



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



**Quarterly Report**  
**of the**  
**Chief Executive Officer of ARPANSA**

**July to September 2019**





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**Australian Radiation Protection  
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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

21 January 2020

Senator the Hon Richard Colbeck  
Minister for Aged Care and Senior Australians  
Minister for Youth and Sport  
Senate  
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
- 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 July to 30 September 2019.

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

Acting 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 2019-20 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 2019-20 PBS, describes four performance criteria, against which ARPANSA seeks to achieve its outcome. These criteria 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 risk-informed and effective regulation.

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

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

#### ***Occupational exposure to radiation***

ARPANSA continues to work on testing the final stages of a project to improve the online interface for employers that use the Australian National Radiation Dose Register (ANRDR). The ANRDR is a database which stores and maintains radiation dose records for workers occupationally exposed to radiation in Australia. The project work will provide a range of improvements to the user experience for external stakeholders and collects additional information related to dosimetry.

In August, ARPANSA published the annual ANRDR Newsletter, *ANRDR in Review*, which provides an analysis of the data currently in the ANRDR up to 2018. The analysis indicates that the average occupational exposure for 2018 for the data in the ANRDR was 0.77 mSv, with 72 per cent of the doses reported for the year being less than 1 mSv. The ANRDR data helps to inform better work practices and improve radiation safety for occupationally exposed workers in Australia.

The ANRDR currently holds dose records for around 44 000 workers. This includes full coverage of workers from all state and territory-licensed uranium mining and milling operations, and partial coverage of workers from Commonwealth licence holders, state and territory regulatory bodies, the mineral sands mining and processing industry, as well as the medical and veterinary sectors. The ultimate goal for the ANRDR is to cover all occupationally exposed workers in Australia, and work to ensure that this can be achieved across all jurisdictions is in progress.



### ***Study on mobile phone use and cancer***

In August 2019, an ARPANSA-led follow up study was published in the British Medical Journal Open which investigated the relationship between brain cancer in Australians aged 60 plus and mobile phone use (<https://bmjopen.bmj.com/content/8/12/e024489.responses>). The study was an extension to a previous study also lead by ARPANSA which investigated mobile phone use and brain tumour incidence in Australians aged 20-59 (<https://bmjopen.bmj.com/content/8/12/e024489.full>). The follow up study showed no increase in brain cancer rates in Australians aged 60 plus that can be attributed to mobile phone use. The study provides further evidence to support ARPANSA's advice that there is no established scientific evidence that the use of mobile phones causes brain cancer.

### ***Electromagnetic Energy (EME) Scientific and Standards Symposium***

ARPANSA staff attended the 2019 EME Scientific and Standards Symposium on 27 August 2019. The symposium brings together the telecommunication industry, scientists and government and provides a platform to share information on EME and future plans for the use of telecommunication technology. The primary focus of this symposium was 5G technology and the ongoing plans to upgrade the mobile phone network. There was also an update on human exposure to EME from 5G and current research on potential health effects. Participation at the symposium was part of ARPANSA's ongoing engagement with relevant stakeholders on EME and understanding any health impact concerns in relation to 5G technology.

### ***Guest Lecture on Radiation at Monash University***

In September 2019, an ARPANSA staff member gave a guest lecture to Masters of Public Health students at Monash University in Melbourne. The lecture covered radiation in the environment and addressed physical properties of radiation, the electromagnetic spectrum and the differences between ionising and non-ionising radiation. Students learnt about sources of exposure in the environment, levels of exposure, health effects and safety standards as well as protective measures to avoid overexposure. The lecture is an example of ARPANSA's ongoing role in communicating health, safety and environmental risks from radiation.

### ***Additional UV Network Detector Installed***

ARPANSA maintains a network of detectors in Australia and Antarctic territories for the monitoring of the ultra-violet (UV) index. The 17th of these detectors was installed at Emerald, Queensland, early in August 2019. Funded by the local council, this detector provides live and local UV data to residents in the region via the ARPANSA website. This enhances sun protection messaging to the public and the implementation of protective measures against UV radiation.

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

### ***Radiological Monitoring at Lucas Heights***

ARPANSA has committed to a verification environmental monitoring program at the Australian Nuclear Science and Technology Organisation campus at Lucas Heights, New South Wales. An automated gamma detector was installed during the quarter, providing live detections during normal operations and emergency situations. Environmental sampling will be undertaken on-site in early November 2019. This

program will allow for regulatory verification of monitoring at the site, immediate information on atmospheric discharges, and increases ARPANSA's ability to respond effectively to a nuclear or radiological accident.

### ***Additional Comprehensive Nuclear-Test-Ban Treaty (CTBT) Monitoring Stations***

In August 2019, ARPANSA commenced a contract with the CTBT Organization to operate and maintain two CTBT stations in Fiji (AUP26) and Kiribati (KIP39). These are in addition to the nine stations at seven sites that ARPANSA already manages in Australian territories. These two stations were originally installed by New Zealand and have been operating for over 10 years. Work has progressed to integrate these into ARPANSA's network operations. ARPANSA now has the opportunity to work with the local operators to increase the robustness of these stations, leading to more reliable data availability for the International Monitoring System network in order to detect clandestine nuclear testing globally.

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

### ***Medical Imaging***

ARPANSA has convened a liaison panel to consider recommendations for diagnostic reference levels (DRLs) for image-guided and interventional procedures. DRLs are indicators of typical radiation dose for a procedure and allow imaging facilities to compare their performance with their peers. Image-guided procedures include angiography, which is used to diagnose obstructions in blood vessels that could lead to heart failure or stroke, among other conditions. The panel comprises representatives from: the Commonwealth Department of Health, the Diagnostic Imaging Accreditation Scheme (DIAS) Advisory Committee, the Cardiac Society of Australia and New Zealand (CSANZ), the Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM), the Australian Society of Medical Imaging and Radiation Therapy (ASMIRT), and the Australian and New Zealand Society for Vascular Surgery (ANZSVS).

Recommendations agreed by the liaison panel will be put to the participating bodies for formal endorsement. Once endorsed, the DRLs will be published on the ARPANSA website. State and territory radiation regulators, and DIAS assessors, will subsequently monitor facilities to confirm their compliance with requirements to conduct comparisons of typical radiation dose at their site against the relevant DRLs. This program of monitoring and review assists the optimisation of technique to ensure an appropriate balance of benefit and risk for medical imaging procedures utilising ionising radiation.

## **Ensure risk-informed and effective regulation**

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

A contamination event occurred at ANSTO on 21 June 2019, where three operators were personally contaminated which resulted in the skin dose to two operators exceeding the annual statutory dose limit of 500 mSv. This was reported in the quarterly report for March to June 2019. This incident has subsequently been the focus of further investigation by both ARPANSA and ANSTO during this quarter. ARPANSA issued media releases about the incident on 26 June 2019 and 8 July 2019 available at [www.arpansa.gov.au/whats-new](http://www.arpansa.gov.au/whats-new).

Following this event, a number of regulatory actions were taken by ARPANSA including additional inspections. On 5 July, ANSTO was authorised to recommence production from 6 July of molybdenum-99 (Mo-99) in the ANSTO Nuclear Medicine (ANM) Facility, now known as the Mo-99 Production Facility, but at a reduced level only up to that which satisfies the Australian demand for nuclear medicine procedures that rely on Mo-99. It was agreed between ARPANSA and ANSTO, however, that any excess product from the runs required to meet the Australian need could be provided to international customers.

During the quarter, ARPANSA issued a number of other significant regulatory approvals. Regulatory approvals are required prior to commencing certain activities, which can include new licences, or changes with significant potential safety impacts. In this reporting period these included:

- Following damage to a component at the Mo-99 Production Facility at ANSTO, approval was given to repair and install components and carry out related operations.
- A number of applications were approved for the ANSTO Open Pool Australian Lightwater (OPAL) reactor facility including: the review of the Periodic Safety and Security Review plan, changes to Operational Limits and Conditions, and upgrades and replacement of certain components.
- Approval was granted to ANSTO's Centre for Accelerator Science for routine operation of three beam lines.

### ***Inspections***

ARPANSA conducted 16 inspections and five site visits during the quarter. ARPANSA undertakes a program of scheduled inspections of licence holders to monitor compliance with the Act and the Australian Radiation Protection and Nuclear Safety Regulations 2018 (ARPANS Regulations). The scope and frequency of inspections is determined from an assessment of the risk presented from the controlled activity and takes into account a range of factors including licence holder safety performance. Additionally, augmented inspections are carried out in response to a specific issue.

This quarter's inspections did not identify any potential non-compliances, however 33 areas for improvement were noted. Potential non-compliances indicate an area where the licence holder may not have complied with legislation or a condition of licence, such as adherence to a code – once confirmed these are considered a breach as described in section 'Details of any breach of licence conditions by a licensee' of this report. Areas for improvement indicate where licence holder safety performance could be improved, such as to meet international best practice.

Inspections play an important part in ARPANSA's compliance and performance monitoring program. A well implemented, rigorous inspection program supplemented by monitoring and performance reviews provides assurances that licence holders are operating safely. The inspection reports can be found at ARPANSA's website at [www.arpansa.gov.au/regulation/inspections/reports](http://www.arpansa.gov.au/regulation/inspections/reports).

## **Standards Development**

The *Code for Radiation Protection in Medical Exposure, Radiation Protection Series C-5 (RPS C-5), 2019* has been published. This Code sets out the requirements in Australia for the protection of patients, their carers and comforters, and volunteers in biomedical research projects, in relation to their exposure to ionising radiation. This Code must, as relevant, be used in conjunction with the *Code for Radiation Protection in Planned Exposure Situations 2016 (RPS C-1)*, which sets out the requirements in Australia for the protection of occupationally exposed persons, the public, and the environment, in planned exposure situations. This publication, together with RPS C-1, supersedes the *Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation (RPS 14)*.

The National Directory for Radiation Protection (NDRP) 2nd edition 2019 has been revised incorporating comments from enHealth. The NDRP has been sent to the Australian Health Ministers Advisory Council out of session for endorsement.

## **Stakeholder Engagement**

ARPANSA held its annual Licence Holder Forum in Canberra on 4 September 2019. Approximately 118 licence holders attended the forum which was hosted by the Australian National University (ANU). The forum provided an opportunity for participants to share and discuss new initiatives and good practices. The feature topic of the forum was 'culture for safety'. More information can be found on ARPANSA's website at [www.arpansa.gov.au/regulation-and-licensing/licensing/information-for-licence-holders/licence-holder-forum](http://www.arpansa.gov.au/regulation-and-licensing/licensing/information-for-licence-holders/licence-holder-forum).

The ANSTO-ARPANSA Liaison Forum was held in August 2019 where a range of issues were discussed, the foremost being the proposed Safety Culture Perception survey.

During the period, ARPANSA attended two Parliamentary Committee roundtables relating to potential nuclear industrial applications in Australia. These hearings were held by the House of Representatives Standing Committee on the Environment and Energy as part of its Inquiry into the Prerequisites for Nuclear Energy in Australia, and the House of Representatives Standing Committee on Industry, Innovation, Science and Resources as a standalone public roundtable on the Nuclear Industry in Australia.

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

The importation and exportation of radioactive material to and from Australia requires permission under Regulation 4R of the Customs (Prohibited Imports) Regulations 1956 and Regulation 9AD the Customs (Prohibited Exports) Regulations 1958. Under these regulations, the Minister for Health has authorised ARPANSA officers to issue import and export permits. Permits ensure that radioactive material entering and exiting the country is subject to appropriate regulatory control. This includes that the end user is authorised to deal with the material, and that it is subject to appropriate safety and security provisions en route and at its final destination. This material is used for a wide range of medical, industrial and scientific purposes. The efficient movement of nuclear medicine internationally, is particularly important to ensure that patients receive appropriate imaging and therapy.

Permits issued this quarter:

<b>Type of Permits</b>	<b>Urgent (single shipment)</b>	<b>Standard (single shipment)</b>	<b>12 Month</b>
<i>Import of Non-Medical radioisotope</i>	51	65	1
<i>Import of Medical radioisotope</i>	-	135	9
<i>Export of high activity source</i>	-	13	-

### **Transport of radioactive material**

ARPANSA approves certain plans and packages for the transport of significant quantities of radioactive material by licence holders.

ARPANSA endorsed three transport security plans this quarter. Under the *Code of Practice for the Security of Radioactive Sources (RPS 11, 2019)*, security enhanced sources are assessed to ensure the safety and security considerations, including the transport arrangements and route, are suitable for the shipment.

ARPANSA approved three shipments of Iridium (Ir-192) to South Africa, and one shipment of Uranium Target Plates from Sydney Airport to Lucas Heights.

ARPANSA validated the Competent Authority of the United States' Certificate of Approval USA/9320/B(U)-96 (Revision 3) for a package design and issued a validation certificate to ANSTO. This package will be used to transport molybdenum-99, a radioisotope necessary for nuclear medicine production.

### **International engagement**

ARPANSA's international engagement provides the agency with the means of influencing the international radiation protection and nuclear safety and security framework, and for taking stock of international developments to ensure ARPANSA's regulatory framework and radiation protection standards are based on international best practice. The following is a summary of key international engagement activities undertaken in this quarter.

#### ***First Meeting of the Joint Convention Working Group to Prepare the Fourth Extraordinary Meeting of the Contracting Parties, 15–19 July 2019, Vienna, Austria***

An ARPANSA representative chaired this meeting through his role as Vice President for the Sixth Review Meeting of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the Joint Convention). The Working Group was established following the Sixth Review Meeting of the Joint Convention in May 2018, and in response to a request from Australia to convene an Extraordinary Meeting to discuss ways to improve procedural mechanisms of the Joint Convention, taking into account the growing number of countries that are party (Contracting Parties) to the Convention.

This meeting discussed a revised election process for Country Group Officers, measures in response to the increased number of Contracting Parties, measures to improve the efficiency and effectiveness of the peer review process, and procedural mechanisms. Detailed proposals to address these themes are being prepared by Australia and other countries, to present and discuss with the aim of achieving consensus at the next Working Group meeting in November 2019. This travel was partially funded by ARPANSA.

### ***International Training Course (ITC) for Security of Radioactive Materials in Transport, 2–6 September 2019, Beijing, China***

ARPANSA participated in this ITC which provided course participants with enhanced understanding of the need for security measures during the transport of radioactive material, and with the necessary knowledge to develop and implement national transport security requirements.

ARPANSA influenced training content and outcomes by the provision of a subject matter expert who provided current material and industry knowledge inputs focussing on transport security plans and inspection processes. This travel was funded by the International Atomic Energy Agency (IAEA).

### ***Regional Training Course for Occupational Radiation Protection in the Mining and Processing of Uranium, 9–13 September 2019, Almaty, Kazakhstan***

ARPANSA participated in the delivery of this IAEA Regional Training Course, which presented content relating to radiation protection for all forms of uranium mining and processing. ARPANSA's contribution relied on the industry experience of its attendees as a key input to the training for other attendees.

This helped to meet ARPANSA's agreed obligations with the IAEA, which help enhance the radiation protection of workers on an industry-wide and global basis through supporting the implementation of internationally consistent standards and approaches regarding the protection of workers. This travel was funded by the IAEA.

### ***Sixty-third Annual International Atomic Energy Agency (IAEA) General Conference, 16–20 September 2019, Vienna, Austria***

ARPANSA's CEO and Chief of Staff attended the IAEA General Conference as part of the Australian delegation led by the Head of Mission in Vienna, Ambassador Hammer, who also delivered the Australian statement to the Conference. Resolutions were passed in a number of important areas of safety, security, safeguards, technical cooperation, and others. ARPANSA held a series of bilateral meetings with counterparts in the region (Thailand, Singapore, Indonesia) and in other countries including the US, Spain, South Africa, Canada, Sweden, Norway, the Netherlands.

ARPANSA re-signed two cooperative agreements with the regulatory bodies of Indonesia and Norway. The conference also provided an opportunity to discuss ongoing cooperation with the IAEA itself, including technical support to Papua New Guinea and on cooperation and information sharing between the two agencies. The travel was funded by ARPANSA.

### ***Nuclear Energy Agency (NEA) workshop on Stakeholder Involvement: Risk Communication, 24–26 September 2019, Paris, France***

ARPANSA participated in this workshop which brought together regulators, government agencies, elected officials, operators and representatives of civil society, including members of the public and non-governmental organisations. While examining a number of case studies, the workshop drew upon expertise and applications across multiple domains of the nuclear industry to explore how best to communicate radiological risk in an accessible and empowering way for stakeholders and identify opportunities for improvement. This travel was funded by ARPANSA.

## ***Convention on Nuclear Safety (CNS) Officers' Meeting and Country Group Officers' Meeting, 23–25 September 2019, Vienna, Austria***

The CEO of ARPANSA and one ARPANSA staff member participated in this meeting in their roles as nominated Vice President and Rapporteur, respectively of the Eighth Review Meeting of the CNS. The meeting was requested by the President of the Eighth Review Meeting to further consider the approach and future steps for the upcoming meeting to be held in March 2020. The key outcomes were preparation for the proposed topical sessions and agreement of the content of the key meeting reports and presentations.

In addition, the staff member also participated in a Country Group meeting to review the National Reports of Country Group 1 for compliance with the Guidelines Regarding National Reports Under the Convention on Nuclear Safety (INFIRC/572) and to discuss the ongoing preparation of the draft Country Rapporteur's and Co-ordinator's reports. The meetings ensured that both staff members could continue to fulfil their officer roles for the Eighth CNS Review Meeting. This travel was funded by ARPANSA.

### **Details of directions given by the Minister**

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

### **Details of directions given by the CEO**

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

### **Details of improvement notices given by inspectors**

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

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

ARPANSA categorises breaches of licence conditions based on whether the implications for safety (the potential risks to safety) were either significant or minor.

Breaches with significant safety implications typically occur where there is a high risk of potential radiation exposure or actual radiation exposure to people or the environment.

Breaches with minor or no significant safety implications are typically administrative failures to meet regulatory requirements, for example: failing to label equipment properly, submit paperwork on time, complete scheduled training, keep up-to-date inventories, or conduct scheduled reviews of planning documents. As a matter of policy, ARPANSA does not publicly name entities in the quarterly report for minor breaches.

Six breaches, determined in the quarter, were considered to have minor or no significant safety implications. The breaches were for failing to comply with licence conditions, including those in the Australian Radiation Protection and Nuclear Safety Regulations 2018. These breaches were:

- Three breaches were for failing to review the plans and arrangements for managing radiation safety, which are required to be reviewed at least every three years under section 61 of the Regulations.
- One breach related to not complying with a relevant code or standard, including requirements of the *Radiation Health Series publication 24: Code of Practice for the Design and Safe Operation of Non-medical Irradiation Facilities* (1988) (RHS 24).
- One breach was for failing to seek approval to dispose of a radiation source as required under section 65(1) of the Regulations. During a refurbishment six apparatus were disposed of, which was subsequently self-reported to ARPANSA.
- One breach was for failing to maintain a current source inventory. Specifically, a legacy x-ray apparatus was discovered that was not recorded on the inventory, which was promptly self-reported to ARPANSA. The apparatus had not been intended to be used again.

Additionally, one breach was identified with significant safety implications this quarter. This breach was identified following investigations of an incident at ANSTO's Mo-99 Production Facility on 21 June 2019 (see 'Significant Regulatory Activities' above), and was recorded for the licensee's failure to comply with section 58 (to take all reasonably practicable steps to prevent accidents) and section 79 (to ensure that doses to workers are below relevant limits) of the Australian Radiation Protection and Nuclear Safety Regulations 2018.

## Facilities licensed under Part 5 of the ARPANS Act

No facility licences were issued in the period.

## The operations of the Council and Committees

### Radiation Health and Safety Advisory Council

The Radiation Health and Safety Advisory Council (the Council) met on 1-2 August 2019 in Sydney.

Key topics of discussion included recent safety incidents at ANSTO, issues associated with naturally occurring radioactive material, the health impacts of ultraviolet radiation protection and a national approach to skin cancer prevention. The Council considered the need for advice to the CEO of ARPANSA on these issues. In addition, the Council heard updates on public enquiries and concerns about 5G technology.

The minutes of past meetings are on ARPANSA's website at [www.arpansa.gov.au/rhsac](http://www.arpansa.gov.au/rhsac). The next meeting is scheduled for 11-12 December 2019 in Sydney.

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

The RHSAC did not provide any reports to the CEO during this quarter.



## **Radiation Health Committee**

The Radiation Health Committee (RHC) met on 2-3 July 2019 in Brisbane.

At the meeting, the RHC endorsed the continuation of the Radiation Regulator Network under the current arrangements till 31 July 2020, and approved the establishment of an Australian National Radiation Dose Register advisory board.

The RHC approved the amended dose limits for age group of 16 years to under 18 years in the *Code for Radiation Protection in Planned Exposure Situations* (2016), RPS C-1.

The RHC approved the new methodology for review of Radiation Protection Series (RPS) codes and approved the use of the State/Territory-specific requirements (in addition to OBPR requirements) in preparing COAG preliminary assessments or regulatory impact statements for RPS documents. The RHC also agreed to the priority list for revision of RPS and Radiation Health Series (RHS) documents presented at the meeting.

Further information can be found in the meeting minutes which are provided online at [www.arpana.gov.au/rhc](http://www.arpana.gov.au/rhc).

The next RHC meeting will take place in Canberra on 13-14 November 2019.

## **Nuclear Safety Committee**

The Nuclear Safety Committee (NSC) did not meet during the quarter.

The next meeting of the NSC is scheduled for 1 November 2019 in Miranda.

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

The NSC did not provide any reports to the CEO during this quarter.





