



Australian Government

**Australian Radiation Protection
and Nuclear Safety Agency**

Quarterly Report

of the

Chief Executive Officer of ARPANSA

October to December 2016

Copyright Notice

With the exception of the Commonwealth Coat of Arms, any ARPANSA logos and any content that is marked as being third party material, this publication, the Quarterly Report of the Chief Executive Officer, by the Australian Radiation Protection and Nuclear Safety Agency is licensed under a Creative Commons Attribution 3.0 Australia licence (<http://creativecommons.org/licences/by/3.0/au>). It is a further condition of the licence that any numerical data referred to in this publication may not be changed.

Requests and enquiries concerning reproduction and rights should be addressed to:

ARPANSA
619 Lower Plenty Road
Yallambie VIC 3085
email: info@arpansa.gov.au

Further information about this publication

If you would like to know more about the content of this publication please contact ARPANSA on 1800 022 333 or info@arpansa.gov.au. Further information can be found on the ARPANSA website at www.arpansa.gov.au.

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is the Australian Government's primary authority on radiation protection and nuclear safety. ARPANSA regulates Commonwealth entities using radiation with the objective of protecting people and the environment from the harmful effect of radiation. ARPANSA undertakes research, provides services, and promotes national uniformity and the implementation of international best practice across all jurisdictions.

Printed by:

CanPrint Communications Pty Ltd
16 Nyrang Street
Fyshwick ACT 2609

Table of Contents

Letter of transmittal	1
The operations of the CEO and ARPANSA.....	2
Protect the public, workers and the environment from radiation exposure.....	2
Ensure radiological and nuclear security, and emergency preparedness.....	4
Promote the effective use of ionising radiation in medicine	5
Ensure effective and proportionate regulation and enforcement activities.....	6
International engagement.....	7
Details of directions given by the Minister	11
Details of directions given by the CEO	11
Details of improvement notices given by inspectors.....	11
Details of any breach of licence conditions by a licensee	11
Facilities licensed under Part 5 of the ARPANS Act	11
The operations of the Council and Committees	11
Radiation Health and Safety Advisory Council	11
Radiation Health Committee	12
Nuclear Safety Committee.....	13

This page has been intentionally left blank.

Letter of transmittal

25 February 2017

The Hon Dr David Gillespie
Assistant Minister for Rural Health
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 any direction given by the Minister to the CEO under section 16 of the Act
- details of any direction given by the CEO under section 41 of the Act
- details of improvement notices given by inspectors under section 80A of the Act
- any breach of licence conditions by a licensee, of which the CEO is aware
- 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
- the 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 2016.

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

Carl-Magnus Larsson
CEO of ARPANSA

The operations of the CEO and ARPANSA

ARPANSA sits within the Department of Health portfolio.

ARPANSA has a single outcome, as set out in the 2016-17 Portfolio Budget Statement (2016-17 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 2016-17 PBS, describes four program objectives which ARPANSA pursues to deliver its outcome. These program objectives are:

- protect the public, workers and the environment from radiation exposure
- ensure radiological and nuclear security, and emergency preparedness
- promote the effective use of ionising radiation in medicine, and
- ensure effective and proportionate regulation and enforcement activities.

The report on the operations of the CEO and ARPANSA is based on these program objectives.

Protect the public, workers and the environment from radiation exposure

Australian National Radiation Dose Register

ARPANSA maintains the Australian National Radiation Dose Register (ANRDR) which stores, maintains and reviews radiological dose histories for occupationally exposed workers in Australia.

The ANRDR currently holds dose history records for more than 38 000 workers. This includes full coverage of workers from all licensed uranium mining and milling operations, and partial coverage of workers from Commonwealth licence holders, and the mineral sands mining and processing industry.

ARPANSA continues to expand the ANRDR, with a goal to include all occupationally exposed workers. Progress continues to be made in the aviation sector and engagement has commenced for the medical sector.

A review of the privacy requirements for the ANRDR has been completed with the development of a privacy impact assessment to confirm that the ANRDR complies with the Australian Privacy Principles. This has been completed in conjunction with a template that is provided to stakeholders to allow them to assess their privacy requirements for disclosure of records to the ANRDR.

Monitor and Mitigate Population Exposures to Electric and Magnetic Fields and Electromagnetic Radiation

There was a meeting of the Electromagnetic Energy Reference Group (EMERG) on 22 November 2016. EMERG meets twice annually to receive input from the community and other stakeholders and discuss and advise on issues relating to EME and health (<http://www.arpansa.gov.au/AboutUs/collaboration/emerg.cfm>). This meeting focused on the funding processes for EME research in Australia.

On 22 November 2016 ARPANSA staff attended the Science and Wireless Workshop hosted by the Australian Centre for Electromagnetic Bioeffects Research at RMIT University (www.rmit.edu.au/events/all-events/conferences/2016/november/science-and-wireless-2016).

Solar Ultraviolet Radiation and Sun Protection

ARPANSA measures solar ultraviolet radiation (UVR) at eleven sites around Australia. During this quarter, trials and assessment of new equipment to modernise the operation of the network were finalised, with the replacement of infrastructure to commence in the next quarter. The UVR index data generated by the network is used to raise awareness in the Australian population of the levels of UVR exposure and the risks associated with excessive sun exposure.

Standards Development

ARPANSA's Radiation Health Committee endorsed a plan to revise RPS3 – *Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz* following the publication of the revised guidelines by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and a review on radiofrequency fields and health by the World Health Organization (WHO). Both the revised ICNIRP Guidelines and WHO review are not expected to be published until late in 2017 and possibly in 2018. Given that the publication of these documents is some time away ARPANSA will begin the process of the review of RPS3 in order to shorten the process when the ICNIRP and WHO documents become available.

ARPANSA, working with Standards Australia, led the drafting work to update AS/NZ 2243.4 Safety in Laboratories: Ionising Radiation. As the standard had not been updated for over a decade, major revision of the document was required. The draft was finalised by the drafting committee and is proceeding through the Standards Australia publication process.

An ARPANSA expert chaired the Standards Australia Committee meeting TE-007 – Human Exposure to Electromagnetic Fields. The Committee met via teleconference in December 2016 and discussed the report from the International Electrotechnical Commission (IEC) TC 106 plenary meeting and the implications of the imminent publication of the revised IEC 62232 *Determination of RF field strength and SAR in the vicinity of radiocommunication base stations for the purpose of evaluating human exposure* due to be published in 2017. IEC 62232 incorporates the latest developments in SAR computation and measurement techniques and represents best international practice for assessing EME from radio transmitters such as mobile base stations. Updating the Australian EME assessment standard AS/NZS 2772.2 to include references to IEC 62232 SAR computation and measurement techniques will ensure that the Australian standard keeps pace with international best practice. The Committee agreed to prepare a proposal for Standards Australia to initiate an amendment to AS/NZS 2772.2 to add references of IEC 62232 in the standard.

Ensure radiological and nuclear security, and emergency preparedness

Security of Radioactive Material

A number of security consultants from across Australia undertook the Graduate Certificate in Radiation Security (GC RADSEC) to become Radiation Security Advisors (RSAs) under the National Security Advisors Accreditation Scheme (NRSAAS). Under NRSAAS, successful graduates are proposed to the state agencies responsible for radiation security by ARPANSA to be accredited as RSAs under state legislation. The skilled graduates provide jurisdictional capability in radiation security advice which assists ARPANSA in ensuring that radiation security practices are uniformly implemented.

The security of radioactive sources is also an element of ongoing ARPANSA regulatory inspections.

International Monitoring System

As part of Australia's ongoing commitment to the Comprehensive Nuclear-Test-Ban Treaty (CTBT), ARPANSA operates and maintains radionuclide air particulate monitoring stations that are part of the CTBT International Monitoring System. Stations are located in Melbourne, Perth, Townsville, Darwin, the Cocos Islands, Macquarie Island, and Mawson Base (Antarctica). Two noble gas monitoring facilities are co-located with air particulate monitoring stations in Melbourne and Darwin.

ARPANSA continued to operate the Australian CTBT Radionuclide Laboratory which is a certified laboratory for the analysis of air particulate samples. The laboratory analysed five samples this quarter. Results from the Proficiency Test Exercise conducted this quarter have not yet been released by the CTBT Organisation.

Visiting Ships Panel (Nuclear)

The Australian Government has in place an interdepartmental standing committee called the Visiting Ships Panel (Nuclear) (VSP(N)) to oversee arrangements for visits to Australia by nuclear-powered warships (NPW) and other nuclear-powered vessels. ARPANSA is a member of the VSP(N) and chairs the Technical Working Group (TWG) which provides advice and support to the VSP(N). During this quarter both the VSP(N) and TWG met to review plans and arrangements and to schedule port validation activities in preparation for NPW visits anticipated in 2017.

Emergency Preparedness

A delegation from the Singapore National Research Foundation (NRF) visited ARPANSA. A series of presentations was arranged which included Australia's nuclear safety and security regulatory framework and emergency preparedness and response (EPR) arrangements.

In cooperation with the IAEA Safeguards Division and the Department of Nuclear Safety and Nuclear Security, Australia hosted the inaugural Small Quantities Protocol and Nuclear Security workshop. ARPANSA provided an EPR expert to give a presentation. Interest focused on the nuclear security of radioactive sources.

ARPANSA participated in an international 'ConvEx-2d' Exercise conducted by the International Atomic Energy Agency (IAEA) Incident and Emergency Centre in order to allow Member States to test arrangements for a transnational nuclear emergency. The exercise was used to test various aspects of the ARPANSA Incident Management Plan.

Promote the effective use of ionising radiation in medicine

Radiotherapy

As a part of the Radiotherapy section's regular calibration services for radiotherapy providers and industry users of radiation, ARPANSA calibrated three neutron monitors, two survey meters and seven therapy dosimeters this quarter. Four of the six therapy dosimeters were calibrated directly in linear accelerator radiation beams allowing more accurate radiation measurements for patient treatment.

Australian Clinical Dosimetry Service

The Australian Clinical Dosimetry Service (ACDS) is a joint initiative between the Department of Health and ARPANSA to provide radiation specialists with a source of independent checks for equipment and patient doses. This enables an integrated national approach to promoting safety and quality in radiotherapy, which is expected to lead to further improvements in radiotherapy treatment outcomes. During this quarter, the ACDS finalised 33 audits of radiotherapy equipment, exceeding the audit target frequency agreed to with the Department of Health. The ACDS has now conducted ten audits with the new Intensity-Modulated Radiation Therapy (IMRT) and IMRT Flattening Filter Free modalities. The ACDS has continued performing field trials of the small field modality in the Level Ib audit and field trials of volumetric modulated arc therapy in both Level II and III audits.

The ACDS achieved mutual recognition of its Level I audit with IROC Houston. This is a world-first agreement between two international dosimetric auditing bodies and has been facilitated by our participation in the Global Harmonisation Group.

Medical Imaging

A contract has been signed with the successful tenderer to produce an interactive e-learning module to provide tailored baseline radiation safety training to staff at medical facilities utilising ionising radiation. When completed, this Radiation Protection of the Medical Practitioner e-learning module will be made available on the ARPANSA website as a resource for medical facilities.

The draft of the Medical Exposure Code was further revised in response to comments received from regulators and professional societies. The RHC approved the amended document for a period of public comment, subject to the submission and acceptance of a preliminary assessment by the Office of Best Practice Regulation.

The National Diagnostic Reference Level Service received a total of 1507 surveys for computed tomography procedures during the 2016 calendar year, an increase of 50%. A finalised proposal for revised reference levels in nuclear medicine was sent to the relevant professional bodies for their endorsement.

Ensure effective and proportionate regulation and enforcement activities

ARPANSA published the *Code for Radiation Protection in Planned Exposure Situations, Radiation Protection Series C-1 2016* (Planned Exposure Code). The Planned Exposure Code sets out the requirements in Australia for protecting occupationally exposed persons, the public and environment in planned exposure situations. The primary means of controlling exposure in planned exposure situations is by good design of facilities, equipment, operating procedures, and through training.

Regulator Performance Framework

ARPANSA undertook its first annual self-assessment in accordance with the Australian Government Regulatory Performance Framework between 24 and 29 July 2016. The self-assessment team consisted of ARPANSA staff, an overseas expert and a licence holder representative. Several areas for improvement were identified. The results of our self-assessment have been approved by the CEO, and validated by the Nuclear Safety Committee. The final 2015-16 Self-assessment Report for ARPANSA can be found at: www.arpansa.gov.au/AboutUs/corporate/regperformance.cfm.

Regulatory Guides

ARPANSA revised the *Regulatory Guide: Plans and Arrangements for Managing Safety*. This guide outlines the key aspects that should comprise an organisation's plans and arrangements for managing safety. The revised draft was sent to key licence holders for comment with a deadline of 19 October 2016.

The draft *Regulatory Guide: Applying for a Licence for a Radioactive Storage or Disposal Facility* was sent to stakeholders for comment. This Regulatory Guide provides guidance on the information to be submitted with the licence application addressing the regulatory requirements. Comments received are currently under ARPANSA's consideration.

Significant Licensing Activities

Approvals were given for the following submissions under Regulation 51 and 54:

- Australian Nuclear Science and Technology Organisation (ANSTO) OPAL reactor Regulation 51 request for the class 1 IEEE qualification program
- ANSTO Centre for Accelerator Science Regulation 51 request to update the Safety Analysis Report and associated Operational Limits and Conditions
- ANSTO OPAL request for routine irradiation of twelve uranium target plates
- ANSTO Secondary Standard Dosimetry Laboratory request to update the Operational Limits and Conditions
- ANSTO Waste Operations request to routinely operate the building 27 ventilation system.

Inspections

During this quarter, ARPANSA completed 21 inspections of radioactive sources and facilities in accordance with its Regulatory Delivery Model. In addition, there were site visits to 12 facilities. Inspection reports are posted on ARPANSA's website: www.arpansa.gov.au/regulation/inspections.

Inspections revealed one instance of non-compliance. In addition, 18 areas for improvement were identified. These were provided to the licence holder to encourage continuous improvement. Inspection outcomes are reviewed and trended to inform the future inspection program.

Stakeholder Engagement – Licences

A number of meetings were held with licence holders to discuss progress of safety significant projects (e.g. upcoming OPAL spent fuel shipment) and the regulatory review of applications listed above.

In addition ARPANSA met with key licence holders to review their quarterly reports submitted for the July – September 2016 period.

Stakeholder Engagement – Regulatory Documents

A document entitled *Information for Stakeholders: Radioactive Storage and Disposal Facilities* was sent to stakeholders for comment. This document explains relevant principles, concepts and processes that apply to the management (storage and disposal, and other associated activities) of radioactive waste. Comments received are currently under ARPANSA's consideration.

Radioactive Material Import Permits

The importation of radioactive material into Australia requires permission under Regulation 4R of the Customs (Prohibited Imports) Regulations 1956. These regulations are made under the *Customs Act 1901*. Under the Customs (Prohibited Imports) Regulations 1956, the Minister for Health may authorise ARPANSA officers to approve import permissions.

During this quarter, ARPANSA authorised officers issued 116 permits for non-medical radioisotope including: 50 urgent permits, 61 standard permits and 5 twelve month permits.

During this quarter, ARPANSA authorised officers issued 124 permits for medical radioisotopes including zero urgent permits, 1 twelve month permit and 123 single shipment permits.

Transport of Radioactive Material

ARPANSA approved the transport of nine disused radioactive sources, under special arrangement, from the University of Auckland, NZ to the Lucas Heights Science and Technology Centre. A certificate of approval for this transport was issued to ANSTO. Four transport security plans were endorsed.

International engagement

ARPANSA's international engagement provides the agency with the means of influencing the international radiation protection and nuclear security and safety framework. ARPANSA's regulatory framework and radiation protection standards are based on international best practice. It strengthens our engagement with domestic stakeholders in order to grow awareness and collaboration on national interests and policy objectives. The following is a summary of key international engagement activities undertaken in this quarter.

Main Commission of the International Commission on Radiological Protection (ICRP) from 24-28 October 2016, Shenzhen, China

ARPANSA's CEO attended the bi-annual meeting of the ICRP's Main Commission. Major work includes the release of a series of publications with revised dose coefficients for occupational intake of radionuclides. This is of significance for Australia, for example in the uranium mining and milling industry. The ICRP Committee structure has been revised to support an integrated approach to protection of people and the environment. From 1 July 2017 four Committees will work on: radiation effects; dosimetry; protection in medicine; and application in different exposure situations. The ICRP remains a major international driver for development of the framework for radiological protection. Its recommendations as well as scientific symposia are held in high regard internationally. Travel was partially funded by the ICRP.

13th Coordination Meeting of the International Atomic Energy Agency (IAEA) Network of Analytical Laboratories for the Measurement of Environmental Radioactivity (ALMERA) 24-27 October 2016, Sydney, Australia

ARPANSA attended the annual ALMERA coordination meeting hosted by ANSTO in Sydney in cooperation with the IAEA. The meeting provided an opportunity to discuss and review the plans for future ALMERA activities, the status and plans for analytical method development and the priorities for training courses and regional and task group. The results of recent proficiency tests were also discussed as were the plans for future proficiency tests.

IAEA Regional GSR Part 7 Workshop, 31 October to 4 November 2016, Fukushima, Japan

ARPANSA attended the IAEA Regional Workshop on the 'Revised Safety Requirements in Emergency Preparedness and Response (GSR Part 7)'. The meeting discussed the implementation of the revised framework described in GSR Part 7. Key outcomes include provision of strategies to develop a protection strategy, undertake a hazard assessment, protect workers and deal with waste. A follow-up workshop aimed at both regional and local participants is planned to be hosted by ARPANSA in October 2017. This travel was funded by the IAEA.

Commission on Safety Standards (CSS) 40th meeting, 7-11 November 2016, Vienna, Austria

ARPANSA attended the 40th meeting of the CSS which discussed important developments in international best practice in the safety and security standards. This CSS meeting also provided a useful forum to promote important issues such as incorporating implications of the United Nations Scientific Committee on the Effects of Atomic Radiation report 'Attributing Health Effects to Ionizing Radiation Exposure and Inferring Risks' in the future development of IAEA safety standards, and in integrating safety and security in the standards. Travel was partially funded by the IAEA.

Asia Pacific Metrology Program (APMP) Technical Committee on Ionising Radiation (TCIR), 12-16 November 2016, Da Nang, Vietnam

ARPANSA attended the APMP TCIR meetings which concerned technical, logistic and strategic issues in radiation measurements conducted by the primary and secondary radiation standards laboratories

in the Asia Pacific region. Key outcomes were the results of regional dosimetry comparisons (including those in which ARPANSA had taken part) and a strategic understanding of the trends in new standards in dosimetry – how laboratories are prioritising the different measurements which are possible for ionising radiation. Travel was funded by ARPANSA.

*33rd Meeting of the IAEA's Transport Safety Standards Committee (TRANSSC),
15-18 November 2016, Vienna, Austria*

ARPANSA attended the TRANSSC meeting which focused on the revision of safety guides related to the IAEA's Specific Safety Requirement No. 6 (SSR-6) – Regulations for the Safe Transport of Radioactive Material. The meeting noted that the revised edition of the SSR-6 Regulations, and Format and Content of the Package Design Safety Report for the Transport of Radioactive Material, are out for Member States comment. The revised SSR-6 will be very important to Australia as SSR-6 is currently adopted as the ARPANSA Code for the Safe Transport of Radioactive Material and compliance with this code is a regulatory requirement. The status of other IAEA safety standards, approval and/or clearance of safety documents and TRANSSC action plans were discussed at the meeting. The meeting was funded by ARPANSA.

*International Conference on the Safety of Radioactive Waste Management, 21-25 November
2016, Vienna, Austria*

ARPANSA's CEO chaired this conference held at the IAEA headquarters. Two other ARPANSA staff members participated as session chair and presenter. The meeting was timely for ARPANSA, considering ARPANSA's role in ongoing consultations regarding a National Radioactive Waste Management Facility. The Australian approach to consultation and regulation was met with great interest and resonates very well with international experience and international best practice. The conference provided support to ARPANSA's regulatory approach to defining the requirements on the safety case and protection. Travel was partly funded by the IAEA.

*41st meeting of the IAEA Radiation Safety Standards Committee (RASSC), 21-23 November
2016, Vienna, Austria*

ARPANSA attended this meeting which considered and approved for submission for Member State comment a safety guide on the remediation process for areas affected by past radiation activities and accidents. The meeting also considered two document proposals, on the applications of the concept of exemption and the concept of clearance, and cleared them for submission to the IAEA Commission on Safety Standards for approval. The development of a safety report providing guidance on living in contaminated environments was also discussed. The meeting also included a Topical Session on the Implementation of General Safety Requirements (GSR Part 3) Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards. Attendance at RASSC enables ARPANSA to be actively involved at the highest level of development of international best practice in safety and security standards. Travel was funded by ARPANSA.

United Arab Emirates (UAE) Federal Authority on Nuclear Regulation (FANR) meeting, 23 November 2016, Abu Dhabi, UAE; International Atomic Energy Agency (IAEA) Division of Health consultancy, 28 November – 2 December 2016, Vienna, Austria

ARPANSA met with FANR representatives and clinical representatives from multiple radiotherapy providers in the UAE on the development of the Australian Clinical Dosimetry Centre (ACDS) and the potential for enhanced engagement between Australia and the UAE in areas associated with the medical use of radiation. On the same trip ARPANSA met in Vienna with radiation protection specialists from the IAEA's Radiation Transport and Waste Safety Division to discuss the role of regulation in safe clinical practice and reporting of radiation related clinical incidents. ARPANSA also participated, at the request of the IAEA Division of Human Health, in a consultancy with three other international experts to write a document titled *Guidance on Resources, Infrastructure and Equipment required for Setting up a Dosimetry Audit Network*.

IAEA meetings of the Waste Safety Standards Committee (WASSC), 28 November – 2 December 2016, Vienna, Austria

ARPANSA attended and chaired the 42nd WASSC and Joint WASSC/Emergency Preparedness and Response Standards Committee (EPreSC) meetings at the IAEA. The draft Safety Guide (SG) DS489 on Storage of Spent Nuclear Fuel was approved by WASSC for submission to Member States for comment. This SG has relevance for ANSTO in safe storage of spent fuel from the OPAL research reactor. The draft SG on Remediation Process for Areas Affected by Past Accidents and Activities, now the only IAEA safety standard specifically dealing with remediation, was approved by WASSC for submission to Member States for comment. This standard will find application in Australia in remediation of legacy uranium mining sites. A new SG Application of the Clearance Concept is being developed by the IAEA. It will be important for ARPANSA to be involved in developing and drafting the new SG, and to introduce the concept of clearance into the national regulatory system for management of very low level radioactive waste. A Joint session of WASSC and EPreSC was held during this week to discuss areas of common interest. Travel was funded by ARPANSA.

IAEA meeting of the Emergency Preparedness and Response Standards Committee, 28 November – 2 December 2016, Vienna, Austria

ARPANSA attended the EPreSC during which the progress of a number of IAEA safety standards under development was considered. Documents discussed relating to the development of a protection strategy for a nuclear or radiological emergency, communication during such an emergency, and remediation of contaminated sites are of particular interest. ARPANSA experts are engaged in working groups related to each of these documents. This travel was funded by ARPANSA.

Global Coordination of RF Communications on Research and Health Policy on RF Electromagnetic Fields (GLORE) Meeting, 30 November – 1 December 2016, Yokohama, Japan

An ARPANSA expert was invited and attended the meeting of the GLORE held in Yokohama, Japan. The meeting discussed regulations and policies and research projects on RF and health that are being implemented worldwide. ARPANSA also attended a joint workshop of the National Institute of Information and Communications Technology and the International Commission on Non-Ionizing

Radiation Protection (ICNIRP) held in Tokyo, Japan on 2 December 2016. The revision of the ICNIRP radiofrequency guidelines and protection related to 5G systems was discussed during the workshop. 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 during this quarter.

Details of directions given by the CEO

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

Details of improvement notices given by inspectors

No improvement notices were given by inspectors under section 80A of the Act during this quarter.

Details of any breach of licence conditions by a licensee

The CEO is not aware of any significant breaches of licence conditions during the quarter.

One breach of licence conditions with minor safety or security implications was identified. A licence holder was found to be in breach of subsection 30(2) of the Act by failing to comply with Regulation 49. Regulation 49 states that the licence holder must take all reasonably practical steps to manage the safety of the facility. The licence holder was found to have not conducted a major structural survey as required by the facility plans and arrangements.

Facilities licensed under Part 5 of the ARPANS Act

No facilities were issued with licences during the period.

The operations of the Council and Committees

Radiation Health and Safety Advisory Council

The Radiation Health and Safety Advisory Council (RHSAC) met in Brisbane on 17-18 November 2016. The next RHSAC meeting will be held in Melbourne on 16-17 March 2017.

Ultraviolet Radiation (UVR)

Council considered new and emerging technologies in the prevention of skin cancer, and new research on the health impacts of UV exposure, including preventable melanoma. The Council acknowledged the opportunity-cost of investing in prevention rather than treating skin cancer. ARPANSA's UVR strategy was also presented for consideration, highlighting priority areas such as a

sunscreen testing service and noting that ARPANSA is investigating new technology to incorporate into its UV monitoring network.

Reports to the CEO from the Radiation Health and Safety Advisory Council under paragraph 20(f) of the Act

The RHSAC did not provide any out-of-session reports to the CEO during this quarter.

Radiation Health Committee

The Radiation Health Committee (RHC) met on 16 November 2016 in Brisbane.

International Regulatory Review Service mission

In addition to Tasmania and Northern Territory, South Australia and Victoria have also confirmed participation in the 2018 mission. Final confirmation from Western Australia is pending. The mission will be held during 4 – 16 November 2018. Training for use of the self-assessment tool has been completed with Northern Territory, South Australia, Tasmania, with more training planned.

Development of Codes and Standards

The draft Medical Exposure Code is to be sent for broader consultation pending endorsement from the Office of the Best Practice Regulation (OBPR).

The Committee agreed to change the Existing Exposure Code to a Guide, endorsed the Existing Exposure Guide for public consultation, and endorsed the Planned Exposure Code for publication subject to agreed minor amendments.

RHC members were requested to provide further comments on the structure of the Emergency Exposure Guide, and endorsed the approach to progress this document as a Guide and to integrate the current RPS7, or most of it, into this new document.

It was proposed that the Radiation Protection Series No. 3 (*Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz*) be published as an ARPANSA Code and aligned with ICNIRP Guidelines using a risk-informed evidence-based approach. A working group will be established with members from government, industry and the community to review how workers and the public are protected. A preliminary assessment will be forwarded to OBPR to seek advice on whether a RIS is required. A RHC sponsor was appointed for this project.

A draft document entitled 'Model Licence Conditions- Industrial Radiography' was tabled at the meeting. The Committee decided that this document should be redrafted into a Code and a RHC sponsor was appointed for this project.

Comments on the consultation regulatory impact statement for the control of Intense Pulsed Light (IPL) and lasers for cosmetic use were tabled. The comments resolution table is currently at 447 pages and a fulsome analysis is still to be completed. The issues raised are numerous and complex and the resolution process is therefore lengthy. Many of the issues raised are wider than the

radiation protection issues typically of concern to the RHC. The RHC agreed to establish a working group to draft a guidance document for the cosmetic use of IPL and lasers by next RHC meeting.

The next RHC meeting will be held in Melbourne on 15 March 2017.

Nuclear Safety Committee

The Nuclear Safety Committee (NSC) met in Sydney on 4 November 2016.

Validation of Government Regulatory Performance Framework Self-Assessment Report

In July 2016, as required by the Government Regulatory Performance Framework (RPF), ARPANSA conducted an annual self-assessment of its regulatory effectiveness against six RPF key performance indicators. The NSC was tasked to review and validate the self-assessment report.

The NSC was comfortable with the approach and methodology, and considered the use of stakeholders as part of the review team a positive initiative. However, the Committee considered that the scope of the report was too restrictive as it focused on the fixed performance indicators only, and thereby did not comprehensively reflect on a number of ARPANSA initiatives. This may have resulted in ARPANSA not being as highly rated against the key performance indicators as a more complete analysis would reveal.

The report was revised to highlight these initiatives and to contextualise performance by including a more complete picture of ARPANSA. Formal NSC validation of the self-assessment report was provided on completion of these amendments. This report is now published on the ARPANSA and Department of Health websites.

National Radioactive Waste Management Facility Communications

The Committee was updated on the ARPANSA NRWMF project including a site visit to Hawker, Barndioota and the publication of two fact sheets outlining the licensing process. The Committee was generally supportive of the work undertaken and provided a number of useful comments.

Update on Controlled Facilities

The Committee was briefed on developments associated with controlled facilities, including the operation of the ANSTO OPAL reactor, the construction of the new ANSTO Nuclear Medicine facility, and recent works relating to the radiological characterisation of the shutdown High Flux Australian Reactor (HIFAR). No significant issues were raised by the NSC.

The next NSC meeting will be held in Sydney on 10 March 2016.

Reports to the CEO from the Nuclear Safety Committee under paragraph 26(1)(d) of the Act

The Nuclear Safety Committee wrote to the CEO of ARPANSA regarding concerns for resourcing for the National Radioactive Waste Management Facility ongoing stakeholder engagement plan (4 November 2016).