



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



**Quarterly Report**

**of the**

**Chief Executive Officer of ARPANSA**

**October – December 2023**

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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

25 March 2024

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, and
- 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 2023.

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 2023-24 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 2023-24 PBS, describes 4 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.**

### ***Enhanced Electromagnetic Energy (EME) Program***

In October, ARPANSA scientists shared research and joined a panel discussion during the non-ionising radiation session of the Australian Radiation Protection Society's (ARPS) annual conference. This included a presentation on a systematic map on the effects of radio waves on plants and animals and a study on measuring personal exposures to radio waves at public places in Australia.

ARPANSA provided an update to the telecommunications industry about the World Health Organization's Environmental Health Criterion monograph on the possible health effects from exposure to radio waves.

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

### ***Emergency Preparedness***

During the quarter, ARPANSA collaborated with the United States Oak Ridge Institute for Science and Education to deliver an inaugural training opportunity on the Medical Management of Radiation Injuries Course. The course operates through the Radiation Emergency Assistance Center/Training Site, focuses on the practical aspects of the initial management of irradiated and/or contaminated patients through lectures and hands-on, practical exercises, and was delivered in conjunction with the US National Nuclear Security Administration. The course provided an opportunity for medical professionals from all over Australia to enhance their skills in medical management of radiation injuries and is crucial to supporting the changing landscape of radiation protection in this country.

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

### ***Australian Clinical Dosimetry Service (ACDS)***

During the quarter, the ACDS completed another field trial audit of an Elekta Unity medical linear accelerator. The Elekta Unity is a specialised radiotherapy delivery system with integrated magnetic resonance imaging for precise tumour localisation. Currently there are 4 such systems in clinical operation throughout Australia. The ACDS has completed 4 reference dosimetry audits and 6 field trial end-to-end dosimetry audits on Elekta Unity systems. Regular dosimetry audits contribute to frameworks for patient safety in radiotherapy and for the effective use of medical radiation.

### ***Medical Imaging***

ARPANSA's National Diagnostic Reference Level Service (NDRLS) received 1,940 surveys of patient dose in computed tomography (CT) scans during the quarter, bringing the cumulative total for the 2023 calendar year to 4,434.

The NDRLS also received 141 surveys of patient dose in image-guided and interventional procedures during the calendar year. NDRLS surveys, completed by participating imaging facilities, collect data on metrics for patient dose from ionising radiation in diagnostic imaging, particularly for CT. ARPANSA uses this data to calculate Australian diagnostic reference levels (DRLs) for common types of CT scans. This helps to avoid

excessive radiation dose to patients from medical imaging. A larger data sample provides confidence that the DRLs set by ARPANSA reflect current practice across Australia.

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

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

In October, ARPANSA hosted the Integrated Regulatory Review Service (IRRS) follow-up mission. IRRS missions are facilitated by the International Atomic Energy Agency (IAEA) and compare the regulatory framework in place for all nuclear and radiation facilities and activities against IAEA safety standards. The mission included the involvement of the Commonwealth Department of Health and Aged Care, the Australian Radioactive Waste Agency and state and territory regulatory bodies.

The mission's team of international senior safety experts reviewed the progress of 23 recommendations and 12 suggestions from the 2018 IRRS mission report. Of these, 16 recommendations and 10 suggestions were verified to be closed. In addition, the IRRS team identified good practices and recognised the strong commitment of ARPANSA to radiation safety.

ARPANSA routinely assesses licence applications and requests for approval to make changes to facilities and associated activities which may have significant implications for safety. Over the reporting period, ARPANSA approved an ANSTO request to merge 2 facility licences. The Interim Waste Store for intermediate level radioactive waste (previously licensed separately) is now managed under the ANSTO Waste Operations licence. This merger makes ANSTO management for safety of the relevant waste more effective and improves the efficiency of regulatory interactions with ANSTO.

### ***Inspections***

ARPANSA conducted 3 inspections this quarter. ARPANSA undertakes a program of scheduled inspections of licence holders to monitor compliance with the Act and the ARPANS Regulations. Finalised 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. Notable engagement activities are as follows:

- ARPANSA undertook consultation on an application from ANSTO to undertake Phase A decommissioning of the High Flux Australian Reactor (HIFAR) facility – Australia's first nuclear reactor. A public forum was held online on 9 October 2023 and the recording of this was made available for the remainder of the consultation period, which closed on 12 December 2023.

### ***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:

Type of permits	Urgent (Single shipment)	Standard (Single shipment)	12 months
Import of non-medical radioisotope	36	39	0
Import of medical radioisotope	5	98	6
Export of high activity source	12	0	0

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

This quarter, ARPANSA validated 9 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 has validated a USA Type B(U) package design to transport blood irradiators. A validation certificate has been issued to ANSTO.

## **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).

A breach with significant safety implications is one which is important, notable, or of consequence, having regard to its context or intensity.

There was one breach confirmed this quarter with significant safety implications:

As a result of a contamination incident at CSIRO Health and Biosecurity (CHB), Pullenvale QLD, CHB was found in breach of subsection 60(2)(b) of the Australian Radiation Protection and Nuclear Safety

Regulations 2018 for not ensuring the CHB plans and arrangements had been implemented to the extent reasonably achievable. This breach was self-reported.

There were no breaches confirmed this quarter with minor safety implications or administrative failures to meet regulatory requirements.

## **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 11-12 December 2023 in Melbourne.

The Council discussed the recent activities of ARPANSA, Radiation Health Committee (RHC) and Nuclear Safety Committee (NSC), including support for implementing Australia's nuclear-powered submarine program, the IRRS 2023 mission to Australia, and ARPANSA activities promoting national uniformity. Other topics included shielding standards, skin cancer registries, radioactive waste facilities, cosmetic laser injuries, and how the United Nations Sustainable Development Goals apply to radiation protection.

Minutes of Council meetings are available at [www.arpansa.gov.au/rhsac](http://www.arpansa.gov.au/rhsac).

The next Council meeting is scheduled for 16-17 April 2024.

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

No reports were provided during this quarter.

### **Radiation Health Committee**

The Radiation Health Committee (RHC) met on 12-13 December 2023 in Melbourne.

The RHC discussed the recent activities of ARPANSA, the Council and NSC. The first part of its meeting was a joint session with the Council, which covered topics including support for implementing Australia's nuclear-powered submarine program, the IRRS 2023 mission to Australia, and ARPANSA activities promoting national uniformity. Other topics included radioactive source regulation, guidance on radon exposure in the workplace, and updates to various codes and standards.

The minutes of previous meetings are published online at [www.arpansa.gov.au/rhc](http://www.arpansa.gov.au/rhc).

The next meeting of the RHC is scheduled for 6 March 2024.

## **Nuclear Safety Committee**

The Nuclear Safety Committee (NSC) met on 16 November 2023 in Melbourne.

The NSC discussed various topics, including ARPANSA's approach to safety issues, radiation protection and facility availability issues. The committee was briefed on and asked to comment on a draft Australian Code for Safety of Reactor Facilities. This will be published as part of the [Radiation Protection Series](#) (RPS). The code will be adopted across Australia for new and existing facilities and is the first of several new proposed RPS documents under development to meet the changing nuclear environment in Australia.

The minutes of the meeting are available at [www.arpansa.gov.au/nsc](http://www.arpansa.gov.au/nsc).

The next meeting of the NSC is scheduled for 5 March 2023.

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

No reports were provided during this quarter.