

NATIONAL PAPER OF AUSTRALIA
ON
THE IMPLEMENTATION OF THE CODE OF CONDUCT ON THE
SAFETY AND SECURITY OF RADIOACTIVE SOURCES
PRESENTED AT THE
“Open-Ended Meeting of Technical and Legal Experts for Sharing Information of States’
Implementation of the Code of Conduct on the Safety and Security of Radioactive Sources”
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Executive Summary

Australia is a federation of six states, two territories and the Commonwealth government comprising nine separate legal jurisdictions for radiation protection and nuclear safety. Australia has a land mass of 7,686,859 square kilometres and a population of approximately 26 million. Australia produces significant quantities of unsealed radioactive materials for domestic use and for the international market. Australia also manufactures sealed sources (Ir-192) for final encapsulation overseas. Further, Australia continues to use radioactive sources for a broad range of medical, industrial, research and mining purposes.

Australia gave a non-binding commitment to work towards implementation of the Code of Conduct on the Safety and Security of Radioactive Sources (consistent with the terms of GC(47)/Res/7.B) in May 2004, notified the Director General of IAEA of its intention to act in accordance with the IAEA Guidance on the Import and Export of Radioactive Sources (consistent with the terms of GC(48)/Res/10.D) in November 2004 and provided our commitment to implement the IAEA Guidance on Disused Sources in 2018 (consistent with the terms of GC(61)/RES/8.2).

Australia has had success developing and implementing a pool of nationally accredited Radiation Security Advisors, who facilitate the development and implementation of security plans for the storage, use and transportation of radioactive material in Australia. While these accredited assessors are authorised to develop and implement security plans - consistent with Australia’s *Code of Practice on the Security of Radioactive Sources*, published in 2007 - it remains the responsibility of the nine regulatory bodies to assess and verify the effectiveness of their implementation, which remains a challenge.

An area on the implementation of the Code of Conduct that continues to present a challenge for Australia revolves around the establishment and management of a National Sealed Source Register (NSSR) which was originally introduced in 2010, covering Category 1, 2 and 3 sealed radioactive sources. Being a federation of states and territories, Australia recognised the varying difficulties with the integration of nine regulatory databases operating on different software platforms managed within their regulatory regime. Recognising that jurisdictions across our federation had varying levels of resources available to effectively and efficiently manage the integrity of data, including the lack of dedicated resourcing required to manage the NSSR by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), Australia decided to shut down the register. This position was reflected in the 2018 Integrated

Regulatory Review Service (IRRS) mission to Australia which issued a recommendation of “the Commonwealth Government, in conjunction with State and Territory Governments should ensure full implementation of the Code of Conduct on the Safety and Security of Radioactive Sources”. Australia maintains a commitment to re-establish a new NSSR where greater consistency of data across the jurisdiction’s licensing regimes is realised.

Australia has long-standing regulatory arrangements to ensure the safety and security of radioactive sources. These regulatory arrangements are consistent with the IAEA safety standards and IAEA nuclear security series. Since 2001, Australia has focussed on efforts to enhance regulatory and other controls over radioactive sources consistent with the level of concern the material poses. In summary, and as previously reported, Australia has taken the following actions:

- Published a national report on the control and regulation of security sensitive radioactive materials agreed by the Council of Australian Governments in April 2007
- Published the [*Code of Practice for the Security of Radioactive Sources*](#) and the development of associated practice-specific security guidance and templates
- Introduced requirements set out in the Code of Practice into the legal frameworks within the Australian jurisdictions for dealing with the safety and security of radioactive sources
- Undertaken an extensive education and awareness program with industry and government involved in all aspects of the supply chain
- Enhanced national capabilities to search for material out of regulatory control and secure them, and to intervene in the event of a nuclear security event involving radioactive material
- Made regulations and implemented administrative measures to control the export of category 1 and 2 radioactive sources in accordance with the IAEA Guidance on the Import and Export of Radioactive Sources
- Published the second edition of the National Directory for Radiation Protection (NDRP2) which provides an agreed framework for radiation safety, including both ionising and non-ionising radiation, together with clear regulatory statements to be adopted by the Commonwealth, states and territories.

Looking forward, Australia will focus on providing support to the jurisdictions, where needed, to fully meet the *Code of Practice on the Security of Radioactive Sources* and continue engagement in the Asia-Pacific region to exchange operational regulatory information, share knowledge and experiences.

Australia, in cooperation with our international colleagues, international organisations and underpinned by the statute of the IAEA, welcomes the opening of the 2023 Open-Ended Meeting of Technical and Legal Experts for Sharing of Information of States’ Implementation of the Code of Conduct on the Safety and Security of Radioactive Sources, and hereby submits our National Report.

A. The infrastructure for regulatory control of the safety and security of radioactive sources

A.1. Legislation and regulations

In Australia, all entities that are authorised to deal with radioactive materials have clearly defined and prime responsibilities for the safety and security of their radioactive sources.

Acquisition, use, storage, transfer and disposal of radioactive material in all states and territories in Australia are regulated by their respective authorities, such as Departments of Health or Environmental Protection Authorities or Agencies. The same activities at the Commonwealth level are regulated by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) under the *Australian Radiation Protection and Nuclear Safety Act 1998* (the ARPANS Act) and its Regulations.

The legislation across Australia is not uniform due, in the main, to the age of the enabling legislation and a range of policy issues. One of the functions of the CEO of ARPANSA is ‘to promote uniformity’ of radiation protection and nuclear safety policy and practices. The RHC, established under the ARPANS Act, supports the work on national uniformity. The committee includes the CEO of ARPANSA, Radiation Control Officers from each state and territory and up to four other members, one of whom represents the interest of the public.

Additionally, the Environmental Health Standing Committee (enHealth) provides advice and makes recommendations to the Australian Health Protection Principal Committee (AHPPC) and through it, to Health Ministers on environmental health matters. It is supported in this work by its Radiation Health Experts Reference Panel (RHERP) which brings together all State and Territory regulators and ARPANSA. An arrangement was agreed between enHealth and ARPANSA in 2022 which sets out the roles and responsibilities between both bodies (see [ARPANSA-enHealth Arrangement](#)).

In August 1999, a Ministerial meeting endorsed the development of a *National Directory for Radiation Protection* (NDRP) as a means of achieving uniformity in radiation protection practices among jurisdictions. The meeting agreed that after consideration and approval of the provisions of the National Directory by the RHC, the regulatory elements would be adopted in each jurisdiction as soon as possible, using the existing regulatory framework of each jurisdiction.

The purpose of the NDRP is to provide an agreed framework for radiation safety, including both ionising and non-ionising radiation, together with clear regulatory statements to be adopted by the Commonwealth, states and territories. Replacing the first edition of the NDRP approved by the Australian Health Ministers’ Conference in July 2004 with subsequent amendments, NDRP2 (published in October 2021) represents a modernisation and streamlined approach for the Commonwealth, the states and territories to work towards achieving the vision of a seamless regulatory framework for the safe generation and use of radiation across Australia, including the security of radioactive sources.

At the Commonwealth level, ARPANSA issues licences to Commonwealth entities that possess, control, produce, store, or use radioactive material. ARPANSA is also the competent authority for the transport of radioactive material by controlled persons and issues transport approvals in accordance with the *Code for the Safe Transport of Radioactive Material (2019)*. The ARPANS Act and Regulations place the ultimate responsibility for safety on the licence holder. Section 47 of the Australian Radiation Protection and Nuclear Safety Regulations 2018 (the ARPANS Regulations) requires submission of certain information in an application for a

licence including: an effective control plan, a safety management plan, a radiation protection plan, a waste management plan, a plan for ultimate disposal, a security plan, an emergency plan, and an environment protection plan, for review. The Regulations provide the CEO of ARPANSA the power to require additional information.

In relation to the demonstrated safety and security culture of licensed entities, ARPANSA has published *Source Performance Objectives and Criteria* and *Facility Performance Objectives and Criteria* regulatory guidance, which forms the basis for compliance monitoring including inspections. This guidance places an emphasis on safety and security culture at the Commonwealth level and that it must be imbedded within the licence holders plans and arrangements, consistent with para 7(b) of the Code of Conduct for regulated entities.

The specific Source and Facility Performance Objectives and Criteria that address culture, among other things, can be accessed here: [ARPANSA Performance Objectives and Criteria](#).

ARPANSA successfully conducted its very first safety culture assessment of the Regulatory Services Branch (RSB) in 2019. ARPANSA undertook a safety culture assessment of the whole agency in 2019/20. The report is available on our website here: [ARPANSA Regulatory Safety Culture Assessment 2019](#) ARPANSA's Executive Group has approved a second assessment in September 2023. This will follow a similar process to the first with some minor amendments to improve its implementation based on the previous experience. Further, three RSB staff have completed the IAEA workshop training on Safety Culture Continuous Improvement Programs.

At the jurisdictional level, states and territories impose the intent of paragraphs 7, 8(a), 8(b), 8(f), 8(g), 17 and 18 of the Code, in one form or another through either direct reference in Acts or Regulations, or by special licence conditions.

In combination, these elements aim to uphold the safety and security principles of the Code of Conduct through the life cycle of radioactive material use in Australia. However, more work is required to harmonise the national regulatory framework across all jurisdictions.

Future Challenges

Future challenges for Australia include greater emphasis on how to address the implementation of safety and security cultural aspects of the Code and how to assess the effectiveness of programs currently in use across Australia.

A.2. Establishment and responsibilities of the regulatory body

ARPANSA has well established arrangements in place for the independent authorisation of dealings with radioactive sources, established exemption categorisations in accordance with international best practice, assessment and approval requirements for actions that would have significant implications for safety to people and the environment, regulatory requirements on the security of radioactive materials, and a comprehensive compliance monitoring and enforcement regime. These have all been reviewed and verified in the 2018 IAEA Integrated Regulatory Review Service (IRRS) Mission to Australia.

The findings of the 2018 IAEA IRRS Report in Australia, which included state and territory radiation regulators, can be accessed here: [2018 IAEA IRRS Report](#).

In July 2021, the Department of Prime Minister and Cabinet (PM&C) introduced the Commonwealth Regulator Performance Guide (CRPG), formerly the Regulatory Performance Framework (RPF), which sets out the Government's expectations for regulator performance. The CRPG specifies that it does not apply to Commonwealth entities with regulatory functions that apply only to Commonwealth agencies or employees. However, in

keeping with the spirit of the CRPG for the 2021-2022 financial year, ARPANSA assessed its performance against the following CRPG principles of regulatory best practice:

1. Continuous improvement and building trust
2. Risk based and data driven
3. Collaboration and engagement

ARPANSA has routinely canvassed the views of national and international respected expert consultants and our key licensed entities, as part of annual assessments. These ensure that performance against the key criteria is measured objectively and in a transparent manner.

Annual Reports on the CRPG and RPF can be accessed here: [Regulator Performance Guide \(regulatoryreform.gov.au\)](https://regulatoryreform.gov.au).

Lessons Learned

The incorporation of views from both internal and external stakeholders in the performance review of the regulatory body provides for a transparent outcome. It also provides for a suite of actionable improvements to meet stakeholder expectations, ultimately improving the trust between community expectations of competent authorities, and that of regulated entities.

A.3. National and international coordination

In Australia, the RHC and RHERP are the main mechanisms for coordination among competent authorities for the safety and security of radioactive sources with respect to policy formulation and its implementation. At the operational level, the National Emergency Management Agency (NEMA) National Situation Room (NSR) plays a leading role as a national coordinating body for incidents and events, including those associated with radioactive materials. Well established notification procedures are coordinated through the NSR and bilaterally between impacted jurisdictions in the event of a nuclear security related event and/or loss of control of radioactive sources. ARPANSA maintains national points of contact for the Unified System for Information Exchange in Incidents and Emergencies (USIE) and the Incident and Trafficking Database (ITDB). These communication mechanisms are used to share information regionally and internationally, including for events that may have transboundary impacts involving radioactive sources.

For example, and as previously reported, an international air cargo shipment from Australia which contained radioactive sources that had been poorly packaged had become dislodged, exposing the passengers throughout the duration of the flight. Through investigations and analysis using the ITDB network of contacts, and by sharing the event through the International Nuclear and Radiological Event Scale (INES), dose assessments could be made, information on potential transboundary impacts was disseminated and subsequently, enforcement actions were able to be addressed domestically with the original shipper.

In Australia, national threat assessments are periodically developed and disseminated by the National Intelligence Community (NIC). In the drafting of domestic threat assessments, regulatory bodies, law enforcement agencies and other competent authorities are consulted as part of the process. These assessments are reviewed by relevant experts in the regulatory bodies and licence holders where possible, they are formally shared annually, and updated as required, particularly when there is a change in the nuclear security environment. Further, a specific assessment may be developed on request where a particularly high-risk transportation or a complex, campaign-style shipment of radioactive materials is being planned. Regarding

vulnerability assessments, these are typically performed by radiation security professionals in the development of security plans in accordance with the Australian *Code of Practice on the Security of Radioactive Sources* and assessed by the relevant regulatory body, as appropriate.

Lessons Learned

The sharing of information and the coordination of actions through the IAEA established ITDB and INES communications networks allow for resolution of issues surrounding transboundary events.

Future Challenges

Australia should continue to work in a coordinated manner with relevant agencies of the NIC to establish a national vulnerability statement for radioactive material and consider this in the context of national threat assessments for any improvement initiatives.

B. Facilities and services available to the persons authorized to manage radioactive sources

Searching for Missing Sources and Securing Found Sources

In the event of a missing or uncontrolled radioactive source, current processes require the authorised person to notify the regulatory authority. In the case of theft, the local police service would also be notified. The timescales and procedure for this notification have been agreed between jurisdictions, however, the systems available for locating and securing missing sources vary across Australia. The Australian *Code of Practice on the Security of Radioactive Sources* requires a security breach (including theft, loss, damage, unauthorised access or transfer) to be immediately reported to the local police service and to the regulatory body. For more serious events, the rapid coordination of resources is executed by the NSR. A range of advanced capabilities exist in Australia designed to rapidly locate and recover radioactive material out of regulatory control. ARPANSA, the Australian Nuclear Science and Technology Organisation (ANSTO) and the Australian Defence Force (ADF) all have supplementary capabilities that can be rapidly called on to support any jurisdiction to locate, identify, characterise and recover radioactive sources across all the air, land and sea domains.

The recent lost (and recovered) radioactive source in Western Australia provided a level of assurance that the mechanisms in place for licence holders to notify relevant authorities in the event of missing or uncontrolled radioactive source are appropriate, and that the relevant state and territory regulatory body engaged and requested the advanced capabilities of the Commonwealth to provide expertise to deploy teams at short notice to search, locate and bring the radioactive source back into regulatory control. Investigations are still ongoing by the Western Australian regulator.

Intervention in the event of an accident or a malicious act

The responsibility for emergency response and the implementation of protective measures following an accident or the malicious use of radioactive material rests with the jurisdiction in which the incident occurred in the first instance. In the event of the jurisdiction's resources being overwhelmed or the incident being identified as a National Terrorism Situation, a set of federal government plans are initiated as appropriate including the National Counter Terrorism Plan. The Australian National Counter Terrorism Plan can be accessed here: [Australian National Counter Terrorism Plan](#).

First responders have received training and equipment to deal with a range of CBR incidents including those involving radiation. This includes multi-jurisdictional training where multiple agencies form a combined team to resolve a situation.

The radiation protection framework to assist in the decision in emergency situations is provided in an ARPANSA document published in 2019: *Guide for Radiation Protection in Emergency Exposure Situations (RPS G-3)*. This guide describes objectives for protection of human health, drawing on international best practice in relation to planning, preparedness, response and transition in nuclear or radiological emergencies. There are two parts to the guide: Part 1 establishes a national framework and sets the relevant safety requirements in Australia for protection of human health in emergency exposure situations; Part 2 sets out guidance for the planning, preparedness, response and transition required to effectively respond to a nuclear or radiological emergency. The guide was drafted to align with IAEA GSR Part 7. The guide also contains a national hazard assessment which informs the level of preparedness and response arrangements for Australia, including those for a nuclear security event.

The ARPANSA Emergency Exposure Guide (RPS G-3) can be accessed here: [ARPANSA RPS G3](#).

There are a number of commercial suppliers of personal dosimetry for external radiation exposure and calibration services for radiation monitoring equipment in Australia. The capacity for environmental monitoring exists both for routine monitoring of facilities using radioactive materials and for radiation emergency response. Australia has developed trained environmental monitoring teams, with equipment and procedures that are consistent with IAEA methods and requirements.

Lessons learned

Recognising that different jurisdictions in a federation of states and territories all maintain varied levels of capability, it is invaluable to develop nationally consistent response frameworks to ensure that when multiple agencies and jurisdictions come together to resolve an event, common language, processes and procedures are executed in a way that is as efficient and effective as possible.

C. Training of staff in the regulatory body, law enforcement agencies and emergency service organizations

Australian regulatory bodies have appropriate radiation protection and scientific training to ensure the safe use of radioactive materials. In implementing the Australian *Code of Practice on the Security of Radioactive Sources*, some regulatory bodies recruited dedicated security experts however, due to resource constraints, some roles were transitioned back to radiation protection roles. ARPANSA delivered national training courses to licence holders, law enforcement and regulatory bodies providing the protective security fundamentals and requirements for implementing the Australian *Code of Practice on the Security of Radioactive Sources*. The nationally accredited training course designed and delivered established a pool of trusted radiation security advisors for the development and implementation of security plans. While these trained personnel are authorised to develop and implement protective security arrangements for radioactive sources, the regulatory bodies are responsible to verify the adequacy of security plans that are implemented. The radiation security advisor training course was removed from the national accredited training system following detailed analysis on the requirement and the high costs associated with this level of accreditation.

As part of national programs for chemical, biological and radiological emergency response enhancement, law enforcement agencies, fire hazmat and ambulance service personnel have developed and delivered training on radiation emergency response in conjunction with organisations offering radiation protection training. Due to a range of reasons, primarily COVID-19, the annual / bi-annual cross jurisdictional exercises did not take place, however, ARPANSA has started to engage with jurisdictions and other relevant agencies to re-invigorate the program of exercising.

Future Challenges

Understanding the competing priorities around resourcing within regulatory bodies and in order to fully empower the capability of jurisdictional radiation regulators to competently assess and verify the adequacy of implemented security plans, ARPANSA proposes to develop a specialised training course for inspectors from all regulatory bodies on protective security fundamentals to assist with the assessment of radioactive source security plans.

D. Establishment and maintenance of a national register of radioactive sources

In 2010, ARPANSA, in collaboration with the nine radiation regulatory bodies, established an electronic NSSR Category 1 to Category 3 radioactive sources. The register contained technical information relating to each source, its housing or container and the relevant details about the applicable licence holder. In some circumstances, the register received automated daily updates of data from some jurisdictions. The register, including the dedicated communication was secured in accordance with Australia's Protective Security Policy Framework (PSPF) and the aggregated nature of the information.

Lessons learned

In late 2012, ARPANSA assessed that the associated internal costs with resourcing (for oversight and management purposes) and the costs for outsourcing the helpdesk, hardware and software maintenance did not align with the agency's budget expectations. Given the contractor responsible for managing the database managed the reporting of information into the database, ensuring the data was captured and recorded in a reliable way, among other, it was determined that, due to our in-house resourcing issues, the lack of resources available in most jurisdictions and the integrity of date, the continuation of the NSSR was no longer viable.

Future Challenges

While a range of activities have occurred in recent years to explore the recreation of the NSSR, the inconsistent nature of regulation across jurisdictions and disparate systems across all regulators has resulted in this work being paused. ARPANSA's intention is to progress this work if and when larger national reforms are pursued.

E. National strategies for gaining or regaining control over orphan sources

In Australia, state and territory governments have primary responsibility for protecting life, property and environment within their borders. They have established plans in place to respond to, and recover from, natural and human-caused emergencies.

The Commonwealth Department of the Prime Minister and Cabinet is responsible for maintaining and updating the [Australian Government Crisis Management Framework \(AGCMF\)](#) which is agreed. The AGCMF underpins a range of supporting crisis plans, including:

- The Australian Government Disaster Response Plan 2020 (COMDISPLAN) which explains how the Australian Government responds to requests for assistance from state and territory governments responding to a disaster.
- The Domestic Health Response Plan for Chemical, Biological, Radiological or Nuclear Incidents of National Significance (CBRN Plan) which outlines how we will effectively coordinate a national health response to chemical, biological, radiological or nuclear (CBRN) incidents of national significance. It also covers recovery arrangements.

Following the recommendations in the Council of Australian Governments report, ARPANSA delivered an awareness and education outreach program to promote compliance with the *Australian Code of Practice on the Security of Radioactive Sources* and the local regulatory requirements for the safety and security of radioactive sources.

The example provided in the 2019 national report highlighted the disposal of controlled radioactive material into a public chemical disposal site in the Sydney area. In this situation, a number of various radioactive sources were voluntarily deposited, and openly declared, by a member of the public, and the private company managing the (chemical disposal) site recognised the significance of managing radioactive materials and notified the relevant state and federal agencies. At the time, specialist ARPANSA and ANSTO officers responded to the event to ensure that the materials were placed in a position of regulatory control.

Plans are in place to request specialised capabilities to assist in the search of missing radioactive materials. These capabilities and arrangements have been described in item B. Australian state and territory regulatory bodies also encourage scrap metal recyclers to install technical instrumentation to detect the presence of radioactivity.

ARPANSA in conjunction with the Commonwealth Department of Health and Aged Care has produced the [Australian Clinical Guidelines for Radiological Emergencies](#) which provides guidance and measures to assist health professionals who may deal with patients symptomatic of radiation induced exposures.

In Australia, the Australian Border Force (ABF) is a federal law enforcement agency, part of the Department of Home Affairs, responsible for offshore and onshore border enforcement, investigations, compliance, detention operations and customs services in Australia. The ABF use technical intelligence profiling as the method for focusing efforts to detect the presence of radioactive material, either in or out of regulatory control at the border. While the ABF has rudimentary technical capabilities to detect radioactive materials, it has on some occasions been able to detect the presence of contaminated semi-finished products that have been imported into Australia and have engaged directly with ARPANSA's regulatory response and emergency response personnel, and other relevant agencies to resolve the situation.

Future Challenges

For Australia to fully implement a national nuclear and radiological detection strategy consistent with the IAEA NSS-34T technical guide, strategies to elevate the awareness of and garner attention of the hazard that radioactive materials potentially pose – and, in a manner that is consistent with the attention paid to other dangerous goods across the CBRN spectrum - remains an on-going challenge in a competitive domestic-fiscal-environment, and in an environment where significant incidents are generally rare, globally.

F. Approaches to managing radioactive sources when they become disused

The focus of Australia's legislative control over disused sealed sources is through a requirement on the owner of the source to have a confirmed arrangement with the supplier for the return of the source at the end of its useful life.

Primarily, in Australia, disused sources have been returned to overseas manufacturers or sent to temporary storage sites awaiting ultimate disposal, in accordance with relevant regulatory requirements. Facilities with an aggregation of significant quantities of sealed and unsealed radioactive materials are also secured appropriately in accordance with relevant regulatory requirements.

Within Australia, some states and territories allow licensed entities to re-encapsulate used radioactive sources that are then useful to industry. This recycling of unwanted radioactive sources reduces the amount of radioactive waste stored in Australia. The manufacture and recycling of radioactive sources is controlled in Australia under the existing radiation safety legislation across all jurisdictions, which typically requires a specific authorisation allowing such an activity.

Sealed radioactive sources are refurbished in several jurisdictions and exported to other states/territories and overseas. In each jurisdiction, possession of sealed sources (used or disused) requires a licence. Each jurisdiction allows the re-entry of disused sealed sources or devices containing sealed sources, under legislative and regulatory control and with the manufacturer's approval and ABP approval, provided that the source and/or device was manufactured in the jurisdiction and that the sealed source is ultimately to be returned to the manufacturer for recycling or disposal. Each jurisdiction requires that such manufacturers be licensed and have approved procedures in place for the management of sealed sources that are returned to them.

The Australian Government is currently in the process of establishing a National Radioactive Waste Management Facility (NRWMF). In the absence of an existing NRWMF, each state and territory and the Commonwealth maintain temporary radioactive waste storage facilities in one form or other. In that regard, where there is not an appropriate repatriation pathway established to the original supplier for disused sources, including an orphaned source or radiological material out of regulatory control, any of the temporary radioactive storage facilities may consider accepting the source.

At the Commonwealth level, ANSTO can take back radioactive sources that it, or its predecessor organisation the Australian Atomic Energy Commission, previously manufactured. Further, ANSTO, under the ANSTO Act, can take back sources they manufacture, sources that are owned by other Commonwealth agencies, or sources at the request of law enforcement/emergency management authorities (federal or state) on a case-by-case basis (due to a nuclear security event), including where radioactive material has been found to be out of regulatory control.

Finally, since chairing an IAEA technical meeting in 2009 on the implementation of the IAEA Code of Conduct on the Safety and Security of Radioactive Sources (2004) regarding long-term strategies for the management of sealed sources, Australia has strongly supported IAEA initiatives to explore synergies between the Code of Conduct and the Joint Convention.

Future Challenges

In relation to para 22 (b) of the Code of Conduct and to the Guidance on the Management of Disused Radioactive Sources, there are currently inconsistencies in the arrangements in Australia to ensure that the appropriate financial provisions are available for the safe

management and secure protection of disused radioactive sources. This was identified in the 2018 IRRS mission which provided a recommendation that “the Commonwealth Government, in conjunction with State and Territory Governments, should ensure that financial provisions are provided to enable the management of disused radioactive sources”. RHERP as part of preparations for the 2023 Follow-Up IRRS mission investigated current systems and financial provisions within jurisdictions. Jurisdictions expressed the view that they had sound capacity to bear costs for any discarded equipment, which they considered to be minimal. While some jurisdictions have adopted financial provisions as part of their legislative arrangements, RHERP and ultimately enHealth concluded that there is no demonstrable need for the application of financial provisions to cover discarded radiation sources.

G. Experience with arrangements for implementing the import and export provisions of the Code and of the Guidance on the Import and Export of Radioactive Sources

Australia operates a radioactive material import and export control scheme under the Customs (Prohibited Imports) Regulations 1956 and Customs (Prohibited Exports) Regulations 1958. The scheme is administered by ARPANSA in conjunction with the state and territory radiation regulators. The Customs Regulations allow ARPANSA to attach conditions to a permission given to import radioactive material. In addition to other conditions that might be placed on the permission, the person importing the material must inform the radiation regulator (in the state or territory that the imported material will be located in) of the possession or intent to possess the material and undertake not to resell or lease or hire or otherwise part with the possession or custody of the material without prior notification of the appropriate statutory authorities. As such, the radiation protection legislation in all jurisdictions prohibits a person from receiving and possessing radioactive material without prior authorisation from the regulatory body. Further, an authorisation to deal with radioactive material from the regulatory body does not include the right to import or export radioactive material.

In December 2005, Australia amended its customs export laws to require a person wishing to export Category 1 and 2 radioactive sources to gain permission from ARPANSA. ARPANSA is required to consider Australia’s international obligations prior to providing the permissions. As such, the control is consistent with the IAEA’s Guidance on the Import and Export of Radioactive Sources.

The example for Australia, as previously reported, included the loss of regulatory control and visibility over dozens of imported industrial radiological sources which were exported from Australia to a third country in the region. This situation created a significant risk to the third country, as there was no visibility of the export from Australia’s regulatory perspective to our regional counterpart authority.

In this circumstance, the repatriation arrangements contained in the original contractual arrangements between the supplying and receiving entities ensured that all sources were recovered and accounted for, and ultimately repatriated appropriately.

The assessment of the event identified the lack of proper implementation of the legislative reforms to give practical effect to the Code of Conduct; and a failure to support existing software platforms to recognise a high activity radioactive source at the border in Australia, which was addressed as a matter of priority by ARPANSA. After a detailed analysis of the root causes and systemic failings, improvements were made to the Australian regulatory and IT systems for controlling the export of high activity radioactive sources outside Australia.

This new initiative to fully implement the Code of Conduct in the context of exports from Australia was considered as a significant achievement to reduce the risk that the former system may have posed to the international community.

Lesson Learned

In this regard, the employment of specialist-personnel who have bespoke, analytical and investigative expertise formed the critical resource that was able to identify weaknesses in the regulatory system, assess their international implications, and implement immediate actions to successfully eliminate the safety and security risk that the regulatory failure could potentially impose on the global community. This example also demonstrated the value of pre-established and contractual repatriation arrangements between the supplier and the receiver of radioactive sources.

H. Additional topics relevant to the implementation of the Code and the Guidance

Australia intends to undertake a national self-assessment prior to the next Code of Conduct meeting in 2025, with the view to understand where the gaps in implementation of the Code of Conduct are occurring and to develop a strategy with associated plans to address any shortfall.

Australia had its first IPPAS Mission in 2013, with a follow-up in 2017. A further IPPAS Mission to Australia is yet to be scheduled.