



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



**Quarterly Report**  
**of the**  
**Chief Executive Officer of ARPANSA**  
**April – June 2024**

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ARPANSA  
619 Lower Plenty Road  
Yallambie VIC 3085  
email: [info@arpansa.gov.au](mailto:info@arpansa.gov.au)

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### **Acknowledgement of Country**

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) respectfully acknowledges Aboriginal and Torres Strait Islander peoples, communities and their rich cultures. We pay respects to all Elders past and present. We acknowledge Aboriginal and Torres Strait Islander peoples as Australia's First Peoples and the Traditional Owners and Custodians of the lands and waters where we live and work.

We also 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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# Table of contents

<b>Table of contents .....</b>	<b>1</b>
<b>Letter of transmittal.....</b>	<b>1</b>
Provide high quality advice to government and the community on health, safety, and environmental risks from radiation. ....	2
Provide emergency preparedness and response systems for a radiological or nuclear incident .....	2
Promote patient safety in radiotherapy and diagnostic radiology .....	3
Ensure protection of people and the environment through efficient and effective regulation.....	3
<b>Details of directions given by the Minister under section 16 of the Act .....</b>	<b>4</b>
<b>Details of directions given by the CEO under section 41 of the Act.....</b>	<b>4</b>
<b>Details of improvement notices given by inspectors under section 80A of the Act.....</b>	<b>5</b>
<b>Details of any breach of licence conditions by a licensee .....</b>	<b>5</b>
<b>Facilities licensed under Part 5 of the ARPANS Act .....</b>	<b>5</b>
<b>The operations of the Council and Committees.....</b>	<b>5</b>
Radiation Health and Safety Advisory Council .....	5
Radiation Health Committee.....	6
Nuclear Safety Committee .....	6

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## Letter of transmittal

16 September 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
- 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 April to 30 June 2024.

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



Dr Gillian Hirth AO

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 and Aged Care 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 April, ARPANSA published a measurement study that found environmental exposure to radio waves from wireless technology has not changed significantly in Melbourne over the last decade and remained well below the safety limits in both the 2015 and 2022 study periods. These ARPANSA-led studies provide assurance to the community that their exposure to radio waves is safe.

In June, a joint ARPANSA and Monash University systematic review into the potential health effects from radio waves was published. Commissioned by the World Health Organization (WHO), the study found that radio wave exposure from mobile phones does not affect learning, memory, attention span or other cognitive functions.

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

#### ***Emergency Preparedness***

ARPANSA staff participated in a validation of port-specific arrangements relating to visits from nuclear-powered military ships from friendly countries. ARPANSA is an active participant in the Visiting Ships Panel (Nuclear) and associated Technical Working Group, which oversees arrangements to ensure the Australian public and the environment is safe during visits from nuclear-powered vessels.

In April, ARPANSA coordinated Australia’s participation in the final 2 (of 4) modules of the international nuclear emergency recovery exercise. Organised by the Nuclear Energy Agency as part of its International Nuclear Exercise Series, the multi-module exercise focuses on the long-term recovery phase following a nuclear or radiological incident. Participants included representatives of Tasmanian and federal agencies, with observers invited from other states and territories.

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

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

ARPANSA successfully completed the design, construction and initial commissioning of novel test equipment for dosimetry audits of patient motion management technology, which is used in radiotherapy treatment of cancer patients. Dosimetry audits contribute to frameworks for patient safety in radiotherapy and for the effective use of medical radiation. Motion management technology is widespread in radiotherapy facilities, and independent dosimetry audits performed by ACDS gives confidence to facilities and patients that accurate radiation doses are delivered.

### ***Primary Standards Dosimetry Laboratory (PSDL)***

In March, ARPANSA assessed the implications of a revised protocol (Technical Report Series 398 – Absorbed Dose) which had been published by the International Atomic Energy Agency. The assessment determined that changes to measurements of radiation dose were required, which ARPANSA communicated to medical physicists nationally. The radiation dosimetry protocol is used by facilities in Australia to determine absorbed dose and is a key step in the delivery of accurate patient doses.

### ***Medical Imaging***

This quarter, ARPANSA’s National Diagnostic Reference Level Service (NDRLS) received 853 surveys of patient dose in computed tomography (CT) scans, bringing the cumulative total for the financial year to 4,612. Completed by participating imaging facilities, NDRLS surveys collect patient dose data from ionising radiation in diagnostic imaging, particularly for CT. ARPANSA uses this to calculate Australian diagnostic reference levels for common types of CT scans. The DRLs also enable facilities to compare and review their practice against their peers, ensuring an appropriate balance of benefit and risk for patients.

## **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.

Over the reporting period, ARPANSA continued to assess the licence application from the Australian Submarine Agency (ASA) to prepare a site for a prescribed radiation facility known as Controlled Industrial Facility (CIF), proposed to be located at HMAS Stirling, at Garden Island, Rockingham Western Australia. The proposed CIF is a low-level radioactive waste management and maintenance facility. Although not a requirement for this type of licence, due to the level of public interest, the CEO of ARPANSA invited public submissions and comments on the proposed facility between 8 May and 7 June 2024. As the quarter ended, ARPANSA was reviewing 165 public submissions received predominantly from local interest groups, businesses and individuals.

In April, ARPANSA approved a change request from the Australian Nuclear Science and Technology Organisation (ANSTO) relating to the OPAL reactor. The application requested the replacement of the end-of-life Cold Neutron Source (CNS). This activity – along with other activities at the OPAL reactor previously approved by ARPANSA – required a long shutdown (of greater than 3 months) at the facility. This planned shutdown was necessary to undertake required upgrades and maintenance activities. As a result, radiopharmaceuticals that would normally be produced at the OPAL facility were instead imported during the quarter.

### **Inspections**

ARPANSA conducted 4 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).

### **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	58	53	2
Import of medical radioisotope	0	144	11
Export of high activity source	9	0	0

### **Transport of radioactive material**

ARPANSA validated the design of a Type B(U)F package and issued a validation certificate to ANSTO. The package will be used for transport of OPAL fresh fuel.

ARPANSA issued a National Competent Authority Identification number to Queensland Health for a shipment of blood irradiator source under special arrangement.

This quarter, ARPANSA validated one transport security plan. 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 transport arrangements and route – are suitable for the shipment.

## **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 were no breaches confirmed this quarter.

## Facilities licensed under Part 5 of the ARPANS Act

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 16-17 April 2024.

The Council discussed emergency preparedness response, shielding design, the need for a national skin cancer register, and issues around the tracking of sealed sources. Minutes of previous Council meetings are available at [www.arpansa.gov.au/rhsac](http://www.arpansa.gov.au/rhsac).

The next Council meeting is scheduled for 30 July to 1 August 2024.

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

The Council provided letters of advice to the CEO on:

- National guidance for shielding design, installation and verification
- National registration of keratinocyte cancer
- National preparedness and response capability for radiological emergencies.

Council statements are also available at [www.arpansa.gov.au/rhsac](http://www.arpansa.gov.au/rhsac).

## **Radiation Health Committee**

The Radiation Health Committee (RHC) did not meet during the quarter.

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 30-31 July 2024.

## **Nuclear Safety Committee**

The Nuclear Safety Committee (NSC) met on 12 and 13 June 2024 in Perth. Topics discussed included the ASA licence application to prepare a site for the CIF. The meeting included a tour of the proposed location of the CIF at HMAS *Stirling* Garden Island, Rockingham, Western 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 12-13 November 2024.

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

No reports were provided during this quarter.



