- 11:45 – 12:15 **Presentation** on INTERPOL's efforts for strengthening the international framework for the security of radioactive sources (Talgat Toleubayev, Interpol)
- 12:15 – 12:30 **Plenary discussion** on INFCIRC/910 to review its role and encourage further countries to sign up
- 12:30 – 13:30 Lunch Break

### SESSION II: DEVELOPING A ROBUST NATIONAL REGIME – LESSONS LEARNED BY REGULATORS

- 13:30 – 14:00 **Presentation** on Development and implementation of regulatory requirements for the security of radioactive sources and sustainability – A Canadian perspective (Lucie Simoneau, CNSC, Canada)
- 14:00 – 14:45 **Group exercise** to identify the key elements of a national regime for the security of radioactive sources and **Self-assessment** of participating countries and organisations against these key elements
- 14:45 – 15:15 **Presentation** on An introduction to the Swedish model for rapid improvement of source security conditions for licensing of Cs-sources (Leif Granholm, SSM, Sweden)
- 15:15 – 15:30 Coffee Break

- 15:30 – 16:00 **Presentation** on Radioactive Materials: Control, Inspection, Enforcement (Margaret Cervera, NRC, USA)
- 16:00 – 16:45 **Break out groups** on inspection programmes
- 16:45 – 17:15 **Discussion on human resource development**
- Competency framework for individuals with accountabilities for the security of sources
  - Training and professional development opportunities
- 17:15 – 17:30 Wrap up of Day 1 – Key findings (Carl Reynolds, Facilitator)
- 17:45 **Workshop Cocktail**

## **DAY 2 – WEDNESDAY 24 JANUARY 2018**

- 09:00 – 09:15 Review of Day 1 and Introduction of Day 2 (Carl Reynolds, Facilitator)

### **SESSION III: IMPLEMENTING SECURITY MEASURES: EXPERIENCES AND LESSONS LEARNED BY END USERS**

- 09:15 – 10:30 **Presentation** on Security measures for a category 1 research facility (Hanna Holstein, Lund University Hospital, Sweden)
- Presentation** on Security measures for radioactive sources – A Canadian operator perspective (Mike Molson, CNL, Canada)
- 10:30 – 11:00 **Follow up discussion** to share other experiences and review best practices for establishing a robust security culture amongst staff
- 11:00 – 11:15 Coffee Break
- 11:15 – 11:45 **Presentation** on Responding to Security Incident at Facilities (Graeme Morrice, Scotland Police, UK)
- 11:45 – 12:30 **Group discussion** to review options for better engaging with law enforcement agencies and ensure an effective response to security incidents.
- 12:30 – 13:30 Lunch

### **SESSION IV: PERMANENT RISK REDUCTION**

- 13:30 – 14:00 **Presentation** on Examples of alternative technologies to reduce the radiological risk in the medical sector (Michael Sandhu, Varian)
- Presentation** on the Global Cesium Security Initiative (Kristina Hatcher, DOE NNSA, USA)
- 14:00 – 14:30 **Group discussion** to review usual barriers and possible incentives for the adoption of alternative technologies
- 14:30 – 15:00 **Plenary and table discussion** on the effective management of disused radioactive sources
- What works well?
  - What are the remaining challenges?
- 15:00 – 15:15 Coffee Break

## SESSION V: THE WAY FORWARD – ENSURING RESILIENCE AND SUSTAINABILITY

15:15 – 15:45 **Panel discussion** on aspirations and challenges in sustaining achievements

15:45 – 16:30 **Break-out groups** on

- Benchmarking opportunities and ways to incentivise countries to report on their challenges and achievements
- Maintaining the momentum after the Summit process and preparing for the December 2018 IAEA International Conference on Global Radioactive Material Security Governance

## CLOSING SESSION

16:30 – 16:45 **Consolidating and discussing the key findings of the workshop**

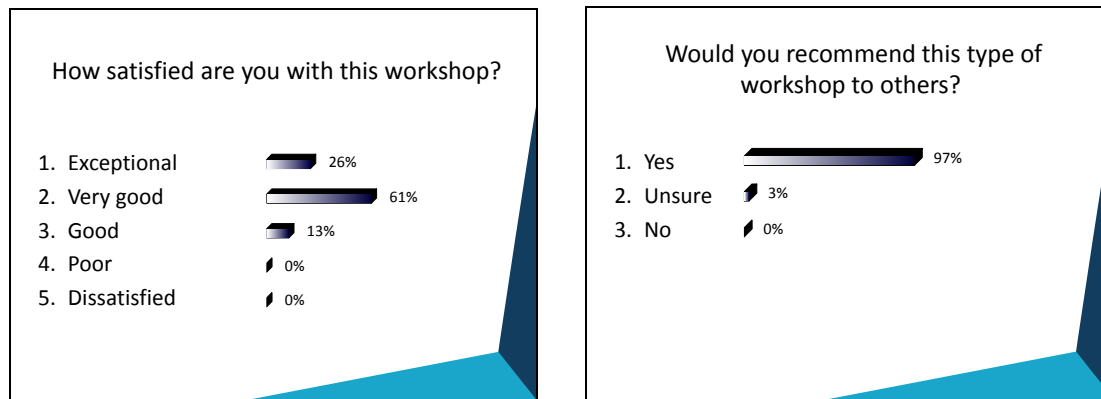
16:45 – 17:00 **Summary and Conclusions**

- Evaluation of the workshop
- Closing remarks

17:00 **END OF WORKSHOP**

## Workshop Evaluation

An evaluation of the workshop was made using the e-voting system. It was found that overall participants were very satisfied and considered this to have been an excellent workshop and a useful learning experience, which they would recommend to others. Individual comments confirmed this evaluation and highlighted the fact that the participants valued, in particular, the amount of information shared during the day and the diversity of audience and their respective perspectives



In his concluding remarks, Mr. Pierre Legoux, WINS, stressed the fact that the workshop success was directly attributable to the active contributions of all the participants. Highlighting the significant progress made in the last years, he encouraged participating countries to maintain their efforts and encourage them to share their experiences and lessons learned. From the discussions, Mr. Legoux also highlighted the critical importance of involving all stakeholders in the process and stressed the need for further engaging industry and end-users in the forums of exchanges. He pointed the absence of law enforcement agencies in many forums as a risk and significant impact on our capacities to demonstrate that effective radiological security had been achieved. Mr Legoux finally committed WINS to build on this success and to continue to offer opportunities of exchange and professional development to the various stakeholders involved in the management of high activity radioactive sources.