



**Australian Government**  
**Australian Radiation Protection  
and Nuclear Safety Agency**



**Quarterly Report**

**of the**

**Chief Executive Officer of ARPANSA**

**October to December 2022**

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## **Acknowledgement of Country**

ARPANSA respectfully acknowledges Australia's Aboriginal and Torres Strait Islander communities and their rich culture and pays respect to their Elders past and present. We acknowledge Aboriginal and Torres Strait Islander peoples as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely.

We recognise and value the ongoing contribution of Aboriginal and Torres Strait Islander peoples and communities to Australian life and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

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## Letter of transmittal

08 May 2023

The Hon Ged Kearney MP  
Assistant Minister for Health and Aged Care  
PO Box 6022  
House of Representatives  
Parliament House  
Canberra ACT 2600

Dear Minister

The *Australian Radiation Protection and Nuclear Safety Act 1998* (the Act) requires the Chief Executive Officer (CEO) of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) to submit to the Minister, at the end of each quarter, a report on:

- the operations during the quarter of the CEO, ARPANSA, the Radiation Health and Safety Advisory Council (the Council), the Nuclear Safety Committee (the NSC) and the Radiation Health Committee (the RHC)
- details of directions given by the Minister to the CEO under section 16 of the Act
- details of directions given by the CEO under section 41 of the Act
- details of improvement notices given by inspectors under section 80A of the Act
- details of any breach of licence conditions by a licensee, of which the CEO is aware
- details of all reports received by the CEO from the Council and the NSC under Part 4, paragraphs 20(f) or 26(1)(d) of the Act
- a list of all facilities licensed under Part 5 of the Act.

I am pleased to provide you with a report, meeting the requirements of the Act, covering the period 1 October to 31 December 2022.

Please note that subsection 60(6) of the Act requires you to cause a copy of the report to be laid before each House of the Parliament within 15 sitting days of the day on which this report was given to you.

Yours sincerely



Gillian Hirth  
CEO of ARPANSA

## The operations of the CEO and ARPANSA

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is the Australian Government's primary authority on radiation protection and nuclear safety. Our purpose is to protect the Australian people and the environment from the harmful effects of radiation, through understanding risks, best practice regulation, research, policy, services, partnerships and engaging with the community.

ARPANSA sits within the Department of Health portfolio and has a single outcome, as set out in the 2022-23 Portfolio Budget Statements (PBS):

***Protection of people and the environment through radiation protection and nuclear safety research, policy, advice, codes, standards, services and regulation.***

The Radiation Protection and Nuclear Safety Program, contained within the 2022-23 PBS, describes four key performance measures, against which ARPANSA seeks to achieve its outcome. These measures are:

- Provide high quality advice to government and the community on health, safety and environmental risks from radiation.
- Provide emergency preparedness and response systems for a radiological or nuclear incident.
- Promote patient safety in radiotherapy and diagnostic radiology.
- Ensure protection of people and the environment through efficient and effective regulation.

The report on the operations of the CEO and ARPANSA focuses on these.

## **Provide high quality advice to government and the community on health, safety and environmental risks from radiation**

ARPANSA's new \$2.35 million anechoic chamber was officially opened on 17 November 2022. The new chamber replaces ARPANSA's former anechoic chamber, which was built in 1979 and could only measure and calibrate equipment emitting radio waves up to 8 gigahertz (GHz). The new chamber will be able to calibrate equipment up to 40 GHz and research radio waves up to 100 GHz, enabling health research into the current 5G network and future generations of high-frequency wireless technology.

ARPANSA announced a call for research into radio waves and health on 25 November 2022. The funding is offered to support research that addresses knowledge gaps about health effects from exposure to EME, especially the higher frequencies now being used in wireless technologies like the 5G network.

ARPANSA presented on its EME measurement program at the annual Australian Mobile Telecommunications Association EME Symposium on 18 November 2022. The Symposium explored the latest research, standards and technology developments with Australian experts.

## **Provide emergency preparedness and response systems for a radiological or nuclear incident**

ARPANSA's CEO provided the introductory statements and contributed to the VSP(N) Nuclear Powered Warship Seminar, held in Canberra from 26 to 28 October 2022. ARPANSA staff delivered several presentations and facilitated sessions designed to involve the State and Territory representatives, and better understand current and future requirements.

## **Promote patient safety in radiotherapy and diagnostic radiology**

In October, ARPANSA undertook acceptance testing of the new primary standard for radiation dose, which ARPANSA's Primary Standard Dosimetry Laboratory is authorised to maintain and disseminate. The new standard is a water calorimeter procured from the National Research Council Canada. ARPANSA staff were trained by Canadian experts in the assembly and operation of the new calorimeter, which showed good agreement with the ageing existing standard. This instrument will eventually replace the current Australian standard which will ensure the longevity of the calibration services, and safe and accurate treatment of patients. The standard will be used on a wider variety of radiation beams, including protons. The new standard will underpin over 1.5 million radiotherapy patients' treatment in Australia over the next two decades.

## **Ensure protection of people and the environment through efficient and effective regulation**

### ***Significant regulatory activities***

ARPANSA routinely assesses licence applications and requests for approval to make changes to facilities and associated activities which may have significant implications for safety. ARPANSA's independent assessment and oversight of these changes provides assurance that the facilities are operated safely in compliance with the Act and in consideration of best practice in radiation protection and nuclear safety.

ARPANSA approved the following changes with significant implications for safety, under section 63 of the Regulations:

- An additional ANSTO Synchrotron research beamline was approved for operation. This beamline has increased the facility's capability for biomedical research and development.
- ARPANSA approved an ANSTO request to upgrade the safety programmable logic controller for the Dingo Radiography and Tomography Neutron Beam Instrument (NBI) under the Australian Centre for Neutron Scattering licence. This will enhance the system's safety and maximise compatibility with the programming methodology.

ARPANSA amended the following licence, under section 36 of the Act:

- Licence condition 8 was removed from the ANSTO Nuclear Medicine Molybdenum-99 Operations Facility Licence. This condition was placed on ANSTO after an incident at the facility and required ANSTO to review and revise its risk assessment to consider human and organisational factors. ANSTO met this requirement, and an amended licence without licence condition 8, was issued in December 2022.

### ***Inspections***

ARPANSA conducted 8 inspections this quarter. ARPANSA undertakes a program of scheduled inspections of licence holders to monitor compliance with the Act and the ARPANS Regulations. The inspection reports can be found at: [www.arpansa.gov.au/regulation/inspections/reports](http://www.arpansa.gov.au/regulation/inspections/reports).

### ***Stakeholder engagement***

ARPANSA is open and transparent in its regulation of licence holders and recognises that effective communication is important to deliver good safety outcomes.

- In November, an ANSTO-ARPANSA Liaison Forum was held. The meeting discussed strategic outlooks, major submissions, compliance and other significant matters. The meeting is held periodically to improve communication and highlight regulatory expectations.
- Meetings were also held with the Australian Safeguards and Non-Proliferation Office and Comcare. These periodic meetings facilitate the sharing of relevant regulatory findings, regulatory approaches and work towards harmonising regulatory expectations for common licence holders. The meetings aim to increase regulatory effectiveness across the agencies and minimise the burden on licensees.



### ***Radioactive material import and export permits***

The import and export of radioactive material to and from Australia requires permission under Regulation 4R of the Customs (Prohibited Imports) Regulations 1956 and Regulation 9AD of the Customs (Prohibited Exports) Regulations 1958. Under these regulations, ARPANSA officers are authorised to issue import and export permits.

Permits issued this quarter:

<b>Type of permits</b>	<b>Urgent (single shipment)</b>	<b>Standard (single shipment)</b>	<b>12 months</b>
Import of non-medical radioisotope	40	36	1
Import of medical radioisotope	0	114	5
Export of high activity source	0	7	0

### ***Transport of radioactive material***

This quarter, ARPANSA validated two transport security plans. Under the Code of Practice for the Security of Radioactive Sources (RPS 11, 2019), security-enhanced sources are assessed to ensure the security considerations, including the transport arrangements and route, are suitable for the shipment.

ARPANSA issued a design approval certificate for a Type B(U)F package to ANSTO. The package will be used for transport of OPAL spent fuel.

ARPANSA also issued renewal of design approval certificate for a Type B(U) package to ANSTO. The package will be used for transporting various solid and liquid radioactive materials.

### **Details of directions given by the Minister under section 16 of the Act.**

No directions were given by the Minister under section 16 of the Act.

### **Details of directions given by the CEO under section 41 of the Act.**

No directions were given by the CEO under section 41 of the Act.

### **Details of improvement notices given by inspectors under section 80A of the Act.**

No improvement notices were issued by ARPANSA under section 80A of the Act.

### **Details of any breach of licence conditions by a licensee**

ARPANSA publishes performance history of licence holders on the ARPANSA website:  
[www.arpansa.gov.au/regulation-and-licensing/regulation/our-regulatory-services/who-we-regulate/licence-holder-performance](http://www.arpansa.gov.au/regulation-and-licensing/regulation/our-regulatory-services/who-we-regulate/licence-holder-performance)

There was one breach confirmed this quarter with minor safety implications or administrative failures to meet regulatory requirements:

- ANSTO self-reported a failure to comply with a licence condition relating to the Operating Limits and Conditions (OLC), which require maintenance checks for buildings within the facility. The maintenance checks were reported to be outside of the required weekly period. The omission was immediately rectified.

## **Facilities licensed under Part 5 of the ARPANS Act this quarter**

There were no facility licences issued this quarter.

## **The operations of the Council and Committees**

### **Radiation Health and Safety Advisory Council**

The Radiation Health and Safety Advisory Council (the Council) met on 24 and 25 November 2022 in Brisbane.

The Council toured the Queensland State Disaster Coordination Centre in Kedron, Brisbane, and discussed the status of Emergency Preparedness and Response (EPR) planning with respect to radiological incidents in Australia. The Council discussed preparations for the International Atomic Energy Agency Integrated Regulatory Review Services follow-up mission to Australia scheduled for October 2023, noting that some aspects may be subject to change due to policy announcements with respect to the future regulation of nuclear-powered submarines. The Council also discussed the growing need for greater numbers of radiation skilled workers in Australia, and the status of the Australian Radioactive Waste Agency's planning for the proposed National Radioactive Waste Management Facility.

The minutes of meetings are available at [www.arpansa.gov.au/rhsac](http://www.arpansa.gov.au/rhsac). The next Council meeting is scheduled for 30 March 2023.

### ***Reports to the CEO from the Council under paragraph 20(f) of the Act***

The Council provided advice to the CEO of ARPANSA on the principles and attributes of an effective independent regulator for nuclear-powered submarines in a letter dated 13 October 2022. This advice is published online at [www.arpansa.gov.au/rhsac](http://www.arpansa.gov.au/rhsac).

### **Radiation Health Committee**

The Radiation Health Committee (RHC) met on 23 November 2022 in Brisbane.

The RHC discussed preparations for the International Atomic Energy Agency Integrated Regulatory Review Services follow-up mission in 2023. The RHC also discussed referrals from enHealth, including a service standard for dosimetry service providers, compensatory arrangements for radiation workers, and occupational exposure limits. National topics of workforce capacity, workforce capability, and regulatory knowledge exchange were also discussed.

The minutes of meetings are published online at [www.arpansa.gov.au/rhc](http://www.arpansa.gov.au/rhc). The next RHC meeting is scheduled for 5 April 2023.

## **Nuclear Safety Committee**

The Nuclear Safety Committee (NSC) met on 28 October 2022.

Topics discussed included the design of regulatory frameworks, the attributes of an effective regulator and ARPANSA's future workforce needs. The NSC was also briefed on and discussed the safety of licenced facilities. These discussions provide useful input into ARPANSA's strategic approach to its regulatory oversight.

The minutes of the meeting are available at [www.arpansa.gov.au/nsc](http://www.arpansa.gov.au/nsc). The next NSC meeting is scheduled for 9 February 2023.

### ***Reports to the CEO from the NSC under paragraph 26(1)(d) of the Act***

No reports were provided during this quarter.