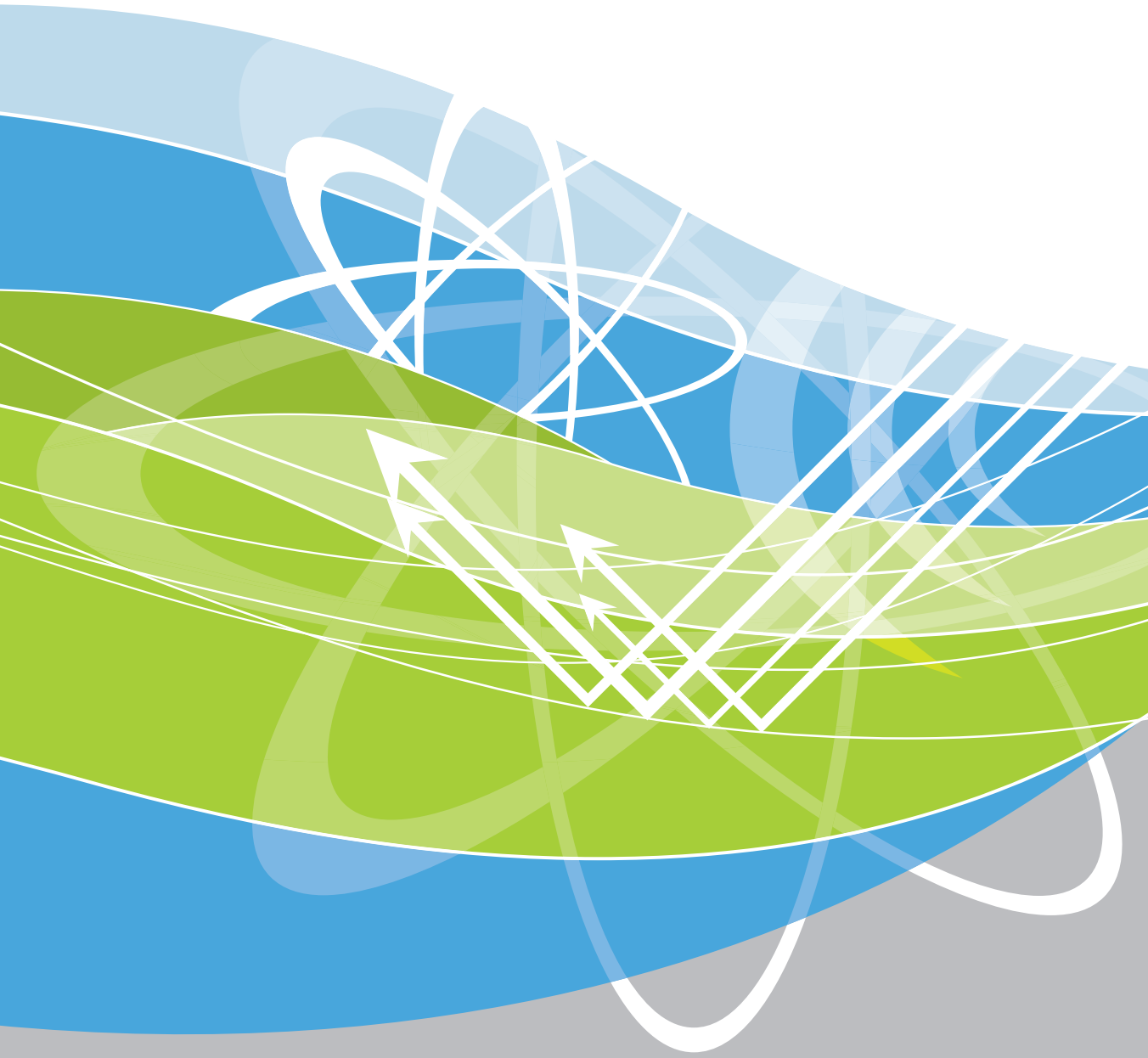
Australian Government

Australian Radiation Protection and Nuclear Safety Agency

ARPANSA

Annual Report of the Chief Executive Officer



ANNUAL REPORT **2014–15**

Annual Report of the Chief Executive Officer of ARPANSA 2014-15

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This report meets the requirements of section 8 of the *Freedom of Information Act 1982* which requires each Commonwealth Agency to publish information about the way it is organised, its functions, powers and arrangements for public participation in its work.

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Australian Government

Australian Radiation Protection and Nuclear Safety Agency

30 September 2015

Senator the Hon Fiona Nash
Minister for Rural Health
The Senate
Parliament House
CANBERRA ACT 2600

Dear Minister

In accordance with section 59 of the *Australian Radiation Protection and Nuclear Safety Act 1998* (the ARPANS Act), I present to you for transmittal to the Parliament the Annual Report of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) for the period 1 July 2014 to 30 June 2015.

As required by the ARPANS Act, my report provides details on:

– the operations of the CEO, ARPANSA and the Council and Committees
– any direction given by the Minister to me under section 16 of the ARPANS Act and any breach of licence conditions by a licensee, of which I am aware
– all reports received from the Radiation Health and Safety Advisory Council on matters related to radiation protection and nuclear safety or the Nuclear Safety Committee on matters related to nuclear safety and the safety of controlled facilities.

For the purposes of section 10 of the Public Governance, Performance and Accountability Rule 2014, I certify that:

– ARPANSA has in place a fraud control plan and fraud risk assessments were undertaken during the year in review
– ARPANSA has in place appropriate fraud prevention, detection, investigation, and reporting mechanisms that meet the specific needs of the Agency, and
– all reasonable measures have been taken to deal with fraud relating to the Agency.

The report of the independent auditor on the financial statements of ARPANSA for 2014-15 and the financial statements are included with this report which also meets the *Requirements for Annual Reports* issued by the Department of the Prime Minister and Cabinet and updated 25 June 2015.

Yours faithfully

CEO of ARPANSA

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Part 1: CEO's Review

I'm pleased to present to you the seventeenth Annual Report of the CEO of ARPANSA, the sixth under my stewardship of the Agency. In this review, I highlight some of the major developments during the year, summarise the financial results and look ahead at challenges for the next financial year.

The Annual Report also gives me an opportunity to thank ARPANSA's competent and dedicated staff who have continued to deliver radiation protection and nuclear safety outcomes to the Australian community against a background of fiscal challenges within the Australian Public Service. Over all, we have been able to meet the targets outlined in the *Portfolio Budget Statements* and remain well positioned to meet the challenges over the years to come.

Significant issues and developments

Regulatory environment and performance

Details on inspections, licensing activities, breaches and other aspects of ARPANSA's regulatory work are provided in Part 3: Report on Performance, of this Annual Report. A number of more general observations are made below.

ARPANS Act and Regulations

The Australian Radiation Protection and Nuclear Safety Amendment Bill was introduced in the House of Representatives during the 2015 winter sitting. The Bill subsequently passed both Houses of Parliament without amendment, and makes changes to the *Australian Radiation Protection and Nuclear Safety Act 1998* (ARPANS Act) to, among other things, provide for the regulation of legacy sites with radioactive material, and provide greater capacity for ARPANSA to act in the event of an emergency or non-compliance with the legislation.

During the period, the Federal Executive Council also approved certain changes to the Australian Radiation Protection and Nuclear Safety Regulations 1999 (the Regulations) and Australian Radiation Protection and Nuclear Safety (Licence Charges) Regulations 2000. In addition to indexing the licence application fees and annual licence charges in line with the Wage Price Index, the changes also included certain amendments to cut red tape and reduce regulatory burden and bring the regulations in line with the latest drafting convention of the Office of Parliamentary Counsel.

Regulator Performance Framework

Consistent with the Australian Government *Regulator Performance Framework*, ARPANSA Regulatory Services Branch implemented a new 'regulatory delivery model' effective January 2015. The delivery model provides improvements in regulatory effectiveness and efficiency, including the use of risk-based oversight and risk-informed decision-making. The main objectives of the delivery model are aligned with the Regulator Performance Framework, as follows:

- avoid unnecessary intervention in the operations of regulated activities
- communicate with regulated entities clearly and effectively
- take action proportionate to the regulatory risks being managed
- choose an approach to compliance and monitoring that is streamlined and coordinated
- remain open and transparent in dealings with regulated entities and the public
- perform frequent self-assessments in order to improve the delivery model.

Performance indicators were developed and trialled in recent months, prior to their required implementation in 2015-16.

Trusted international standards

In late 2014, and as part of the *Industry Innovation and Competitiveness Agenda*, the Government adopted the principle that, if a system, service or product has been approved under a trusted international standard or risk assessment, then regulators should not impose any additional

requirements for approval in Australia, unless it can be demonstrated that there is a good reason to do so.

The term international best practice is generally accepted to be the principles underlying the world's best safety and security policies and practices across radiation and nuclear industries (see www.arpansa.gov.au/Regulation/ibp). ARPANSA participates in risk assessments carried out in international scientific fora, and in the setting of international standards, through participation in the Safety Standards Committees (on radiation, transport, waste and nuclear safety) and the Nuclear Security Guidance Committee of the International Atomic Energy Agency (IAEA). ARPANSA also participates in the work of the World Health Organization (WHO), the International Commissions on Radiological Protection (ICRP) and Non-Ionizing Radiation Protection (ICNIRP), and other fora.

ARPANSA has a high level of confidence in the adequacy of the international framework for protection and is applying it in its own licensing activities. This is consistent with subsections 32(3) and 33(3) of the ARPANS Act requiring the CEO to take into account international best practice in relation to radiation protection and nuclear safety when making a decision on whether to issue a licence.

Australian jurisdictions, through the work of the Radiation Health Committee established under the ARPANS Act, have agreed to use these international standards as a basis for nationally uniform radiation regulation. In light of its ongoing work in assisting with the development of international standards, and in line with the *Industry Innovation and Competitiveness Agenda*, ARPANSA has embarked on a systematic update of the suite of radiation protection and nuclear safety guidance documents used in Australia, to ensure they continue to reflect current international best practice, in collaboration with state and territory regulators.

Implementation of ANAO Recommendations

In early 2014, the Australian National Audit Office (ANAO) released its report on ARPANSA's regulation of Commonwealth licence holders concluding that ARPANSA had been "generally effective in managing key aspects of the regulatory framework applying to the possession and use of radiation and nuclear sources and facilities by Australian Government entities". Since that time, ARPANSA has implemented a new regulatory delivery model that promotes regulatory effectiveness and the use of risk-informed decision-making. ARPANSA has recently concluded that all ANAO recommendations have been satisfactorily addressed, including the long-term initiative to develop a more robust cost recovery model (which requires several years of monitoring before it culminates with changes that coincide with the 'sunsetting' of the Regulations in 2019).

Medical radiation protection

A web-based Appropriate Referral Training Module has been completed in collaboration with Department of Health and the Australian Commission on Safety and Quality in Health Care (ACSQHC) to provide radiation dosimetry information to referrers, including general practitioners and other health professionals, to improve referral quality and patient communication of risk and benefit. ARPANSA has consulted widely with stakeholders, including referrers, radiologists, radiographers and medical physicists, regional and metropolitan hospitals and other key stakeholders including WA Health, the Royal Australian College of General Practitioners, the Australian College of Rural and Remote Medicine, the Australian Institute of Radiography, the Australian Diagnostic Imaging Association and NPS MedicineWise. Feedback has also been received from a number of the State Radiation Advisory Councils.

Many of these other stakeholders are represented by the Project Reference Group run under the auspices of the ACSQHC.

In December 2014, I signed an arrangement with the Department of Health for a duration of two years to consolidate the Australian Clinical Dosimetry Service, which audits the dosimetry of linear accelerators used in radiation therapy in Australia. The audits are aimed at reducing the risks of dosimetric errors in the treatment of cancer patients and are carried out at different levels of complexity, with the less complex audits carried out at higher frequency. ARPANSA is also tasked with developing a cost recovery model for this service and maintains close interactions with a variety of stakeholders, such as state and territory regulators, professional colleges, the medical profession, and patient safety advocacy groups.

Ultraviolet and electromagnetic radiation

ARPANSA's involvement with the World Health Organization (WHO) is formally recognised through ARPANSA's status as a Collaborating Centre for Radiation Protection. WHO and the International Commission for Non-Ionizing Radiation Protection (ICNIRP) are key fora for development of protective approaches to non-ionising radiation, in particular, ultraviolet radiation (prevention of skin cancer) and electromagnetic radiation such as radiofrequency radiation used in mobile and fixed communication (an area where perceptions of health effects and risks are widely divergent, both among experts and among the general public).

ARPANSA continues to maintain an ultraviolet radiation (UVR) monitoring network with real time information on exposure levels accessible from ARPANSA's website and via multiple platforms (see www.arpansa.gov.au/uvindex). We continue to maintain a dialogue with stakeholders regarding electromagnetic radiation, including community groups, via the Electromagnetic Energy Reference Group (see www.arpansa.gov.au/AboutUs/Collaboration/emerg.cfm), which was re-established with amended Terms of Reference and new membership during the year.

Radiation incidents

ARPANSA maintains a nationwide incident register, called the Australian Radiation Incident Register (ARIR)[1]. Analysis of the incidents is conducted annually and published on the ARPANSA website. For this financial year, ARPANSA reported four incidents to the register. In total, over the 2014 *calendar* year (reporting to the ARIR takes place on a calendar year basis), 286 incidents have been reported to the register. The majority of these concern medical uses of radiation, which reflects the fact that millions of medical procedures involving radiation are carried out every year across Australia.

The number of incidents reported for 2014 is an increase from 201 in 2013 and from a fairly stable figure of 100-120 reports in previous years. Analysis of 2014 data is yet to be carried out; however, as a preliminary view I offer the hypothesis, as last year, that the increase in reporting levels is at least partly due to proactive awareness-raising by ARPANSA which has resulted in an increased *reporting* of incidents to ARIR. Thus, the upward trend may be an illustration of improved safety culture rather than deterioration of safety *per se*. Through the Radiation Health Committee, ARPANSA will continue to raise awareness of the value of reporting and the need to improve consistency and quality of reporting across Australia to add value to information obtained from the register.

In addition to the ARIR, ARPANSA is also responsible for reporting incidents to the IAEA International Nuclear Events Scale reporting system on behalf of Australia. One event involved worker exposure to a displaced borehole logging source at a mine site, where two workers received doses above the statutory dose limit, was reported.

Status of protection of the Australian community against the harmful effects of radiation

The exposure to radiation from different sources is summarised in Figure 1. This diagram outlines radiation doses to the *average Australian* in one year. The general level of exposure is low in international comparison, mainly due to the fact that average background radiation levels in Australia are low. The radiation exposure from medical procedures is an increasing source of exposure. While these procedures are ordered for the purpose of managing the health of patients, there is a need to be vigilant in optimising protection of patients and the previously mentioned development of support modules for referrals is a step in this direction.

Based on data in the ARIR and other information sources, I consider radiation safety in regulated activities in Australia is generally well managed and the Australian community is being afforded a high level of safety. There is, however, no room for complacency and the incidents and breaches should be appropriately addressed and safety and security systems improved as appropriate. Importantly, the *culture of safety and security* in dealing with sources and facilities should be promoted within a system of continuous improvement.

1. The definition of incident for the purpose of the ARIR is outlined in Schedule 13 of the *National Directory for Radiation Protection*, Radiation Protections Series No. 6, and can be found at www.arpansa.gov.au/RadiationProtection/arir.

ARPANSA also strives at providing unbiased information and advice to the public as well as to professionals. While this is done for the purpose of public information, it also allows people to take their own informed decisions in relation to radiation risks.

Finances and efficiencies

For the financial year ending 30 June 2015, ARPANSA reported an operating deficit of $1.64m. This deficit is attributed to depreciation and amortisation expense not requiring appropriation.

Revenue for the year totalled $24.1m, of which 55% was appropriated by government. The remaining amounts related to regulatory licence fees and charges and from the sale of goods and services. ARPANSA's expenses totalled $25.8m. Approximately 61% of these expenses are attributed to employee benefits.

In the Annual Report for 2013-14, I indicated that we would continue to strive to become a leaner and more efficient Agency. Through the implementation of various programs, based on thorough reviews of parts of the Agency's services or more broad ranging assessments, we have established targets for staffing that would sustain satisfactory delivery of the Agency's outcome. The implementation of these programs has resulted in a reduction in staffing levels, which now should stabilise at about 130. I also consider that the Agency's delivery of radiation protection and nuclear safety to the Australian community is of sustained high quality, and it is continually monitored to promote and support continuous improvement.

My Executive Group is committed to reviewing and improving the efficiency and effectiveness by which ARPANSA delivers its program, to ensure that the agency can deliver its outcomes within available resources.

Outlook

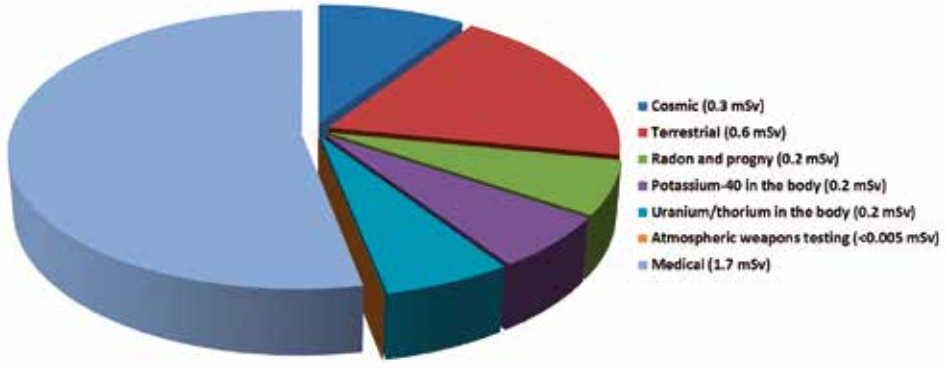
In accordance with the *Public Governance, Performance and Accountability Act 2013*, ARPANSA has published its Corporate Plan on the website (see www.arpansa.gov.au/AboutUs/Corporate/corplan2015-19.cfm). It describes our operating environment as well as the performance indicators, looking four years into the future. Below, I highlight some issues that will be of importance during 2015-16.

Figure 1: Radiation exposure to the Australian population

There are three main sources of artificial ionising radiation. They are:

- medical uses, such as diagnosis
- industrial uses, mainly in measurement and scientific research
- natural background.

The chart shows the relative annual per capita dose to the Australian population from the various radiation sources.



Source: ARPANSA website at www.arpansa.gov.au/RadiationProtection/basics/understand.cfm

- The Little Forest Legacy Site (LFLS) at Lucas Heights was taken into operation in the 1960s as a disposal facility for radioactive, chemical and other waste, generated during operations supervised by the Australian Atomic Energy Commission. While LFLS has been continuously maintained by the Australian Nuclear Science and Technology Organisation (ANSTO), it has formally not been licensed. ARPANSA is currently reviewing ANSTO's application for a licence to possess or control the LFLS as a storage facility. This licence will bring the site under regulatory control, enabling ARPANSA to issue conditions governing the short and long-term management of both the waste and the site[2].
- During 2015-16, ANSTO will receive intermediate level waste resulting from the reprocessing of fuel from the permanently shut down High Flux Australian Reactor (HIFAR). The fuel has been reprocessed in France under an agreement which stipulates that all primary waste (including fission products with the fissile material removed) will be returned to Australia. A purpose-built facility, the *Interim Waste Store*[3], will house the waste until such time it can be transported to a *National Radioactive Waste Management Facility* (NRWMF), the licensing of which is a number of years away.
- The Department of Industry and Science (DoIS) is currently in the process of identifying potential sites for the NRWMF referred to above. ARPANSA, as the regulator, is responsible for reviewing any application and eventually making a decision on a licence to prepare a site for the NRWMF. While this process is entirely driven by DoIS, ARPANSA expects increased involvement with stakeholders as the process identifies preferred site(s) for the facility, in order to explain ARPANSA's role. Formal consultation under the provisions of the ARPANS Act will commence once ARPANSA has received a reviewable application. ARPANSA has established an internal project for regulatory oversight of the establishment of the NRWMF and is liaising internationally to secure necessary expertise for the review.
- ARPANSA will monitor and as necessary interact with ongoing reviews in the nuclear field. These include a scoping study on nuclear regulation driven by DoIS and stemming from the *Energy White Paper*; and the South Australian Nuclear Fuel Cycle Royal Commission which looks into expanded nuclear fuel cycle facilities, such as expanded uranium mining, uranium enrichment, reactor fuel fabrication, reprocessing of used fuel, waste storage and disposal, and power reactors.
- ARPANSA will continue to play a significant role in protection from non-ionising radiation. In particular, this involves supporting WHO in developing fundamental principles and basic safety standards for protection from the harmful effects of non-ionising radiation. ARPANSA will also continue to monitor levels of non-ionising radiation in the environment, such as electromagnetic fields in work environments, and solar UVR.
- As noted earlier in this review, the exposure of the Australian population from medical imaging procedures that involve ionising radiation is increasing and while it is higher in some other countries with well-developed health care systems, it is higher in Australia than in some comparable European countries. ARPANSA will therefore continue to work with the Department of Health, and within established networks that involve colleges, practitioners, patient safety advocacy groups and epidemiologists; to characterise risks and promote good radiation protection practices in health care, while fully respecting the expertise of the medical profession in making the necessary judgements with regard to the justification of such procedures.
- ARPANSA will continue to expand and improve its services to the Australian community in a variety of areas. This includes:
  - » further consolidating and expanding the Australian National Radiation Dose Register
  - » developing a sustainable funding model for the Australian Clinical Dosimetry Service
  - » consolidating the interaction with relevant bodies (nationally and internationally) in emergency preparedness and response, and in nuclear security
  - » upgrading and consolidating the Personal Radiation Monitoring Service

2. ANSTO was issued with a licence on 9 July 2015.
3. ANSTO was issued with a licence to operate the Interim Waste Store on 8 May 2015.

- consolidating and expanding the services related to protection from UVR
- improving the Australian Radiation Incident Register, and finally
- by further improving the timeliness and quality of advice to the Australian Government and community. This also includes evaluating and as necessary improving the 'talk to a scientist' program, where ARPANSA scientists are available to questions from the public twice a week (see www.arpansa.gov.au/Public/talk).

While the above are challenges that ARPANSA faces in relation to radiation protection and nuclear safety, it is also clear that there are challenges associated with sustaining the delivery of these outcomes. These challenges are related to retirements among a workforce with many long-serving, highly skilled and experienced staff members, and to the need to find further efficiencies in the Agency's delivery of services. During the year, succession planning was completed in all major areas and a long-term recruitment program has already started and will continue during 2015-16, while bearing in mind the need to stay within a sustainable staffing level.

I will continue to work with the Agency's staff to reach the goals as laid out in the Corporate Plan, while also paying attention to the needs of staff and the necessary competence structure; with the aim of maintaining the Agency's national and international status and improving the working environments and interactivity. I am confident the Agency remains well placed to meet these challenges.

Part 2: Agency Overview

About ARPANSA

Role and functions

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 effects of radiation. ARPANSA also undertakes research, provides services, and promotes national uniformity and the implementation of international best practice across all jurisdictions. Figure 2 describes our mission and vision. ARPANSA is a portfolio agency of the Department of Health, and is prescribed as a non-corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013*.

The CEO of ARPANSA is responsible for applying and implementing the *Australian Radiation Protection and Nuclear Safety Act 1998* (ARPANS Act).

Our regulatory role is implemented through the ARPANS Act and our regulatory and advisory frameworks are based on monitoring of levels of radiation in the environment and scientific evidence regarding the effects of radiation on human and environmental health and wellbeing.

Figure 2: Our mission and vision

Location and organisational structure

With approximately 130 employees we operate out of three offices, located in Yallambie (VIC); Miranda (NSW); and Barton (ACT). Figure 3 shows ARPANSA's organisational structure as at 30 June 2015.

Senior executive

Carl-Magnus Larsson
Chief Executive Officer

Carl-Magnus Larsson commenced as Chief Executive Officer of ARPANSA in March 2010 with a background in chemistry and biology and a PhD in Botany from Stockholm University, Sweden. Prior to his appointment to ARPANSA, Carl-Magnus worked at the Swedish Radiation Protection Authority (from 2008 the Swedish Radiation Safety Authority after a merger with the Swedish Nuclear Power Inspectorate) focusing on environmental aspects of nuclear power. He subsequently became Branch Head and Deputy Director-General with responsibilities for, among other things, radiation protection, waste management, radioactive materials and emergency preparedness and response. Between 2000 and 2007, Carl-Magnus coordinated the multinational European Commission-supported research projects FASSET and ERICA (both on environmental assessment and protection). Carl-Magnus is a member of the Main Commission of the International Commission on Radiological Protection and is the ex-Chair of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) having finished his term in June 2015. He is a member of the IAEA Commission on Safety Standards.

Peter Johnston
Deputy Chief Executive Officer
Chief Medical Radiation Scientist
Medical Radiation Services Branch

Peter Johnston has been ARPANSA's Chief Medical Scientist and Head of the Medical Radiation Services Branch since its creation in May 2011. Prior to that Peter was Branch Head of ARPANSA's Environmental and Radiation Health Branch since 2009. Peter worked at Royal Melbourne Institute of Technology (RMIT) for 20 years commencing as a Lecturer, progressing to become Professor of Applied Nuclear Physics in 2001 and Head of Physics in 2003; he remains an Adjunct Professor at RMIT. During this period, Peter had several ministerial and government appointments and was a member of the Uranium Mining, Processing and Nuclear Energy Review in 2006. Peter first joined the Australian Radiation Laboratory at Yallambie (now ARPANSA) in 1979 and worked in Radioactivity Standards, Environmental Radioactivity and Health Physics for ten years. Peter has extensive experience in providing advice on environmental radiation matters including the contamination and rehabilitation of Maralinga, radiation protection issues in uranium mining as well as in the medical use of radiation.

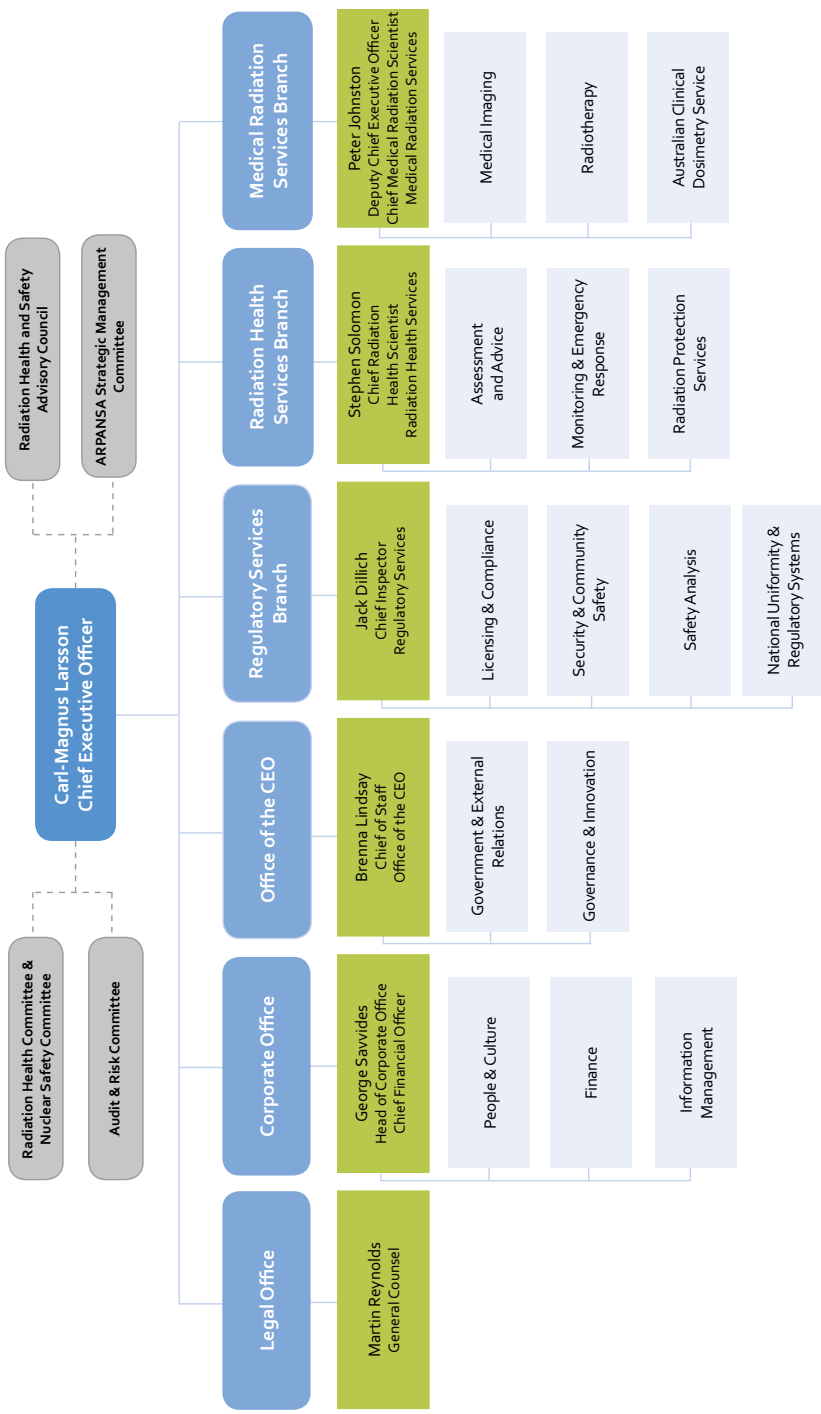
At the start of June 2015, Peter accepted the position of Director, Division of Radiation, Transport and Waste Safety within the Department of Nuclear Safety and Security at the International Atomic Energy Agency in Vienna, Austria. Peter will leave ARPANSA in August 2015 to take up this new role.

Stephen Solomon
Chief Radiation Health Scientist
Radiation Health Services Branch

Stephen Solomon has been ARPANSA's Chief Radiation Health Scientist and Head of Radiation Health Services Branch since its creation in May 2011. Prior to his appointment, Stephen was Manager Health Physics Section, Environmental and Radiation Health Branch, ARPANSA. Stephen has a PhD in Nuclear Physics and has over thirty-five years' experience in health physics and radiation protection. He is responsible for leading ARPANSA program on radiation protection of public, workers and the environment.

He leads and coordinates ARPANSA activities as a World Health Organization (WHO) Collaborating Centre for Radiation Protection and is a member of WHO Radiation Emergency Medical Preparedness and Assistance Network. Stephen was the Leader of the Expert Group for the assessment of doses and risk to humans and biota and a member of the Coordination Expert Group for the UNSCEAR Assessment of Levels and Effects of Radiation Exposure due to the Nuclear Accident after the 2011 Great East Japan Earthquake and Tsunami.

Figure 3: Organisational chart



Jack Dillich
Chief Inspector
Regulatory Services Branch

Jack Dillich has been ARPANSA's Chief Inspector and Head of Regulatory Services Branch since October 2014. Regulatory Services Branch provides independent regulation of Commonwealth users of radiation. Jack has over three decades' experience involving the application of nuclear technologies that include power plant operations, research reactors and propulsion. In his most recent role before joining ARPANSA, he provided oversight for the safe operation of nuclear activities with an overseas operator of nuclear plants. Jack earned advanced degrees in nuclear engineering, held a licence as a senior reactor operator at a nuclear power plant, and is certified as a Professional Engineer.

George Savvides
Head of Corporate Office
Chief Financial Officer

George Savvides has been ARPANSA's Head of Corporate Office since its creation in May 2011 and is also ARPANSA's Chief Financial Officer. Prior to his current appointment, George had many years' experience in senior finance roles in both the private and not-for-profit sectors, including Oakton Limited, Melbourne Football Club, Melbourne Health, Powercor Telecommunications and Ansett Australia. George is a Certified Practicing Accountant with an MBA from the Australian Graduate School of Management.

Brenna Lindsay
Chief of Staff
Head, Office of the CEO

Brenna Lindsay has been ARPANSA's Chief of Staff and Head of the Office of the CEO since September 2012. Brenna joined the Agency in February 2012 as the Director, Parliamentary and Government Relations.

Brenna came to ARPANSA having served in a number of senior roles in the Australian Government primarily in government relations, governance, and communications. With over ten years in the Australian Public Service, Brenna has held key roles in the Australian Taxation Office, Australian Federal Police, ACT Policing, and the Department of Immigration and Citizenship, covering a variety of coordination and advice functions including international policy, capacity building, ministerial services, strategic planning, media and marketing management, and government relations.

Brenna holds a Master of Arts (International Relations) from Deakin University and a Bachelor of Communications (Journalism and Cultural Studies) from Griffith University.

Brenna departed ARPANSA at the end of June 2015.

Martin Reynolds
General Counsel
Legal Office

Martin Reynolds is ARPANSA's General Counsel and Head of the Legal Office since August 2011. Prior to his current appointment, Martin was Corporate Governance Officer at ARPANSA since 2008. Martin has had many years' experience in both legal and senior management roles in government statutory authorities. Martin was trained as a lawyer at Monash University and also holds a Bachelor of Business (Management) from the same university.

Michael Perry
External Member
Strategic Management Committee

Michael Perry is the Independent Chair of ARPANSA's Audit and Risk Committee. He is a retired Chartered Accountant, formerly a partner with Ernst & Young and Arthur Andersen.

Michael has extensive experience in financial consulting services, with specialist skills in auditing, government services, public company floats and takeovers, the valuation of companies, corporate financing, risk management and internal audit structures.

He is currently the Chair of the Victorian Government's Department of Economic Development, Jobs, Transport and Resources Audit

and Risk Committee, on the Board and Chair of the Audit and Risk Committee of the Victorian Registration and Qualifications Authority and on the Board of M&L Hospitality Trust and the Copland Foundation.

Megan Morris
External Member
Strategic Management Committee

Megan Morris has been the external member of ARPANSA's Strategic Management Committee since August 2013. Megan brings significant experience in government, governance and management to the Committee.

At the time that Megan joined the Committee she was Head of the Office of Health Protection in the Department of Health. This role entailed the assessment, articulation and management of health risks, health emergency planning and regulation of a range of sensitive substances. Megan has continued on the Committee post her retirement in July 2014.

Outcome and program structure

Our activities are focused into a Radiation Protection and Nuclear Safety Program. This program is made up of four key strategies, and supported by whole-of-agency stakeholder engagement and enabling support strategies, to deliver our radiation protection and nuclear safety outcome for the Australian Government and to the community.

The outcomes of ARPANSA's activities and services are measured by Key Performance Indicators (KPIs). The 2014-15 scorecard provides a snapshot view of our performance for the year. Full explanations on all measures, analysed against previous years and set targets can be found in Part 3: Report on Performance. The tables opposite provide a summary of the delivery of our 2014-15 Strategic Initiatives.

Outcome	**Protection of people and the environment through radiation protection and nuclear safety research, policy, advice, codes, standards, service and regulation**			
Program	**Radiation Protection and Nuclear Safety**			
Key Strategies	Protect the public, workers, and the environment, from radiation exposure	Promote radiological and nuclear safety and security, and emergency preparedness	Promote the effective use of ionising radiation in medicine	Ensure effective and proportionate regulation and enforcement activities
	1.1.1 Protection of the public and environment 1.1.2 Protection of workers	1.2.1 Security 1.2.2 Emergency preparedness	1.3.1 Radiation protection of the patient	1.4.1 Licensing 1.4.2 Compliance and enforcement 1.4.3 Regulatory systems and national uniformity

Enabling and Support Strategies	***Stakeholder Engagement***	***Enabling Services and Support***		
	Government and external relations	***Governance and stewardship***	***People***	***Infrastructure and technology***
	S1: Parliamentary and Government relations S2: International relations S3: Communications and education	E1.1 Corporate Governance E1.2 Financial management and procurement E1.3 Audit and assurance E1.4 Legal services	E2.1 Employment framework E2.2 Workforce planning E2.3 Recruitment and retention E2.4 Workplace health and safety E2.5 Learning and development	E3.1 Enabling infrastructure E3.2 Records and knowledge management E3.3 Information technology

Part 3: Report on Performance

3.1 Protect the public, workers and the environment from radiation exposure

ARPANSA, on behalf of the Australian Government, continuously assesses the body of knowledge about ionising and non-ionising radiation to artificial, and natural sources. We aim to keep abreast of international best practice, and provide advice tailored to our Australian environment. While we cannot eliminate sources of radiation from the environment around us, if we can have a good understanding of radiation and ways of controlling our exposure, we can all minimise the risk when necessary, and use the knowledge to reduce concern where there is no reason to be concerned.

Protection of public and the environment

To protect the public and the environment from the harmful effects of radiation exposure, ARPANSA reviews the most up-to-date scientific research and gathers data to inform its regulatory activities. It allows ARPANSA to provide evidence-based, expert advice to the Australian Government and the public. In 2014-15, ARPANSA focussed its scientific activities in this area to characterise the sources of radiation exposures in Australia, to assess the risks from this exposure to radiation to people and the environment, and to reflect this understanding into advice and guidance to the public, Government and other stakeholders. This included the assessment of sources and exposure to naturally occurring ionising radiation, ultraviolet radiation (UVR), electromagnetic radiation and regulated activities.

Solar ultraviolet radiation

ARPANSA's nationwide solar UVR monitoring systems continues to provide real time information on the levels of solar UVR in selected cities. Recent international intercomparison studies, coordinated by ARPANSA, of solar UVR spectral measurement systems were made to demonstrate the consistency of the UVR measurements in different countries. In 2015, the results of an intercomparison program undertaken in 2013 between ARPANSA, Public Health England and the Bureau of Meteorology, supported by the National Institute of Water and Atmospheric Research of New Zealand were published. These results demonstrated there was good agreement between the UVR measurements in Australia, New Zealand and the United Kingdom.

ARPANSA also continued to operate its National Association of Testing Authorities (NATA) – accredited Ultraviolet Protection Factor (UPF) Testing Service, testing 2005 samples of sun protective clothing and hats, sunglasses and other sun protective materials, and in 2014-15 issued 3 801 500 labels for sun protective clothing ('Swing Tags').

Protection of the environment

A national approach to protection of the environment from ionising radiation has been developed and a draft safety guide was released for public comment. In October 2014, ARPANSA hosted a workshop as a part of the Australasian Radiation Protection Society conference to provide guidance to industry and regulators and to promote a nationally uniform approach to protecting the environment from the harmful effects of ionising radiation. The workshop included the provision of training in the use of the best practice ERICA assessment tool. ERICA (Environmental Risk from Ionising Contaminants: Assessment and Management) is a software tool that enables the assessment of environmental impact of ionising radiation on biota and ecosystems. In April 2015, ARPANSA hosted a second workshop for Australian scientists involved with radiological protection of the environment with a focus on strengthening national collaboration and international linkages.

To continue the development of best practice guidance on how to assess environmental exposures and to demonstrate protection of the environment from human activities, ARPANSA signed a project workplan with the Norwegian Radiation Protection Authority to further develop the ERICA Tool and Database and strengthen its suitability for Australian conditions.

Building capability for measurement of radioactivity

ARPANSA hosted a workshop on alpha spectrometry and the use of Canberra's Apex Alpha acquisition and analysis software in December 2014. The course was attended by eighteen participants from Australia, New Zealand and Singapore and was delivered by Greg Landry from Canberra's Burbank, United States of America office. The workshop included practical demonstrations of laboratory techniques and participants sharing their experiences with alpha-spectrometry. The course was well received and provided participants with an opportunity to share their experiences and develop

a better understanding of the specific features of the Canberra Apex-Alpha software and alpha spectrometry in general.

The accident at the Fukushima Dai-ichi Nuclear Power Plant raised concerns about the possible impact to Australia from the release of radioactive elements to the ocean. Numerical ocean modelling indicates that these will reach the Australian coastline around 2016. ARPANSA conducted a study to determine the background levels of these radioactive elements, due to atmospheric nuclear testing in the 1960s, in commonly consumed seafood from northern Australia. Similar surveys will be conducted in the future to determine whether the releases from Fukushima are detectable in Australian seafood.

ARPANSA developed a system for measuring the very small amounts of radioactive caesium in seawater. This system was used to determine the background levels, due to atmospheric nuclear testing in the 1960s, at six locations around Australia. This program will continue in 2015-16. This system will also be deployed as a more sensitive method for monitoring for releases at ports used by visiting nuclear powered warships.

Electromagnetic radiation

In 2015, ARPANSA published its findings of a survey of extremely low frequency electric and magnetic fields (ELF EMF) associated with electricity supply and distribution infrastructure. The survey of ELF EMF around electricity supply infrastructure showed that ELF levels were well below exposure limits. A total of 52 separate sites of different types of electricity infrastructure were chosen for measurement in Melbourne. All measurements of ELF EMF around electricity supply infrastructure were well below the National Health and Medical Research Council's exposure limits (generally below 1% of the limits).

ARPANSA also continued to publish on its website monthly summaries on recent scientific papers dealing with EMF/EMR (electromagnetic radiation) and health. The papers are selected on the basis of importance to the protection of health, on perceived likely interest to the wider public and where Australian research is reported.

Radioactive waste safety

Australia has accumulated low level and short lived intermediate level radioactive waste from over 40 years of medical, industrial, and research uses. Today, most of the radioactive waste generated in Australia comes from the operations at the Australian Nuclear Science and Technology Organisation; due to effective ALARA (as low as reasonably achievable) and waste minimisation efforts, however, the annual increase to Australia's inventory is only about 50 m^3.

In May 2015, ARPANSA led the Australian delegation at the Fifth Review Meeting of the Joint Convention on the Safety of Spent Fuel Management and

Dr Emilie Van Deventer - Team Leader, Radiation Programme, World Health Organization presenting at Science and Wireless 2014

the Safety of Radioactive Waste Management. Australia's National Report was well received, attracting particular praise from Spain for our regulatory consideration of interdependencies of multiple facilities on the Lucas Heights site. The Australian National Report is available on the ARPANSA website (www.arpansa.gov.au/AboutUs/Collaboration/jointconv.cfm).

Written questions to Australia were primarily focused on progress towards a national radioactive waste management facility and the interim and long term management plans for intermediate level waste (ILW), uranium mining and the management of disused sealed sources. One *Good Practice* was identified for Australia, namely, the planned construction of an industrial scale Synroc waste treatment facility demonstrating a new conditioning process, using titanate-based waste forms, for liquid ILW generated from the production of Molybdenum-99. Achieving a recognised *Good Practice* as a non-nuclear power contracting party is a significant achievement.

Protection of workers

Occupational exposure to ionising radiation occurs across a variety of work environments which may contain man-made sources of radiation, elevated levels of natural radiation, or radioactive materials from past activities. ARPANSA strives to promote the identification, characterisation and monitoring of radiation levels present in work environments to assist workers to take the necessary steps to reduce their occupational exposure. In 2014-15, ARPANSA continued to evaluate and monitor work environments to ensure workers are adequately protected and informed about occupational risks from exposure to radiation.

The Australian National Radiation Dose Register

Uranium workers are one such occupationally exposed group who are monitored for exposure to ionising radiation. Radiation protection of workers requires the maintenance of radiation dose records to assess compliance with occupational dose limits and to minimise the radiation health risk to individuals through the continued improvement of work practices. ARPANSA operates and maintains the Australian National Radiation Dose Register (ANRDR or the 'Dose Register') for the collection, storage and auditing of radiation dose histories for uranium industry workers. The Dose Register is an electronic database which stores radiation dose information for workers who are occupationally exposed to radiation.

The Dose Register has now been successfully implemented across all uranium mines in Australia: Olympic Dam, Beverley and Honeymoon in South Australia, and Ranger in the Northern Territory. The Dose Register currently holds dose records for more than 34 000 workers from the uranium mining and milling industry. A worker's dose history report from the Dose Register contains all past doses received while working in applicable industries in Australia, and while registered with the Dose Register.

In supporting the control of doses to uranium workers, ARPANSA has focused upon reporting trends to key stakeholders as required, or on request, and ARPANSA is confident that this measure has been successfully met. Now that all uranium mines in Australia are providing records to the Dose Register, the trend data will become more meaningful and will allow ARPANSA to characterise radiation doses to uranium workers at the national level.

The Dose Register is now in the process of expanding to other industries where workers may be exposed to radiation sources, such as mineral sands mining and processing operations, and applicable Commonwealth licence holders. During this financial year, ARPANSA has engaged with Iluka Resources who have volunteered to participate in the ANRDR's pilot program for the mineral sands industry by volunteering a Western Australian worksite as a test site for the ANRDR. The ANRDR team is now in discussions with the relevant state regulator to establish the legal framework for allowing Iluka to submit workers' personal information to ARPANSA in line with privacy laws.

ARPANSA has also commenced stakeholder engagement to include occupationally exposed Commonwealth employees in the Dose Register. During this financial year, ARPANSA has worked closely with CSIRO in the ANRDR's pilot program to establish the legal and practical requirements for applicable Commonwealth licence holders to participate in the ANRDR.

Performance against deliverables

Qualitative Deliverables

Deliverable	Devise protection strategies for the Australian population from ionising and non-ionising radiation
2014-15 Reference Point or Target	Devise protection strategies for the Australian population from ionising and non-ionising radiation
RESULT	ARPANSA nationwide UVR monitoring systems continues to provide real time information on solar UVR levels in selected cities. Recent international intercomparison studies coordinated by ARPANSA of UVR measurement demonstrate the accuracy of the systems. A national approach to protection of the environment from ionising radiation has been developed. A survey of ELF EMF around electricity supply infrastructure were well below exposure limits.

Qualitative Key Performance Indicators

Key Performance Indicator	Radiation doses to uranium industry workers
2014-15 Reference Point or Target	Annual reporting of trend in radiation doses received by workers compiled from Australian National Radiation Dose Register facilitates optimisation of radiation protection in the uranium mining and milling industry.
RESULT	Delivered through publishing an annual newsletter and by providing trend updates at national stakeholder meetings, conferences and other relevant forums.

3.2 Promote radiological and nuclear safety and security and emergency preparedness

Over the reporting period, ARPANSA continued to promote the security and safety of radioactive material to support the Australian Government's approach to prevention of radiological and nuclear emergencies.

Security of radioactive sources

Artificial sources of radiation, whether these are installations, sealed sources, equipment that emit radiation, or any other kind, pose health risks to people and the environment in case of accidents or acts with malicious intent. Accordingly, measures need to be in place to maintain the safety and security of all such sources.

Safety and security is achieved through implementation of technical measures and standards, plans and arrangements for safety and security, and – perhaps most importantly – through safety and security culture among all those involved in the operations.

We support the development of safety culture through guidance on holistic safety and appropriate tools. We support the security of high activity radioactive sources through the promotion of a national approach to legislative, administrative and operational controls, including issuing permits for import/export of sources and radioactive substances.

Import and export permits

In order to continue to give effect to the International Atomic Energy Agency's (IAEA) *Code of Conduct on the Safety and Security of Radioactive Sources*, ARPANSA continued to issue permits for the import and export of radioactive materials. 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 as a permit issuing authority. During this period, ARPANSA authorised officers issued 710 non-medical permits (including 431 urgent permits, 257 standard permits and 22 twelve month permits) and 1174 permits for medical radioisotopes (including 1151 single shipment permits and 23 twelve month permits).

Graduates of the first Vocational Graduate Certificate in Radiation Security Course undertaken as part of the National Radiation Security Advisor Accreditation Scheme

Border control enhancements for the import and export of radioactive materials

During 2014-15, ARPANSA, in cooperation with the Australian Customs and Border Protection Service and the Australian Bureau of Statistics (ABS), introduced a number of changes in order to enhance the control of radioactive materials across Australia's borders, and to address identified weaknesses in the regulatory regime for the import and export of radioactive materials. Specifically, enhancements to the Customs Integrated Cargo System were implemented which now flags a requirement for ARPANSA issued permits to be sighted by Customs officers.

Furthermore, specific Australian Harmonised Export Commodity Classification Codes were developed by the ABS to clearly differentiate radioactive materials from other substances which may need a permit. These changes have translated into increased community safety and security outcomes for all Australians, and improve Australia's ability to give effect to the IAEA *Code of Conduct on the Safety and Security of Radioactive Sources*, including the supplementary guidance on imports and exports.

National Radiation Security Advisor Accreditation Scheme

In December 2014, the first class of the *Vocational Graduate Certificate in Radiation Security* graduated. The course was attended by protective security experts from around Australia. The establishment of this course allows the states and territories access to a pool of accredited assessors who will implement the ARPANSA RPS 11 *Code of Practice on the Security of Radioactive Sources* with consistency across all jurisdictions. The establishment of this course is a significant achievement by ARPANSA and the Protective Security Training College of the Attorney General's Department, resulting in an excellent security outcome for Australia.

ANZCTC CBRN Crime Scene Investigators and Incident Commanders Course

As part of the Australia and New Zealand Counter Terrorism Committee (ANZCTC) Chemical, Biological, Radiological and Nuclear Security Subcommittee (CBRNSSC), ARPANSA played a leading role in the annual CBRN Crime Scene Investigators and the CBRN Incident Commanders training course.

ARPANSA played the lead role in designing and preparing all of the CBRN Scenarios with the support of the Directing Staff and presented a number of lectures throughout the duration of the course.

In 2014, ARPANSA was nominated to represent the CBRN Technical Response Group which developed these courses through the CBRNSSC in order to promote national uniformity in CBRN skills and knowledge, while also ensuring interoperability and harmonised communications across all jurisdictions within Australia. This course was hosted by the Country Fire Authority and Mount Waverley Police Academy in Victoria and was attended by 60 incident commanders and front line counterterrorism operators from all jurisdictions. ARPANSA played the lead role in designing and preparing all of the CBRN scenarios with the support of the directing staff and presented a number of lectures throughout the duration of the course.

This activity has significantly elevated ARPANSA's ability to contribute to CBRN incidents in the national security space where all jurisdictions have been engaged at the tactical, operational and command levels. This activity has made a positive impact nationally to strengthen Australia's preparedness for these incidents or events should they ever transpire.

ARPANSA radiation emergency preparedness and response arrangements

ARPANSA Incident Management Plan

While 2014-15, following testing of the plan and as a consequence of other changes, nationally and organisationally the *ARPANSA Incident Management Plan* was renamed to *ARPANSA Emergency Preparedness and Response Manual* (EPR Manual).

Whilst the new document retains the same broad structure, it was timely to review the content having been in place for three years.

In June 2015, the ARPANSA Emergency Preparedness and Response Group conducted a recall and deployment exercise to simulate a realistic no-notice recall and deployment of trained personnel in response to a hypothetical nuclear powered warship (NPW) accident.

Other discrete elements of the plan were tested throughout the course of 2014-15, including deployment of liaison officers to Australian Government Operations Centres for exercises; formulation of public information products during the IAEA Convention Exercises; and our modelling, assessment and advice capabilities were tested in the lead up to and during ARPANSA participation in whole-of-government exercises.

IAEA ConvEx exercises

ARPANSA is also the designated National Competent Authority (NCA) for Australia for radiological and nuclear emergencies under the relevant IAEA Conventions. ARPANSA participated in three ConvEx-1 and two ConvEx-2 exercises which were aimed at testing NCA's ability to respond to hypothetical radiological emergency scenarios through information exchange, requesting and providing assistance. Participation in the exercises confirmed the responsiveness of ARPANSA in the role as an NCA, verified national coordination arrangements were operating effectively, and tested elements of our own arrangements identified in the EPR Manual.

ARPANSA radiation emergency response capability

ARPANSA has continued to maintain specialised radiation emergency capabilities in line with the EPR Manual, including the Operations Centre and provision of a 24 hour a day point of contact. During 2014-15, these response capabilities were restructured to align with the IAEA Response and Assistance Network (RANET) functional areas. This reduced the training liability for ARPANSA while also improving our interoperability should the Australian RANET capabilities be called upon to assist internationally. It also established a framework for improved interoperability between Australian Government and state and territory response teams, consistent with our promotion of national uniformity.

ARPANSA activities for national EPR arrangements

Functional analysis of national EPR arrangements supporting nuclear power warship visits

ARPANSA, as part of the Visiting Ships Panel (Nuclear) [VSP(N)], has undertaken a review of the plans and arrangements detailed in Australian Defence Organisation manual - OPSMAN1. A workshop was held in October 2014 which focussed on the development of a functional model that would map the roles and functions of the VSP(N) and nuclear powered warship activities at the national and regional level. Further work on implementing the functional model was undertaken in follow-up sessions of the VSP(N) during the course of 2014-15.

ARPANSA also participated in routine port validation process as part of the VSP(N). This included revalidating Western Australian ports, expanding the scope of Darwin to allow visits by nuclear powered aircraft carriers in addition to submarines. The Port of Brisbane was also revalidated which included a table top exercise of the Brisbane Port Safety Organisation. All of these activities ensure visits to Australian ports by foreign nuclear powered warships are conducted in a manner that assures the protection of the public and environment.

National Radioanalytical Laboratory Network

ARPANSA conducted a second capability exercise to ascertain the capability of Australasian laboratories to produce acceptable analyses for food that might contain radioactive elements created in a nuclear reactor. This exercise highlighted the need to develop a formal laboratory network that could provide the necessary capacity for radioactivity analyses in the event of a significant radiological incident.

ARGOS atmospheric dispersion modelling

The ARGOS decision support tool is ARPANSA's primary modelling tool for giving advice on atmospheric dispersion in a nuclear or radiological emergency. The system applies meteorological predictions supplied by Bureau of Meteorology, which have been refined to higher resolutions over the last twelve months. ARPANSA participates in the annual ARGOS Consortium Meeting (held in Copenhagen during September) and the ARGOS User

CASE STUDY – ARPANSA's involvement in monitoring compliance with the Comprehensive Nuclear-Test-Ban Treaty

What is the Comprehensive Nuclear-Test-Ban Treaty?

A Comprehensive Nuclear-Test-Ban Treaty (CTBT) to ban all nuclear explosion tests was opened for signature in New York on 24 September 1996. Australia signed the Treaty on the same day and ratified it on 9 July 1998. As of June 2015, 183 countries have signed and 164 have ratified. To see the latest country to sign or ratify and to find more information on the CTBT Organization (CTBTO) visit their website at *www.ctbto.org*.

How can nuclear tests be detected?

The CTBTO is constructing an International Monitoring System (IMS) to monitor compliance with the Treaty. By analysing, integrating and comparing data from the IMS, the time, location and nature of a possible nuclear event can be determined. The network consists of 321 monitoring facilities and 16 radionuclide laboratories that globally monitor for evidence of nuclear explosions in all environments. These monitoring facilities use a variety of methods to detect evidence of nuclear testing. Seismic, hydroacoustic and infrasound stations are employed to monitor the underground, underwater and atmosphere environments, respectively. The fourth technology detects radiation from atmospheric sampling.

The Radionuclide Monitoring Station on Cocos (Keeling) Island. Particulate matter from the air is collected on a filter using the high-volume sampler at the left of the compound. The radioactivity collected on the filter over a 24-hour period is measured using highly sensitive instruments inside the building at the right of the compound. The results of the measurement are transmitted to the CTBT Data Centre in Vienna via the satellite dish in the centre of the compound.

The IMS will comprise 80 radionuclide stations when fully implemented and ARPANSA is responsible for carrying out Australia's radionuclide monitoring obligations to the Comprehensive Nuclear-Test-Ban Treaty, and is also responsible for the installation, implementation and operation of seven radionuclide stations and one radionuclide laboratory within Australia and its territories. The stations are located at Melbourne, Perth, Townsville, Darwin, Cocos Island, Macquarie Island and Mawson station (Antarctica).

These stations can detect radioactive debris from atmospheric explosions or vented by underground or underwater nuclear explosions. The presence of specific radionuclides provides unambiguous evidence of a nuclear explosion. Forty of these stations will be capable of measuring for the presence of the relevant noble gases. ARPANSA also operates one of sixteen Radionuclide Laboratories across the IMS. These laboratories are used to analyse samples collected at IMS stations to verify samples that are suspected of containing radionuclide materials that may have been produced by a nuclear explosion.

How does Australia assist in preventing nuclear testing?

Due to their location, all of the stations, except Melbourne, are operated by either the Bureau of Meteorology (BOM) or the Australian Antarctic Division (AAD) under Memoranda of Understanding with ARPANSA. ARPANSA is responsible for training the staff of these organisations, supervising the operation of the stations and maintaining and repairing the equipment. During 2014-15, ARPANSA conducted ten visits to our stations for scheduled and unscheduled maintenance visits. This included one major trip to Macquarie Island to perform scheduled maintenance on the particulate radionuclide station on the island. Over a period of six days, a new gamma spectrometry detector and cooler system was installed, as well as a range of other general station maintenance and system calibrations.

Due to the high level of support from BoM and AAD, as well as ARPANSA's proactive approach to ensuring its stations operate at peak efficiency, the Australian stations were fully operational for 97% of the year, which is well above the average for the IMS network of 86%.

Group Meeting (held in Brazil during May; attended by video conference). ARPANSA also participated in the 'International Workshop on Dispersion and Deposition Modelling for Nuclear Accident Releases', held in Fukushima in March 2015.

ARPANSA activities for international EPR arrangements

Radiation EPR activities under the World Health Organization International Health Regulations

ARPANSA is a member of the World Health Organization's (WHO) Radiation Emergency Medical Preparedness and Assistance Network (REMPAN), established in 1987 in order to fulfil WHO's mandate under the two international conventions on Early Notification and Assistance (ENAC). ARPANSA is a WHO REMPAN Regional Collaborating Centre in conjunction with Peter MacCallum Cancer Centre.

In March 2015, ARPANSA attended a Workshop on Medical Preparedness and Response to Radiation Emergencies jointly hosted by the WHO and Korea Institute of Radiological Medical Sciences in Seoul, Korea. This workshop was attended by countries from the South East Asian and Western Pacific Regions and led to an improved understanding of neighbouring countries arrangements, how they are linked to the international arrangements for medical response to radiological and nuclear (RN) emergencies, including those implemented under the ENAC and the International Health Regulations.

The workshop dedicated a significant portion of the time on discussing the importance of psycho-social consequences of RN emergencies and highlighted the role that risk communication plays in mitigating these impacts on the affected population. ARPANSA will ensure these considerations are adopted into emergency communication strategies.

ARPANSA's contribution to this workshop demonstrated Australian commitment to the International Heath Regulations and REMPAN activities for strengthening the regional preparedness, particularly in medical response to a radiological emergency.

Comprehensive Nuclear-Test-Ban Treaty

As a signatory to the Comprehensive Nuclear-Test-Ban Treaty (CTBT), ARPANSA operates seven radionuclide stations and a radionuclide laboratory which forms part of an International Monitoring System (see case study on CTBTO, page 29).

In February 2015, in cooperation with the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), ARPANSA hosted a workshop for the Radionuclide Laboratories designated in the treaty to provide independent analyses of samples from the CTBTO IMS. These workshops are held about every two years and bring together the operators of these laboratories to discuss developments and issues pertaining to laboratory operations, share operational experience and

Participants in the CTBT Workshop

discuss advances in measurement techniques. The workshop was attended by 34 participants from 13 countries. These participants represented 13 of the 16 laboratories in the network, together with representatives from five different equipment suppliers and representatives of the CTBTO. The observations and recommendations from the workshop were reported by the ARPANSA member of the Australian delegation at the 44th meeting of the CTBTO working group B meeting held in Vienna in March 2015.

CAPABILITY EXERCISE 2015 – Ottawa, Canada

CAPEX 2015 is a practical exercise forum under which a number of nations come together to share skills, knowledge, techniques and experiences relating to CBRN security events. It is a full scale field exercise which includes complex scenarios to be completed by each of the participating countries. ARPANSA provided subject matter expertise to support the incident commanders, forensics officers, bomb technicians, investigators, intelligence officers, medical support and defence personnel during the radiation related exercises.

Performance against deliverables

Qualitative Deliverables

Deliverable	**Enhanced system for response to radiological and nuclear threats and events consistent with international guidance and best practice**
2014-15 Reference Point or Target	The ARPANSA Incident Management Plan is fully implemented and tested
RESULT	During 2014-15 the *ARPANSA Incident Management Plan* (IMP) was tested. As a consequence of testing, changes in organisational and national arrangements were identified requiring the plan to be updated. The IMP was subsequently renamed the *Emergency Preparedness and Response Manual* (EPR Manual) and is now being revised to ensure consistent terminology and enhanced integration with national plans and arrangements. Sub-element testing of the EPR Manual has continued during this period of revision.

Quantitative Key Performance Indicator

Quantitative Indicator	2013-14 Revised Budget	2014-15 Budget Target	2015-16 Forward Year 1
Number of security incidents involving high activity radioactive sources requiring immediate reporting	<2	<2	<2
RESULT	Nil	Nil	

CASE STUDY

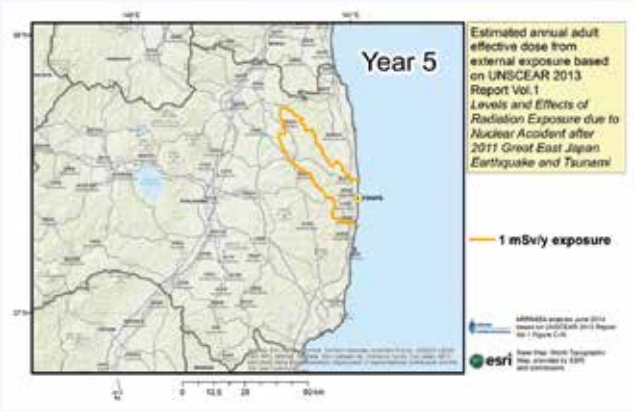
UNSCEAR – 60 years of scientific evaluations

In June 2015, Carl-Magnus Larsson, CEO of ARPANSA, completed his 2.5-year term as Chair of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). The Committee was formed in 1955 to undertake scientific evaluations of sources and effects of ionising radiation, including health risks to people and the environment. UNSCEAR reports its findings directly to the United Nations General Assembly. The reports provide the scientific evidence underpinning the establishment of international guidance and regulation for radiation protection from ionising radiation.

ARPANSA has close links with UNSCEAR, dating back to the beginning. Australia was one of fifteen UN Member States originally invited by the General Assembly to establish UNSCEAR. Cecil E Eddy, Director of the Commonwealth X-ray and Radium Laboratory (one of the predecessors of ARPANSA) was the Chairman of the inaugural UNSCEAR meeting held in March 1956. Since that time, Australia has made significant contributions to the work of UNSCEAR and has chaired nine of its 62 Sessions.

Following the nuclear accident at the Fukushima Dai-ichi Nuclear Power Plant in March 2011, UNSCEAR initiated a project for an assessment of levels and effects of radiation exposure due to the nuclear accident. The work involved contributions of 80 scientists from 18 countries, plus an additional 200 scientists working closely with those nominated to the project. Of the four Expert Groups established by UNSCEAR for this work, the group responsible for the dose and risk assessment to the public and biota, was led by the Chief Radiation Health Scientist from ARPANSA, Stephen Solomon. In addition, ARPANSA provided significant technical and scientific expertise to the assessment.

In April 2014, UNSCEAR published the assessment report *Levels and effects of radiation exposure due to the nuclear accident after the 2011 great east-Japan earthquake and tsunami*. Following the publication of this report UNSCEAR undertook a program of 'outreach' to the Japanese public, government officials, prefecture and municipality governments, academia and other stakeholders, to communicate the report findings and provide an opportunity for open dialogue and feedback on the report. The first of these outreach activities was conducted in May 2014, when an UNSCEAR delegation that included the CEO, 'launched' the report in Fukushima City and Tokyo. In September 2014, a second activity involved visits of an UNSCEAR delegation, including the CEO, to Fukushima City and Koriyama City in Fukushima Prefecture, where public meetings were held which in particular aimed at reaching 'multipliers' (teachers, nurses, doctors and other professionals with a broad outreach in society). In November 2014, a third of these outreach activities was undertaken, with the delegation including the Chief Radiation Health Scientist and one other ARPANSA staff member.



The figure shown is part of an animation prepared by ARPANSA for the outreach program to illustrate the impacts of the Fukushima accident in future years. Based on the published UNSCEAR dose estimates, the ARPANSA animation illustrates the reduction of radiation doses with time as a result of radioactive decay and other physical processes.

The full report can be accessed on *www.unscear.org*.

3.3 Promote the effective use of ionising radiation in medicine

The exposure of patients to ionising radiation for effective diagnosis and treatment continues to grow in Australia. It is important that, when medical equipment that involves ionising radiation is used, the benefits are balanced against the risk (justified), and the lowest dose necessary is given to provide the diagnostic information (optimised). Likewise, in therapy it is necessary that the right radiation exposure is delivered in the right place, since even small deviations may be detrimental to health.

Justification and optimisation are the core principles for radiation protection. The objective of ARPANSA is to ensure these principles are taken into consideration by medical professionals to minimise the risk to patients.

In 2014-15, ARPANSA continued to promote the safe and effective use of ionising radiation in diagnostic imaging. We conducted dose surveys to monitor radiation doses from computed tomography and established establishment of diagnostic reference levels (DRLs) for interventional cardiology and radiology and nuclear medicine.

ARPANSA also participated in a project under a Memorandum of Understanding (MoU) with the Department of Health to improve the safety and quality of diagnostic imaging in Australia. Through this MoU ARPANSA provided direct technical specialist support to the Australian Commission for Safety and Quality in Healthcare regarding the paediatric doses from CT. Additionally ARPANSA developed an online training module to assist in the education of the referrers reading the risk associated with ionising radiation exposure incurred through diagnostic imaging.

Medical imaging

Of more than 15 million medical procedures involving ionising radiation that Australians undergo each year, most are diagnostic imaging procedures. The radiation exposure from diagnostic imaging is the largest source of exposure from ionising radiation to the Australian population and it is dominated by exposures from computed tomography (CT). The medical exposure of the population is increasing despite improvements in technology allowing procedures to be done with lower doses because of the increasing number of procedures and the increasing complexity and capacity afforded by modern technology. ARPANSA has a responsibility to estimate the radiation doses to the Australian population from radiological procedures and use this information to inform practitioners concerning their responsibility for the appropriate justification of referrals.

The Diagnostic Reference Level Survey is an ongoing program which determines the distribution of doses delivered from common diagnostic imaging procedures. Diagnostic imaging procedures should provide images of adequate diagnostic quality obtained with equipment and protocols which have been optimised for the radiation protection of the patient. Evaluation of the dose distributions provides the baseline which is used for optimisation of dose management. The data allows Australian doses to be compared with those of other countries and for the setting of national DRLs. The latter are used as indicative benchmarks for comparative radiological practices. Comparison of DRL data for CT collected in 2011 against 2014 data shows a reduced patient dose for CT with the introduction of iterative reconstruction technology; while for CT systems that do not utilise this technology, doses remain constant or slightly increased. The National DRL Database is gradually being populated with a larger practice dataset. There are approximately 270 (30%) of national computed tomography practices registered with over 2500 surveys completed since August 2011. The National DRL project has successfully implemented new surveys for nuclear medicine and image guided interventional procedures. National DRLs for these new modalities are expected to be published by the end of 2015. Presentations and publications have been delivered to distribute DRL information to the relevant stakeholder and professional groups.

Radiotherapy calibrations

ARPANSA provides calibration services for instruments used to measure radiation in various commercial, medical and public sector applications. The service is used where accurate knowledge of the radiation dose is important. This is especially so in radiotherapy, where even small discrepancies in dose prescriptions can have an effect on patient outcome. This year, 18 therapy

Attendees at the inaugural Practical Reference Dosimetry Course for medical physicists

dosimeters, 40 radiation survey meters, and two neutron monitors were calibrated. Air kerma rate measurements were made on site for three clients. A new calibration service using linear accelerator beams was implemented for seven clients.

Practical reference dosimetry course

The first ARPANSA course in reference dosimetry for medical physicists was conducted 21-24 April 2015. Fourteen trainees and a few senior physicists attended ARPANSA for a mix of lectures, dosimetry measurements and example calculations. The feedback was positive, particularly for the ionisation chamber calibration and small field dosimetry practicals. This was the first time ARPANSA has organised such an event.

Ensuring dose measurement capability for Australia

ARPANSA is authorised by the National Measurement Institute (Australia) to maintain primary standards for the measurement of radiation dose. As a condition of this authorisation, ARPANSA must maintain quality assurance programs, regularly participate in international comparisons of radiation dose, and liaise with the users of the ARPANSA dose standards. This year ARPANSA published the results of one comparison with Japan, and published three articles detailing the methods used to provide absorbed dose to water values, quality control programs and the implications of small changes to absorbed dose in Australian radiotherapy.

Synchrotron dosimetry

ARPANSA has an ongoing collaboration with the Imaging and Medical Beamline (IMBL) at the Australian Synchrotron to determine the radiation dose rate in their beams. This collaboration will provide the beamline with dosimetry traceability, a prerequisite if the beam is to be used on patients. The collaboration has recently made possible novel research on the way detectors of radiation work. The synchrotron is capable of producing very small, high intensity beams. Using these beams, ARPANSA and IMBL staff were able to map the response of the chamber as function of the position of the beam. Measurements such as these help understand how the detectors work, and will eventually lead to more accurate radiation measurements thereby increasing patient safety and treatment quality.

The Australian Clinical Dosimetry Service

In late 2014, the Australian Government approved two years funding for the Australian Clinical Dosimetry Service (ACDS) to transition from a federally funded program to explore funding options for an ongoing service post calendar year (CY) 2016. Subsequently a Memorandum of Understanding (MoU) was signed between the Department of Health and ARPANSA which formalised the auditing and stakeholder requirements to the end of CY 2016. Meeting the Minister's directive, the ACDS has increased its stakeholder engagement and initiated a hiring and training program to meet the requirement of the MoU.

Radiation Protection of the Patient Referrer Training Module

In 2013-14, ARPANSA committed to develop a multi-platform referrer education module to meet an identified shortfall in knowledge regarding radiation risk to a patient undergoing a diagnostic imaging procedure. The 2014-15 financial year saw the full development of the Radiation Protection of the Patient module with the penultimate draft being successfully presented to the Australian Commission on Safety and Quality in Health Care Project Reference Group. A number of key professional organisations have agreed to host the finalised module and negotiations are ongoing to include the module in tertiary institutions' undergraduate and postgraduate training programs.

Performance against deliverables

Key Performance Indicator

Key Performance Indicator	Introduce and establish DRLs as tools for quality improvement in diagnostic radiology for interventional cardiology and radiology, and Nuclear Medicine
2014-15 Reference Point	Evidence of increased awareness of the need to optimise radiation dose (i.e. quality improvement) by use of the Diagnostic Reference Level Service
RESULT	The Multi Detector Computed Tomography DRL survey has shown that the introduction of iterative reconstruction technology has significantly decreased patient doses. Facility registrations have reached 30% and the number of compliant surveys is more than 2500. The requirement for facilities to undertake DRL evaluation has been introduced into the Diagnostic Imaging Accreditation Scheme.

3.4 Ensure effective and proportionate regulation and enforcement activities

ARPANSA is responsible for licensing Commonwealth entities using radiation and for ongoing compliance monitoring of these entities with the requirements of the *Australian Radiation Protection and Nuclear Safety Act 1998* and the Australian Radiation Protection and Nuclear Safety Regulations 1999, and with any licence condition that may be imposed by the CEO of ARPANSA. ARPANSA regulates a broad range of applications from baggage X-ray units to the OPAL research reactor and other nuclear installations at Lucas Heights Science and Technology Centre in New South Wales. We also regulate the use of non-ionising radiation such as high powered lasers and powerful sources of ultraviolet radiation. Licensee details, and a listing of the breaches of licence conditions of which the CEO is aware, are at Appendix 7.

We have adopted a risk-informed approach and strive to minimise regulatory burden and to promote the licence holders' internal systems and procedures for managing regulatory compliance, as well as to work efficiently and collaboratively to deliver best practice regulation and reduce to the extent achievable any risk to people and the environment.

ARPANSA is committed to the effective and independent regulation of radiation sources, radiation facilities and nuclear installations. In 2014-15, ARPANSA reviewed its regulatory framework to remove redundant provisions and clarify provisions to minimise regulatory burden. We reviewed our regulatory delivery model to reflect a more proportionate, risk-informed approach to regulation. We will continue to regulate the use of radiation by Australian Government entities through: licensing, inspecting, monitoring, enforcing compliance, enhancing awareness of good radiation practices and nuclear safety, and controlling the transport of radioactive materials. ARPANSA will, in collaboration with state and territory regulators, continue to further develop the national regulatory framework including the *National Directory for Radiation Protection*, building on international best practice to ensure effective regulation and enforcement activities.

Integrated Regulatory Review Service Mission

An IAEA Integrated Regulatory Review Service (IRRS) mission is a regulatory benchmarking exercise involving peer review by overseas experts. ARPANSA underwent an in-depth review of the Regulatory Services Branch in 2007, and then again in 2011 with a follow-up IRRS mission in which modules on medical exposure and patient protection were introduced.

From these two missions 16 recommendations and suggestions for improvement remained 'open'. However, with the implementation of the *Regulatory Delivery Model* in January 2015, staff were able to verify and document the completion of the IRRS recommendations and suggestions. All actions are now closed. The next IRRS mission to Australia is expected as early as 2018.

Regulator Performance Framework

In keeping with the Government's goal of reducing unnecessary regulation, a *Regulator Performance Framework* has been introduced that requires regulatory agencies to develop output or activity-based evidence metrics for each of six key performance indicators (KPIs) and use these to self-assess their performance. The Framework applies to ARPANSA as it is a regulator of Commonwealth entities that may site, design, construct, possess, use, or operate nuclear or radiation facilities or sources.

The aim of the Framework is to measure and report on the performance of regulators. It is based on six outcome-based KPIs, namely:

- ***KPI 1*** Regulators do not unnecessarily impede the efficient operation of Regulated entities
- ***KPI 2*** Communication with regulated entities is clear, targeted, and effective
- ***KPI 3*** Actions undertaken by regulators are proportionate to the regulatory risk being managed
- ***KPI 4*** Compliance and monitoring approaches are streamlined and coordinated
- ***KPI 5*** Regulators are open and transparent in their dealings with regulated entities
- ***KPI 6*** Regulators actively contribute to the continuous improvement of regulatory frameworks.

ARPANSA has developed twelve evidence metrics to self-assess its performance against the six KPIs over a twelve month period from 1 July 2015. ARPANSA's

twelve performance indicator evidence metrics are available at: www.arpansa.gov.au/Regulation/goodregulatorypractice/metrics.cfm.

Our regulatory approach

In support of protecting people and the environment from the harmful effects of radiation we use strategies that encourage licence holders to engage in our regulatory approach:

- We focus the primary responsibility for safety with the person or organisation responsible for facilities and activities that give rise to radiation risks.
- We promote effective communication with licensees and other stakeholders, and take our decisions in a transparent, robust, unbiased and consistent fashion.
- We work with licensees and other stakeholders for collaborative fostering of good safety and security cultures.
- We use a risk-informed approach to licensing, inspections and compliance monitoring.
- We take appropriate action against those who do not comply with their obligations.

Engagement with our licence holders

ARPANSA held two Licence Holder Forums in Sydney and Melbourne in June. The forums attracted approximately 100 attendees. Two key note speakers made presentations: Dr Stephen Koukoulas, on the economics of efficient and effective regulation, and Mr Donald Hoffman, CEO of Excel Services Corporation in the USA, on recent developments in nuclear regulation. Both presentations were well received. A copy of all presentations from the forums can be found on the ARPANSA website at: www.arpansa.gov.au/Regulation/forums.

Performance against deliverables

Quantitative Deliverable

Quantitative Indicators	2013-14 Revised Budget	2014-15 Budget Target	2015-16 Forward Year 1
Number of inspections and site visits of licensed Commonwealth radiation sources, facilities and nuclear installations	35[1]	35[1]	35
RESULT	42	70	
Number of safety incidents[2] involving Commonwealth users of radiation	<10	<10	<10
RESULT	3	4	
The percentage of inspections at which full compliance is observed	N/A	>90%	>90%
RESULT	N/A	96	
Number of holistic safety regulatory interventions which licence holders cooperate with	N/A	10	10
RESULT	N/A	4[3]	

1. Target has been revised compared to previous years to reflect the need to differently utilise staff to deal with major licence applications and to adopt a revised approach to utilise a smaller number of larger inspections to improve efficiency and outcome.
2. Safety incidents are radiation incidents as reported to the Australian Radiation Incident Register.
3. Performance against this KPI was below the target for 2014-15 as a consequence of changes to the delivery of regulatory services, in particular inspections. ARPANSA's holistic safety approach is being increasingly incorporated into its mainstream inspection program and delivered by the general inspection team with support from a specialist group. Holistic safety attributes have been included in three sets of cross cutting performance objectives and criteria which are assessed during inspections. ARPANSA retains the capability to undertake specific augmented inspections for holistic safety and other interventions where necessary.

3.5 Stakeholder engagement and enabling services and support programs

ARPANSA's stakeholder engagement and enabling services and support programs are essential for the successful delivery of ARPANSA's radiation protection and nuclear safety outcomes for the Australian Government and to the community. These services and programs ensure that ARPANSA's business is efficient, effective and forward looking, and capable of meeting future opportunities and challenges. In 2014-15 our efforts focussed on:

- delivering support to Ministers which is high quality, timely and adaptive
- maintaining a sustainable organisation and skilled workforce
- establishing effective partnerships with national, regional and international stakeholders
- embracing new technology to communicate effectively, and
- recognising and managing the demands and financial pressures.

Stakeholder engagement

Government and external relations

ARPANSA's stakeholder engagement activities are varied in nature, ensuring timely, accurate and consistent advice is critical to maintaining ARPANSA's strong reputation nationally and internationally. Throughout 2014-15, ARPANSA has actively worked to ensure that we provide the required support to our portfolio ministers and members of parliament. This has included support for parliamentary reviews, inquiries and other activities of national importance.

Throughout the preceding sections of this report many examples of stakeholder engagement have been provided as they relate to the delivery of the core components of our work programs (e.g. Licence Holders' Forums, EME Reference Group meetings and hosting national and international workshops). This section focusses on the work that has been undertaken to ensure that relationships with our national and international stakeholders is focused, strategic and relevant to ARPANSA achieving its mission.

During the reporting period ARPANSA undertook a range of activities to support our national and international work programs. These activities include workshops that have been hosted by ARPANSA, independently or cooperatively with key partners; and Memorandums of Understanding or other agreements that have been implemented. A summary of some of these activities is provided at Appendix 1.

Communications and education

In the community the word 'radiation' can often have negative connotations. Information about radiation, how it can be used beneficially and the scientific evidence of risks to health it might pose is important in interacting with the community. Engaging with stakeholders to better communicate the risks and benefits of radiation to the community is one of the Agency's key priorities.

During 2014-15, ARPANSA has focused on updating and improving the navigability of its website. A new '*For the Public*' section containing fact sheets on a variety of areas of concern was introduced and new fact sheets on electromagnetic fields and ultraviolet radiation consolidate and update previously available information in a convenient new format. This includes audio visual content and a '*Frequently Asked Questions*' section. ARPANSA also introduced a '*Talk to a Scientist*' program offering members of the community the opportunity to speak with a scientist about issues related to radiation protection topics.

During 2014-15, ARPANSA also commissioned a market research provider to undertake research with the general community and key community stakeholders to inform further development of its communication strategy. ARPANSA sought to find out what the key groups within the community thinks about radiation, about ARPANSA and its performance, and how we can best communicate with our stakeholders. The research found that there was generally low understanding of radiation and its risks and benefits within the community, but that ARPANSA was perceived as an impartial and trustworthy source of such information. The results of the market research will lead to further revision of the information on our website as a primary channel of communication with our stakeholders.

CASE STUDY

Using Twitter to reach a new audience

In November 2014, ARPANSA began using Twitter to engage with the community online. Our Twitter account (*@ARPANSANews*) enables us to communicate with the public on a unique digital platform, allowing for real time responses to inquiries and participate in the radiation protection conversation. We publish new tweets at least weekly, aiming to grow our following which will allow us to quickly communicate with a large section of the community to provide advice in the event of a radiological emergency situation.

Our followership has been steadily growing to include Australian organisations, individuals and government entities. We publish content highlighting information and advice provided on our website, as well as highlighting factual and topical information relating to radiation protection and nuclear safety.

Enabling services and support

Our governance and stewardship programs aim to drive improved accountability while streamlining or automating processes. We prioritise the development of an agile and flexible workforce that meets our current and future needs by supporting our people, and we invest in our infrastructure, technology and processes in order to enhance our efficiency and effectiveness.

ARPANSA Quality System

ISO 9001 implementation project

ARPANSA is committed to developing a quality management system to ensure efficient and effective agency practices necessary to ensure that the products and services we provide are of the highest quality and conform to our customers' requirements.

During 2014-15, ARPANSA engaged a consultant to conduct a gap analysis of the Agency against – ISO 9001: Quality Management Systems Requirements. The recommendations stemming from this report are in the process of being implemented.

NATA accreditation

Seven of ARPANSA's laboratories maintain National Association of Testing Authorities (NATA) accreditation and are regularly assessed by NATA. During the year, NATA conducted technical reassessments of the quality systems in place in each of the Chemical Testing services.

As required by the Quality Standard, AS ISO/IEC 17025, all service activities are internally reviewed annually by qualified auditors selected from the ARPANSA Quality Assurance Team made up of representatives of the services. Operational procedures and aspects of the management requirements of the Standard are audited in accordance with an approved schedule.

Performance monitoring

ARPANSA conducts quarterly reviews of its performance in progressing the activities in its Branch and Office Business Plans. This review includes the status in meeting the performance indicators, and progress in risk management.

In 2014-15, ARPANSA engaged TechnologyOne Limited to configure its enterprise Performance Planning and Publishing Software to assist and improve the effectiveness of its performance measurement and reporting capability within the Agency.

The software has now been tested and it is expected that it will be implemented during 2015-16 to monitor and report on agency performance.

3.6 Discussion and analysis of financial performance

Report on performance

For the financial year ending 30 June 2015, ARPANSA reported an operating deficit of $1.64m. This deficit is attributed to depreciation and amortisation expense not requiring appropriation.

Revenue for the year totalled $24.1m, of which 55% was appropriated by government. The remaining amounts related to regulatory licence fees and charges and from the sale of goods and services. ARPANSA's expenses totalled $25.8m. Approximately 61% of these expenses are attributed to employee benefits.

The Agency will continue to implement initiatives it commenced during this financial year to ensure the ongoing efficiency and effectiveness by which it delivers its program, to ensure it operates within its financial resource base.

Table 1: ARPANSA Expenses for Outcome 1

Outcome 1: Protection of people and the environment through radiation protection and nuclear safety research, policy, advice, codes, standards, services and regulation	**Budget[1] 2014-15 $'000 (a)**	**Actual Expenses 2014-15 $'000 (b)**	**Variation 2014-15 $'000 (a)-(b)**
Program 1.1: (Radiation protection and nuclear safety)			
Departmental expenses			
Ordinary annual services (Appropriation Bill No. 1)	13 258	11 967	1 291
Special Accounts	10 046	11 489	(1 443)
Expenses not requiring appropriation in the budget year[1]	2 171	2 333	(162)
Operating Loss	536	-	536
Total for Program 1.1	26 011	25 789	222
Total expenses for Outcome 1	26 011	25 789	222
	2013-14	**2014-15**	
Average staffing level (FTE)	125	128	

[1] Appropriation Bill (No.1) 2014-15.

Table 2: ARPANSA Resource Statement – 2014-15

	Actual Available Appropriation for 2014-15 $'000 (a)	Payments Made 2014-15 $'000 (b)	Balance Remaining 2014-15 $'000 (a-b)
Ordinary Annual Services[1] Department appropriation			
Prior year departmental appropriation[2]	1 644	1 644	-
Departmental appropriation[3]	15 256	12 317	2 939
Total	**16 900**	**13 961**	**2 939**
Total ordinary annual services	**16 900**	**13 961**	
Other services[4] Departmental non-operating			
Equity injections	-	1 225	(1 225)
Total	**-**	**1 225**	**(1 225)**
Total other services	**-**	**1 225**	
Special Accounts[5]			
Opening balance	1 395		
Appropriation receipts[6]	15 186		
Non-appropriation receipts to Special Accounts	12 314		
Payments made		27 384	
Total Special Account	**28 895**	**27 384**	**1 511**
Total resourcing	**45 795**	**42 570**	
Less departmental appropriations and equity injections drawn from the above and credited to special accounts	(15 186)	(15 186)	
Total net resourcing for ARPANSA	**30 609**	**27 384**	

[1] Appropriation Bill (No.1) 2014-15.
[2] Balance carried forward from previous year for annual appropriations.
[3] Includes an amount of $1.644 million in 2014-15 for Departmental Capital Budget. For accounting purposes this amount has been designated as 'contributions by owner'.
[4] Appropriation Bill (No.2) 2014-15.
[5] Does not include 'Special Public Money' held in accounts like Other Trust Monies accounts. Services for other Government and Non-agency Bodies accounts, or Services for Other Entities and Trust Moneys Special accounts.
[6] Appropriation receipts from ARPANSA's annual and special appropriations for 2014-15 included above.

Part 4: Management and Accountability

Corporate governance

ARPANSA's governance framework provides the structure for informed decision-making, efficient and effective program management, risk management and accountability.

Strategic advisory bodies

The *Australian Radiation Protection and Nuclear Safety Act 1998* (ARPANS Act) establishes the Radiation Health and Safety Advisory Council, the Radiation Health Committee, and the Nuclear Safety Committee, to advise the CEO of ARPANSA.

Members of the Council and Committees are appointed under the ARPANS Act. The Act provides for the appointment of a Chair for the Council and each Committee. Appointments to the Council are made by the Assistant Minister for Health while members of the Committees are appointed by the CEO.

The 2014-15 activities of our strategic advisory bodies are reported in Appendix 8 of this Report.

Radiation Health and Safety Advisory Council

The Council advises the CEO on emerging issues and matters of major public concern relating to radiation protection and nuclear safety.

Radiation Health Committee

The Radiation Health Committee advises the CEO and the Council on matters relating to radiation protection, including formulating draft national policies, codes and standards for the promotion of uniform national standards of radiation protection for consideration by the Commonwealth, states and territories.

Nuclear Safety Committee

The Nuclear Safety Committee advises the CEO and the Council on matters relating to nuclear safety and the safety of controlled facilities, including developing and assessing the effectiveness of standards, codes, practices and procedures.

Strategic Management Committee

The Strategic Management Committee meets six times per year and is ARPANSA's primary decision-making forum.

It comprises the CEO (Chair), Branch and Office Heads, and one or more external members appointed by the CEO. If not a Branch or Office Head, the following are also members: Chief Financial Officer, and Manager, People and Culture.

For the period 2014-15, the external Strategic Management Committee members were Ms Megan Morris and Mr Michael Perry (Chair, Audit and Risk Committee).

The Committee is responsible for making decisions on Departmental policy and strategic issues.

In 2014-15, the Committee considered:

- high impact immediate and emerging issues
- key risks and mitigation strategies
- people management issues
- expenditure proposals involving major investment
- business planning and internal resource allocation
- Agency structure and function
- Agency capability and positioning for the future, and
- recommendations from other governance and decision-making committees in the Agency.

Performance planning

During 2014-15, ARPANSA developed a new Corporate Plan, which covers the periods of 2015-16 to 2018-19, as required under paragraph 35(1)(b) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). The plan sets the direction for ARPANSA over the next four years and informs business planning and individuals' performance and development plans.

The *2014-2017 Corporate Plan* aligns with the strategic directions outlined in the *Portfolio Budget Statements* and with the values and performance frameworks set out by the Australian Public Service Commission (as outlined in Figure 4).

Audit and Risk Committee

The Audit and Risk Committee comprises an independent chair, two external and one internal ARPANSA member. Representatives from the Australian National Audit Office also attended Committee meetings. The Agency's internal auditor, RSM Bird Cameron (who also serves as the secretariat for the Committee), the Chief Financial Officer, and other senior managers as required attend meetings to report on particular matters. The CEO is an observer to the Committee.

The Committee met four times during 2014-15 and provided independent assurance and advice to the CEO on the Agency's risk, control and compliance framework and its external accountability responsibilities. Additionally, the Committee reviewed the Agency's financial statements and advised the CEO on their signing.

The Committee regularly reviewed the coverage of audits throughout the Agency against the *Internal Audit Work Plan* and provided input and feedback on the financial statements and performance audit coverage afforded by the Australian National Audit Office.

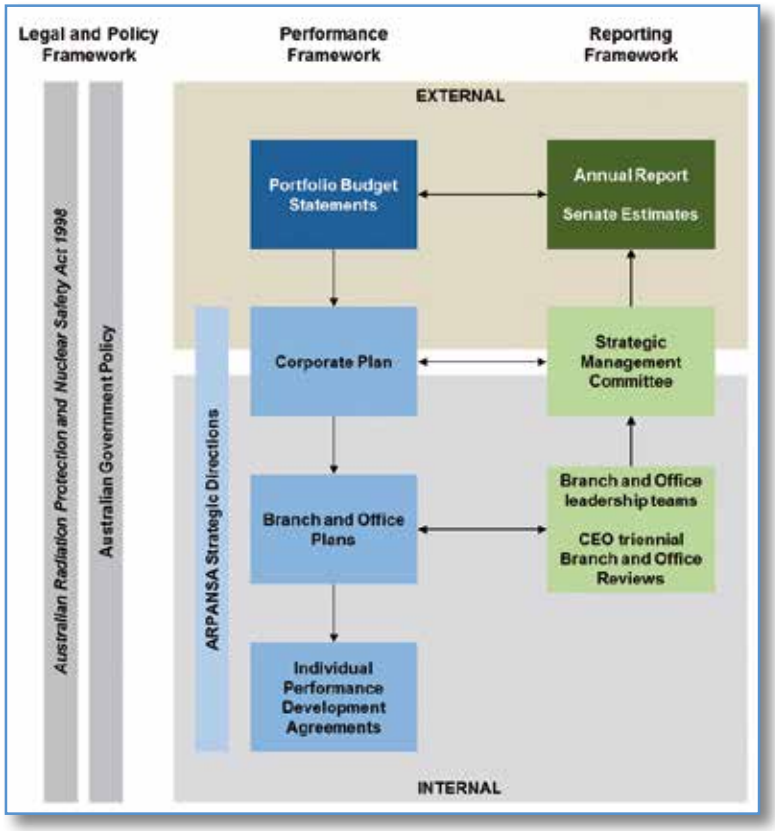
Internal audit arrangements

Primary responsibility for internal audit arrangements within the Agency rests with the Office of the CEO under the broad direction of the Agency's Audit and Risk Committee.

Audit and fraud control

In September 2015, the CEO provided an annual report on compliance with the Public Governance, Performance and Accountability framework to the Minister for Finance as well as the portfolio Minister and ARPANSA's responsible Minister.

Figure 4: ARPANSA corporate frameworks



ARPANSA has a robust internal governance and control framework to establish and maintain appropriate systems of risk oversight and management and an appropriate system of internal controls. The Agency undertakes self-assessment for annual compliance sign-off and has developed a risked based compliance assessment questionnaire to guide management in their review.

The annual compliance self-assessment by management and internal audit review of the effectiveness of internal control mechanisms provide the assurances required to support the certification.

In 2014-15, RSM Bird Cameron conducted audits and reviews based on the *Audit Work Plan* approved by the Audit and Risk Committee.

Five internal audits were conducted during the year covering the following topics:

- review of compliance with the Commonwealth financial framework
- information and communication technology controls
- fraud management
- risk management and business planning
- commercial services.

Fraud minimisation strategies

During 2014-15, the Agency continued to train staff in fraud awareness and began a rolling program to assess fraud risks embedded in ARPANSA's overarching risk management system. Treatment strategies are now developed and monitored as part of that process rather than as a stand-alone activity. Results of the fraud risk assessment process are used to inform the development of the internal audit schedule.

No fraud incidents were identified during 2014-15.

Risk management

ARPANSA's vision is for an Australian environment where radiation safety is appropriately considered in societal decision-making. It is conducted in a uniform and effective way, is current with international best practice and is supported by fostering a strong and positive risk culture.

ARPANSA is focused on reducing to reasonably practicable levels the risks originating from areas including staff safety, fiscal management, reputational and nuclear and radiation safety regulatory objectives.

The Agency integrates its risk management practice with broader management processes and improvements, for the purpose of achieving better outcomes within the Portfolio.

In line with *AS/NZS ISO: 31000:2009 Risk Management – Principles and Guidelines*, ARPANSA has a comprehensive Risk Management Framework that aligns responsibility and accountability for risk across the Agency. The Framework complies with the Department of Finance's *Commonwealth Risk Management Policy* and enables effective identification and management of risks that could impact on the Agency achieving its outcomes or otherwise cause it harm.

Business continuity

The *ARPANSA Business Continuity Plan* was tested as required during 2014-15. This included functional testing of information and communication technology (ICT) services and the finalisation of the *ICT Disaster Recovery Plan*. It is planned to further revise the *Business Continuity Plan* later in 2015 to incorporate the information provided by this testing.

Work Health and Safety Committee

The Work Health and Safety Committee (WHS) is chaired by the CEO, assisted by the ARPANSA WHS Coordinator, and comprises four management and five staff health and safety representatives. The WHS Committee meets every two months and reviews and reports to the Strategic Management Committee on WHS issues, the effectiveness of ARPANSA's performance in these areas and compliance with relevant legislation in accordance with the ARPANSA WHS Management System. During this financial year the WHS Committee conducted a number of WHS work area inspections. Comcare performed a WHS Management System Audit in March 2015 resulting in nineteen non-conformances, and two observations. A corrective action plan was instituted to address the non-conformances and observations resulting in fifty eight corrective actions planned for completion over the next year, nineteen of which are already completed.

Further information in respect of WHS arrangements within the Agency is at Appendix 2.

Senior officers at each ARPANSA site are authorised to perform the functions of a Site Manager. As the CEO can never be present in all sites at the same time it was necessary to ensure that at all times each site has an officer who is authorised by the CEO to take necessary action to comply with ARPANSA's duties under the *Work Health and Safety Act 2011*.

The Radiation Safety Committee, chaired by the Radiation Safety Officer and comprised of Branch Radiation Safety Advisors and other relevant staff, reports to the WHS Committee on matters relating to workplace radiation protection and safety.

Staff Consultative Forum

ARPANSA's enterprise agreement continues to provide for a Staff Consultative Forum as the key employee consultative body. The Staff Consultative Forum comprises the CEO, employees elected by staff and officials from unions that are party to ARPANSA's enterprise agreement.

During the year, the Staff Consultative Forum met on seven occasions to discuss a range of issues relating to management of the organisation

Management Systems Implementation Committee

The Management Systems Implementation Committee was formed in May 2015 and replaces the previous Quality Management Committee. The Committee met once in 2014-15.

The Committee assists the CEO in ensuring that appropriate management systems for governance of ARPANSA are established, implemented and maintained. Examples of management systems are (but not limited to):

- ISO 17025 – General requirements for the competence of testing and calibration laboratories
- ISO 9001 – Quality Management Systems Requirements
- OHSAS18001 – Occupational Health and Safety Management Systems Requirements
- ISO 14001 – Environmental Management Systems - Requirements
- ISO 27001 – Information Security Management Systems - Requirements.

As a non-corporate entity under the PGPA Act, ARPANSA is required to follow the requirements of the *Protective Security Policy Framework* (PSPF). As part of the mandatory requirements of the PSPF, ARPANSA must report its compliance with the 36 mandatory requirements to the Portfolio Minister on an annual basis. The compliance report was submitted early in 2015-16.

Emergency Preparedness and Response Steering Committee

During 2014-15, the Emergency Preparedness and Response Steering Committee was established to provide guidance to the Strategic Management Committee on issues related to Emergency Preparedness and Response (EPR). The Committee will oversee the development and review of the ARPANSA's EPR Strategy and the EPR Manual that details the framework, plans and arrangements for managing EPR functions across the Agency; and monitor the implementation of these plans and arrangements and the resources required to support the EPR System in order to ensure the Agency can achieve its Strategy 2 program objectives to promote radiological and nuclear safety and security and emergency preparedness.

The Committee met for the first time in April 2015 and is comprised of the Branch and Office Heads from Radiation Health Services Branch, Regulatory Services Branch, the Office of the CEO, and key staff from the Monitoring and Emergency Response, Assessment and Advice, and Government and External Relations sections.

International Coordination Group

The International Coordination Group (ICG) is chaired by a representative from the Executive Group supported by the Office of the CEO. The Group meets at least twice per year, in alignment with the corporate planning process.

The role of the ICG is to:

- provide guidance and oversight of ARPANSA's International Engagement Strategy and International Engagement Plan
- review and consider International Travel Reports to reflect on the quality of reports and the benefits to the agency from the international travel that is undertaken and make any recommendations to the Executive Group/ Strategic Management Committee

- monitor and encourage the development of reporting cables following international engagement activities, including international travel
- maintain oversight of the activities of the development and publication of documents produced by committees represented by the International Standards Group.

Executive Group

The Executive Group meets fortnightly and is ARPANSA's operational decision-making forum.

It comprises the CEO (Chair), Branch and Office Heads, and if not a Branch or Office Head, the Chief Financial Officer, and Manager, People and Culture.

It is responsible for information sharing to monitor the key tactics and activities used to implement Agency strategy, and discussion forum for any challenges, risks, and opportunities to ongoing business and the associated operational actions required to maintain business continuity.

External scrutiny

Judicial decisions and decisions of administrative appeals tribunals

During 2014-15, the Agency was not involved in any matters before the Full Federal Court, the Federal Court or the Administrative Appeals Tribunal; the agency was involved in one matter before the Federal Circuit Court.

Decisions of the Australian Information Commissioner

The Australian Information Commissioner was not required to make any decision on applications for review of Freedom of Information decisions by the Agency.

Freedom of information

The Information Publication Scheme is a requirement under Part II of the *Freedom of Information Act 1982* (FOI Act) that requires all agencies subject to the FOI Act to publish information about what is available to the public. The Agency's plan showing the information published in accordance with this requirement can be found at www.arpansa.gov.au/ips.cfm.

Documents that the Agency has released in response to FOI requests can be found on the Disclosure Log at www.arpansa.gov.au/AboutUs/disclosure.cfm.

Australian National Audit Office Access Clauses

The Agency did not let any contract during the reporting period of $100 000 or more (inclusive of GST) that did not provide for the Auditor-General to have access to the contractor's premises.

Mandatory exempt contracts

The Agency did not enter into any contract in excess of $10 000 (inclusive of GST) or a standing offer that was exempted by the CEO from being published in AusTender on the basis that it would disclose exempt matters under the FOI Act.

ARPANSA Service Charter

This Service Charter outlines what the Agency is and what it does, the standards of service expected from ARPANSA and how our stakeholders can help us to improve our service. ARPANSA's vision is to be the leading organisation in Australia for scientific excellence and practical expertise in radiation protection and nuclear safety and to be a highly effective and efficient regulator of Commonwealth Government entities. The current Service Charter was established in 2013-14 and will be reviewed every three years.

ARPANSA's customers are in both the public and private sectors (overseas as well as within Australia) and include:

- people who use radiation in medicine, research and industry (including mining)
- Commonwealth, state and local government agencies
- environment protection agencies
- international organisations
- academia and research organisation
- general public, interest groups and the media.

Services provided by ARPANSA include but are not limited to:

- traceable calibrations of ionising and non-ionising radiation monitoring equipment
- the Personal Radiation Monitoring Service

- the assessment of Ultraviolet Protection Factors (UPF)
- advice, measurements, consultancy, and training on a range of radiation protection issues
- issuing Customs (Prohibited Imports) permits for the importation of radioactive materials into Australia.

The charter provides a complaints resolution mechanism and is available in full on the ARPANSA website at www.arpansa.gov.au/AboutUS/corporate/servicecharter.cfm. An Agency Formal Complaints Management Policy and Process was developed in 2014-15, which in addition to the establishment of associated customer service performance monitoring, will enable future comprehensive reporting of performance against the charter.

As part of the quality management system of ARPANSA and services accredited by the National Association of Testing Authorities, all corrective actions arising from client complaints are recorded. In accordance with the quality system, these actions are reported to the ARPANSA Quality Manager and the relevant Branch Head.

Two complaints were received during 2014-15 related to the following issues:

- Annual licence charges – an explanation was provided to explain the need for the licence and the reason for an increase of fee which has been proposed but is not yet in effect.
- Postponement of licence holder forum - an explanation was provided which was accepted by the complainant.

Reports by the Auditor-General, a Parliamentary Committee or the Commonwealth Ombudsman

Anyone with concerns about the Agency's actions or decision-making is entitled to make a complaint with the Commonwealth Ombudsman, to determine whether the Agency was wrong, unjust, discriminatory or unfair. Further information on the role of the Commonwealth Ombudsman can be obtained from the website www.ombudsman.gov.au.

During 2014-15, there were no complaints made to the Commonwealth Ombudsman against the Agency. There are no earlier complaints which remain open. There were no reports by the Auditor-General or a Parliamentary Committee during 2014-15.

Management of human resources

Effectiveness in managing and developing human resources to achieve agency objectives

During 2014-15, ARPANSA continued its strategic focus on optimising the performance, development and placement of its people through building clear linkages between Agency priorities and workforce needs and identified organisational capability.

The strategy is aligned to ARPANSA's *Corporate Plan 2014–2017* and focuses on raising human capital awareness across the Agency to improve workforce planning, talent management, leadership development and innovation.

Organisational capability

ARPANSA's organisational capability is built around the skills and capacities of its staff and involves the Agency's systems, structures, processes, governance and culture; and how resources are utilised to address evolving priorities by building capacity to ensure ARPANSA can adapt to its changing environment.

Workforce planning, staff retention and turnover

During the reporting period, ARPANSA continued to build on and consolidate its workforce planning model which now has a heightened focus throughout the Agency. Branches and Offices are aware of the importance of the role they play in workforce planning, particularly in a specialised scientific and technical agency, and aspects such as succession planning are now being addressed as a routine aspect of doing business.

Given the size of the agency, it has adopted a benchmarking approach to what other small agencies are doing in relation to workforce planning and adapting those tools and practices to the ARPANSA environment. During the reporting period, initial consideration of the potential mechanisms for better linking performance management with succession planning was also undertaken and will be built on during 2015-16.

The ongoing employee retention rate remains high, with 96% of ongoing employees remaining in the Agency for the past twelve months. The staff turnover rate is 8.8%, a decrease from 14.9% per cent in 2013-14. More detailed information on staff retention and turnover is set out in Table 3.

Staffing

As at 30 June 2015, the Agency employed 131 staff. This figure compares with 132 as at 30 June 2014, and includes staff on leave and secondment, and inoperative staff.

Statistics on staffing are set out in Tables 4 to 7.

Workplace change

Two major reviews were undertaken within the Agency during the reporting period.

Review of Corporate Office

Having regard to the increase in direct reporting lines to the Head of the Corporate Office that had occurred since May 2011, ARPANSA commissioned an independent review to evaluate the effectiveness of the Corporate Office structure to ensure that it had the capability, capacity and agility to continue to support the achievement of the agency's business outcomes.

The scope of the review was confined to the number of direct reporting lines to the Head of the Corporate Office and their respective roles and responsibilities. The outcome of the review resulted in the rationalisation and consolidation of reporting lines and structure within the Corporate Office.

Review of the location of the CEO and the structure and functions of the Office of the CEO

The above reviews were undertaken in two phases; the first being the review of the location of the CEO, which would in turn, inform the second component of the review dealing with the structure and functions of the Office of the CEO (OCEO).

1. The location of the CEO

Proposed actions flowing from the review findings on the location of the CEO have been deferred pending resolution of a number of technical considerations. It is anticipated that these issues will be resolved in the 2015-16 reporting period.

2. Structure and functions of the OCEO

Given that the OCEO had been subject to a number of structural and functional changes since its inception in 2011, it was considered appropriate to conduct a review of the OCEO to ensure it remained relevant. The review was also charged with

Table 3: Staff retention and turnover 2014-15

Classification	Female				Male				VARIATION	
	Ongoing		Non-Ongoing		Ongoing		Non-Ongoing			
	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015
SES										
Commencement	-	-	-	-	-	+1	-	-	-	+1
Separation	-	-	-	-	-1	-	-	-	-1	-
Executive Level 1-2										
Commencement	-	-	+1	-	-	+1	+2	+1	+3	+2
Separation	-4	-2	-	-	-7	-1	-3	-2	-14	-5
APS Level 1-6										
Commencement	-	+3	-	+5	+3	+1	-	+1	+3	+10
Separation	-4	-3	-1	-	-3	-4	-	-2	-8	-9

determining whether the OCEO was appropriately resourced and that the structure remained optimal in supporting the Agency to achieve its statutory objectives. The subsequent report recommended, among other considerations, that the Agency's governance responsibilities were better placed within the Corporate Office, and that there were opportunities for fine tuning the internal functions within the OCEO. The report also noted that there was potential for some positions to be relocated or reclassified or were no longer required.

In considering the review findings and recommendations, the Agency's Strategic Management Committee (SMC) endorsed the majority of the findings while it was agreed to modify others. The SMC is currently oversighting implementation of the revised structure which best meets the needs of the Agency and its stakeholders.

Managing performance

ARPANSA is committed to effectively managing staff performance. At the individual level, staff and their supervisors engage in a formal bi-annual individual performance development process.

In managing the performance of staff at the operational level, the Agency continues to focus on developing staff and manager capability through targeted learning and development programs.

Workforce inclusivity

The Agency applies the principles of workplace diversity, including valuing and using individual differences so that collective understanding and creativity is enhanced, and respecting individual differences. ARPANSA has a *Workplace Diversity Program* and a *Workplace Diversity Action Plan* which among other things, aims to ensure that people are treated fairly, there is a balance between work and personal responsibilities and there is no tolerance of bullying and/or harassment.

During the reporting period ARPANSA had no employees who identified as being an indigenous employee.

Employment arrangements in the Agency

ARPANSA's practices for managing employment arrangements with its staff are consistent with the *Fair Work Act 2009* and the requirements of the *Australian Government Public Sector Workplace Bargaining Policy* (the 'Policy'). The types and main features of employment arrangements either in operation or available to ARPANSA staff during 2014-15 are outlined below.

Enterprise agreement

Terms and conditions for employment of non-Senior Executive Service (SES) staff are provided through the Agency's Enterprise Agreement which began on 15 December 2011 and nominally expired on 30 June 2014. Negotiations for a new Enterprise Agreement commenced following the release of a Notice of Employee Representational Rights in June 2014.

Since that time, ARPANSA has been bargaining in good faith and trying, genuinely, to reach agreement with the parties to the Agreement taking into account the Policy. Despite multiple meetings, the parties had not been able to reach agreement by 30 June 2015. Nonetheless, ARPANSA remains committed to continuing to bargain and reaching an appropriate agreement.

Table 4: Staff employed under the PS Act as at 30 June 2014 and 2015 showing full or part-time status

	Full-time Ongoing		Full-time Non-Ongoing		Part-time Ongoing		Part-time Non-Ongoing		TOTAL	
	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015
Female	41	40	1	6	10	9	2	2	54	57
Male	71	70	2	3	1	1	4	-	78	74
TOTAL	**112**	**110**	**3**	**9**	**11**	**10**	**6**	**2**	**132**	**131**

Table 5: Distribution of staff across the Agency by Branch or Office

	Female				Male					
	Ongoing		Non-Ongoing		Ongoing		Non-Ongoing		TOTAL	
Branch	**June 2014**	**June 2015**	**June 2014**	**June 2015**	**June 2014**	**June 2015**	**June 2014**	**June 2015**	**June 2014**	**June 2015**
Office of the CEO	6	5	-	1	5	5	-	-	11	11
Legal Office	-	-	-	-	1	1	-	-	1	1
Radiation Health Services	18	13	1	2	26	25	-	-	45	40
Medical Radiation Services	3	3	2	3	10	11	5	2	20	19
Regulatory Services	6	7	-	-	17	17	1	1	24	25
Corporate Office	18	21	-	2	13	12	-	-	31	35
TOTAL	51	49	3	8	72	71	6	3	132	131

Table 6: Full-time equivalent (FTE) staff by gender and classification

	Female		Male		TOTAL	
Classification	**June 2014**	**June 2015**	**June 2014**	**June 2015**	**June 2014**	**June 2015**
Graduate		-	-	-	-	-
APS Level 1	-	-	-	-	-	-
APS Level 2	7.6	6.6	-	-	7.6	6.6
APS Level 3	9.4	12.2	1	1	10.4	13.2
APS Level 4	4.8	5.6	1	1	5.8	6.6
APS Level 5	6.69	7.6	10	7	16.69	14.6
APS Level 6	7.4	9.6	18.2	16	25.6	25.6
Executive Level 1	11.2	10	24.2	28.8	35.4	38.8
Executive Level 2	2	2	19.2	18	21.2	20
SES Band 1	-	-	2	3	2	3
TOTAL	**49.09**	**53.6**	**76.6**	**74.8**	**124.69**	**128.4**

Table 7: Staff by location, gender and classification

Classification	SES		EL 2		EL 1		APS 6		APS 5		APS 4		APS 3		APS 2		APS 1		Graduate		TOTAL	
	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015	June 2014	June 2015
New South Wales																						
Female	-	-	-	-	2	2	1	-	2	-	1	1	1	4	2	-	-	-	-	-	9	7
Male	1	1	4	5	8	7	2	2	-	-	-		1	1	-	-	-	-	-	-	16	16
Total	1	1	4	5	10	9	3	2	2	-	1	1	2	5	2	-	-	-	-	-	25	23
Victoria																						
Female	-	-	1	2	9	8	7	10	6	8	4	5	10	9	6	7	-	-	-	-	43	49
Male	2	2	14	11	17	22	17	14	10	6	-	-	-	-	-	-	-	-	-	-	60	55
Total	2	2	15	12	26	29	24	24	16	14	4	5	10	9	6	7	-	-	-	-	103	104
Australian Capital Territory																						
Female	-	-	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1
Male	-	-	2	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2	3
Total	-	-	3	2	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	4	4
TOTAL																						
Female	-	-	2	2	12	11	8	10	8	8	5	6	11	13	8	7	-	-	-	-	54	57
Male	3	3	20	18	25	29	19	16	10	7	-	-	1	1	-	-	-	-	-	-	78	74
TOTAL	**3**	**3**	**22**	**19**	**37**	**39**	**27**	**26**	**18**	**15**	**5**	**6**	**12**	**14**	**8**	**7**	-	-	**-**	**-**	**132**	**131**

The Enterprise Agreement contains an individual flexibility arrangements clause, which enables the Agency to provide additional or varied terms and conditions to non-SES staff where necessary and appropriate. The salary ranges for ARPANSA's classification levels are set out in Table 8.

Common law contracts

The Agency's SES staff are provided with comprehensive terms and conditions of employment made under Common Law Contracts. These contracts are negotiated following discussions between the SES staff member and the CEO.

Performance pay

There is no provision for the payment of performance pay in ARPANSA's Enterprise Agreement or Common Law Contracts.

Learning and development

A number of corporate compliance training modules were identified as a priority for ARPANSA learning and development program during 2014-15.

Issues addressed through targeted and mandatory corporate compliance programs included:

- digital records management
- Responsibilities under the PGPA Act
- fraud awareness
- security awareness.

In addition, training was provided to staff with corporate responsibilities including First Aid, WHS and Workplace Harassment Contact Officers.

During 2014-15, the Agency utilised e-Learning packages rather than face to face training room delivery where it was more cost-effective and appropriate to the subject matter.

ARPANSA also undertook a range of general learning and development activities during 2014-15 including:

- report writing
- scientific writing and publication
- executive leadership dimensions
- effective workplace relations
- internal audit quality assurance.

Employee census

The annual Australian Public Service (APS) *State of the Service Employee Census* continues to provide valuable insight into staff views. During the reporting period, 85.6% per cent of ARPANSA staff participated in the 2015 census, which is an excellent result considering the APS wide response rate was 66%. The results of the census are currently being evaluated and will be a valuable source of information for ARPANSA's strategic decision-making and future planning. The feedback will also guide future initiatives aimed at maintaining ARPANSA's reputation for professional and technical excellence.

Ethical standards

The Agency provided education on the *Public Interest Disclosure Act 2013* for staff, with information about the changes through all staff messages. Training was also provided by the Australian Government Solicitors' Office to Authorised Officers and Investigators, to highlight their roles and responsibilities when dealing with a public interest disclosure.

Disability reporting

Since 1994, Commonwealth departments and agencies have reported on their performance as policy adviser, purchaser, employer, regulator and provider under the *Commonwealth Disability Strategy*. In 2007-08, reporting on the employer role was transferred to the Australian Public Service Commission's *State of the Service Report* and the *APS Statistical Bulletin*. These reports are available at www.apsc.gov.au. Since 2010-11, departments and agencies have no longer been required to report on these functions.

The *Commonwealth Disability Strategy* has been overtaken by the *National Disability Strategy 2010-2020*, which sets out a ten year national policy framework to improve the lives of people with disability, promote participation and create a more inclusive society. A high level two-yearly report will track progress against each of the six outcome areas of the Strategy and present a picture of how people with disability are faring. The progress reports will be made available on the Department of Social Services' website at available at www.dss.gov.au.

Table 8: Salary ranges as at 30 June 2015

APS Classification	Salary Range ($)
ARPANSA Graduate	58 524 – 76 221
APS Level 1	43 901 – 49 901
APS Level 2	51 398 – 56 424
APS Level 3	58 524 – 65 484
APS Level 4	67 449 – 70 481
APS Level 5	72 596 – 76 221
APS Level 6	78 507 – 89 800
Executive Level 1	96 987 – 111 593
Executive Level 2 lower	118 512 – 134 581
Executive Level 2 upper	139 963 – 150 329

Financial management

During 2014-15, the Agency's financial accountability responsibilities were set out in the PGPA Act. These responsibilities form the basis of transparent process for efficient, effective, economical and ethical use of Commonwealth resources and related policies. The Agency's alignment with the financial control framework supports efficient processing and recording of financial transactions, including the production of audited financial statements.

The complete set of financial statements for the Agency is provided in Appendix 11: Financial Statements.

The Agency has consistently maintained effective financial processes and internal control mechanisms as well as ongoing compliance monitoring and reporting activities to ensure compliance with the PGPA Act requirements in the last financial year.

The Agency's corporate governance arrangements include the Audit and Risk Committee to provide advice and make recommendations to the Strategic Management Committee on financial management, risk management and strategic security management policies, initiatives and reviews. Further detail on the Agency's Committee structure is provided under the Corporate Governance heading in this report.

Assets management

The Agency's asset management strategy emphasises whole-of-life asset management. ARPANSA manages non-financial assets totalling $32.8 million. The major categories include land, buildings, infrastructure, plant and equipment. ARPANSA's capital investment plan is reviewed annually to ensure ongoing building maintenance and renovation; equipment purchases and information technology infrastructure upgrades meet future research and operational requirements.

The annual asset review and stocktake seek to minimise holdings of surplus and underperforming assets.

In 2014-15, the Agency obtained an independent desktop revaluation of Property, Plant and Equipment in accordance with the *Australian Accounting Standards* (AASB 13 Fair Value Measurement, AASB 116 Property, Plant and Equipment and AASB 1031 Materiality), to ensure assets are carried at their fair value. Discussion relating to the assets administered by the Agency in 2014-15 can be found in Appendix 11: Financial Statements.

Purchasing

The Agency complies with the purchasing policies in the *Commonwealth Procurement Rules* (CPRs).

The Agency's procurement framework continues to align with the Commonwealth's financial framework by encouraging competition, value for money, transparency and accountability as well as the efficient, effective and ethical use of Commonwealth resources.

In 2014-15, with exception of those instances reported in the *Certificate of Compliance*, ARPANSA complied with the Government's purchasing policies as stated in the *Commonwealth Procurement Rules*. ARPANSA's Procurement activities for the year, were consistent with the 'value-for-money' rule underpinning the CPRs.

Consultants

During 2014-15, 14 new consultancy contracts were entered into involving total actual expenditure of $327 107. In addition, three ongoing consultancy contracts were active during the 2014-15 year, involving total actual expenditure of $83 427.

The Agency policy on selection and engaging consultants is in accordance with the CPRs, based on the core rule of value for money and underpinned by:

- encouraging competitive and non-discriminatory processes
- using Commonwealth resources in an efficient, effective, economical and ethical manner that is not inconsistent with the policies of the Commonwealth
- making decisions in an accountable and transparent manner
- considering the risks
- conducting a process commensurate with the scale and scope of the procurement.

ARPANSA engaged consultants where there was a requirement for specialist expertise that was not available within the Agency, or where an independent assessment was required. The selection process included selection from a panel or direct engagement of a recognised or pre-eminent expert.

The annual report contains information about actual expenditure on contracts for consultancies. Information on the value of contracts and consultancies is available on the AusTender website www.tenders.gov.au.

Grants

ARPANSA did not administer any grants in this reporting period.

Procurement initiatives to support small business

ARPANSA supports small business participation in the Commonwealth Government procurement market. Small and Medium Enterprises (SME) and Small Enterprise (SE) participation statistics are available on the Department of Finance website:

www.finance.gov.au/procurement/statistics-on-commonwealth-purchasing-contracts/

ARPANSA's engagement with SMEs is predicated on communicating in clear, simple language and presenting information in an accessible format. Additionally, ARPANSA has adopted the use of the Commonwealth Contracting Suite for low risk procurements valued under $200 000 to reduce the burden on SMEs entering into contractual relations with the Commonwealth.

Appendices

Appendix 1: Stakeholder engagement

Table 9: Agreements with national stakeholders

Date	Event
August 2014	**Memorandum of Understanding with the Australian Antarctic Division** ARPANSA and the Australian Antarctic Division (AAD) signed a Memorandum of Understanding (MoU) for the provision of maintenance and operational support by the AAD for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) monitoring facilities under ARPANSA control.
March 2015	**ARPANSA – Australian Communications and Media Authority Memorandum of Understanding and joint statements** To make it easier for members of the public to understand how exposure to radiofrequency fields from telecommunications equipment is regulated, ARPANSA signed a MoU with the Australian Communications and Media Authority (ACMA) in March 2015. ARPANSA and the ACMA have also released joint statements on topics of public interest including smart meters, Wi-Fi, and mobile phone and NBN base stations. The ARPANSA/ACMA MoU and joint statements can be found at www.arpansa.gov.au/AboutUs/collaboration/acma.cfm.

Table 10: Agreements and activities with international stakeholders

Date	Event
July 2014	**Memorandum of Understanding with Public Health England** ARPANSA and Public Health England signed a MoU for the exchange of technical information and cooperation in nuclear safety and radiation protection.
September 2014	**Visit to Federal Authority for Nuclear Regulation, United Arab Emirates** ARPANSA visited the Federal Authority for Nuclear Regulation (FANR) in Abu Dhabi, United Arab Emirates (UAE) and delivered a presentation to UAE counterparts in radiotherapy and radiology on the Australian Clinical Dosimetry Service including its rationale, audit design, findings and recommendations to facilities, the pilot outcomes, and reasons for its success. ARPANSA signed an agreement for the exchange of technical information and cooperation in radiological and nuclear safety with FANR in September 2013.
November 2014	**Memorandum of Understanding with Swedish Radiation Safety Authority** ARPANSA and Swedish Radiation Safety Authority (SSM) signed a MoU for the exchange of information and personnel. Representatives from SSM visited ARPANSA in September 2014 to discuss future work programs.
November 2014	**International Commission on Non-Ionizing Radiation Protection Workshop on Radiofrequency Field Health Effects and Standards** International Commission on Non-Ionizing Radiation Protection (ICNIRP), the Australian Centre for Electromagnetic Bioeffects Research and ARPANSA jointly hosted a Workshop on Radiofrequency (RF) Field Health Effects and Standards on 11 November 2014 at the University of Wollongong, Australia. This international workshop, open to the public, was aimed at discussing the latest evidence of health effects from exposure to RF fields and the implications to ICNIRP's current plan in updating their high frequency guidelines. Details on the Workshop are available from: www.icnirp.org/en/workshops/article/workshop-rf-2014.html.

Table 10: Agreements and activities with international stakeholders (cont.)

December 2014	**Visit from Nuclear Energy Regulatory Agency of the Republic of Indonesia** ARPANSA hosted a visit from the Chief Information Officer from Nuclear Energy Regulatory Agency **(**BAPETEN). During this visit a range of topics were discussed with ARPANSA experts, including general communications issues, setting up of regulatory structures, regulation of naturally occurring radioactive materials, remediation of legacy sites, transport and atmospheric modelling and emergency preparedness and monitoring of radiation in the environment. ARPANSA signed an agreement for the exchange of technical information and cooperation in radiological and nuclear safety with BAPETEN in April 2012.
February 2015	**Comprehensive Nuclear-Test-Ban Treaty Organization workshop** In cooperation with the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), as agreed in an *Exchange of Letters*, ARPANSA hosted a week long workshop for the Radionuclide Laboratories designated in the treaty to provide independent analyses of samples from the CTBTO International Monitoring System Division. The workshop was attended by 34 participants from 13 countries.
April 2015	**Visit from Norwegian Radiation Protection Authority** ARPANSA hosted a visit from Norwegian Radiation Protection Authority **(**NRPA) and signed a project work plan with the NRPA to further develop the ERICA Tool and Database and strengthen its suitability for Australian conditions. ERICA (Environmental Risk from Ionising Contaminants: Assessment and Management) is a software tool that enables the assessment of environmental impact of ionising radiation on biota and ecosystems. ARPANSA has an existing MoU with NRPA for the exchange of technical information and cooperation in nuclear safety and radiation protection that was signed in October 2013.
April 2015	**International Commission of Radiological Protection Workshop – Uranium Mining** The International Commission of Radiological Protection Main Commission meeting was held in Sydney, Australia and included a Radiation Protection in Uranium Mining workshop that was supported by ARPANSA and the Minerals Council of Australia.
June 2015	**Practical Arrangement – International Atomic Energy Agency** ARPANSA signed a practical arrangement with Director General Flory on Cooperation in the area of developing guidance material to support safety standards applicable to the uranium mining and processing industry. This arrangement was put in place in preparation for a workshop to be hosted jointly with the IAEA in Adelaide in October 2015.

Appendix 2: Work health and safety

ARPANSA staff and management consult through the operation of the Work Health and Safety (WHS) Committee. The Committee is chaired by the CEO and made up of health and safety representatives, management representatives and the WHS Coordinator to provide work health and safety expertise and coordination. Specialist advisors for emergency response, radiation safety, first aid, chemical safety, property management, human resources, legal and security attend the Committee meetings as required and provide updates on issues impacting on health and safety. The Committee meets six times a year.

WHS measures undertaken in 2014-15 include:

- influenza immunisations for staff in all three campuses
- chemical safety training
- installation of new speed and pedestrian crossing signage to improve traffic management at the Yallambie site
- an upgrade to the First Aid Room at Yallambie
- removal of the majority of the asbestos at the Yallambie site
- making stand desks and height adjustable desks available to staff with medical needs and for those that are taller than 185cm
- ergonomic improvements to office setups.

The WHS Committee demonstrated a collegiate approach to addressing and rectifying any issues identified as quickly as possible.

Health and safety management arrangements

Health and safety management arrangements have been in place in ARPANSA since late 2007. The arrangements explain the following:

- roles and responsibilities
- consultation
- confidentiality
- organisational arrangements, including dispute resolution
- implementation
- review.

Incidents or injuries

During 2014-15, there has been a concerted effort to improve hazard and incident reporting within ARPANSA.

There were eighteen hazards and near misses reported including eight related to faulty or damaged equipment and eight related to poor design or manufacture.

There were twenty two incidents resulting in minor injuries including four cuts, three musculoskeletal injuries, six where personnel were struck by objects, three related to damaged equipment and one spider bite. Medical treatments were only required for two of these incidents. During 2014-15, there were no notifiable incidents and no loss time injuries reported. There were no Comcare claims made during this reporting period.

Investigations or notices given

During 2014-15, there were no investigations or notices given.

Table 11: 2014-15 Work health and safety inspection schedule

Date	Location
Aug 2014	Melbourne Plant and grounds
Oct 2014	Melbourne East Wing
Dec 2014	Melbourne West Wing
May 2015	Melbourne Laboratories

Appendix 3: Information Publication Scheme

Agencies subject to the Freedom of *Information Act 1982* (FOI Act) are required to publish information to the public as part of the Information Publication Scheme. This requirement is in Part II of the FOI Act and has replaced the former requirement to publish a section 8 statement in an annual report. Each agency must display on its website a plan showing what information it publishes in accordance with the Information Publication Scheme requirements.

ARPANSA as an Australian Government agency is subject to the FOI Act and is required to comply with the Information Publication Scheme provisions. ARPANSA has developed an Agency plan describing ARPANSA's compliance with Information Publication Scheme provisions as required by section 8(1) of the FOI Act.

Feedback on this plan can be provided by contacting the Freedom of Information Coordinator at email: foi@arpansa.gov.au or by mail at:

The FOI Coordinator
ARPANSA PO Box 655
MIRANDA NSW 1490

or by telephoning: (03) 9433 2211.

Appendix 4: Advertising and market research

Forms of Advertising

During 2014-15, ARPANSA commissioned a market research study to survey a selection of our stakeholders to identify their perceptions of radiation, perceptions of ARPANSA and its performance, and our use of communication channels. The total expenditure relating to this market research amounted to $41 917 (inclusive of GST), and details are contained in Table 12.

ARPANSA did not commission any work from creative advertising agencies, polling organisations or direct mail organisations.

Section 311A of the *Commonwealth Electoral Act 1918* requires details of payments of $12 565 and above (inclusive of GST). Expenditure on media advertising and public notices was below the threshold.

During 2014-15, ARPANSA did not conduct any advertising campaigns.

Table 12: Market research expenditure during 2014-15

Organisation	Purpose	Expenditure (incl. GST)
Orima Research Pty Ltd	Community Stakeholder Survey	$41 917

Appendix 5: Ecologically sustainable development and environmental performance

The object of the ARPANS Act is to protect the health and safety of people and to protect the environment from the harmful effects of radiation. In accordance with the ARPANS Act, ARPANSA takes into account the radiological impact on the environment in assessing licence applications from Commonwealth entities and their contractors.

The Agency supports and promotes practices that can improve energy management and environmental practices within both the Sydney, Melbourne, and Canberra offices. ARPANSA has in place an Environment Policy and is committed to:

- complying with relevant Commonwealth and state environment legislation and with the Australian Government's environmental policies and initiatives
- implementing a continually improving standard of environmental performance and provide an environmentally sound workplace
- integrating environmental, social and economic considerations in its decision-making including decisions on purchasing, in contracting for goods and services and in any building work it undertakes
- encouraging openness, transparency and improved accountability by reporting its environmental management annual reports and engaging with the community
- implementing and maintaining an Environmental Management System aligned with the ISO 14001 Standard.

Appendix 6: Legal services directions

The legal services directions reflect the obligations imposed on Chief Executives by the *Public Governance, Performance and Accountability Act 2013* and emphasise the general requirement that Commonwealth resources be used efficiently and effectively.

Chief Executives are required to take responsibility for the proper recording and public reporting of their agency's legal services expenditure. Proper recording will enhance the ability of Chief Executives to engage in decision-making about legal resources that complies with their legal obligation to use resources efficiently and effectively. Making publicly available records about expenditure will enhance transparency. In accordance with the Directions, the CEO has certified that:

- ARPANSA has appropriate systems and procedures in place to ensure compliance with the Directions
- ARPANSA has no record of any alleged, possible or determined breach of the Directions by this Agency during the financial year.

Details of the legal services expenditure for the Agency for 2014-15 are provided in Table 13.

Table 13: Legal services expenditure by ARPANSA for 2014-15

Legal Service	Expenditure (incl. GST)
Agency's total legal services expenditure	$195 379.09
Agency's total external legal services expenditure	$27 163.09
External expenditure on solicitors	$27 163.09
External expenditure on counsel	0
Other disbursements on external legal services	0
Agency's total internal legal services expenditure	**$168 216**

Appendix 7: ARPANSA licensing activities

Details of any breach of licence conditions by a licensee during the financial year of which the CEO is aware

Breaches with significant safety implications

One breach with significant safety implications was recorded during the year. On 9 April 2015, ARPANSA found ANSTO LifeSciences at Camperdown in breach of Regulation 44 for failing to take reasonably practicable steps to prevent the override of a safety interlock on a hot cell at the facility.

Breaches with no or minor safety implications

Three breaches with no or minor safety implications were recorded during the year:

- The first breach occurred when a licence holder failed to follow a standard operating procedure which resulted in a breach of section 30(2) of the ARPANS Act. The breach was assessed to have no safety implications and appropriate corrective actions were undertaken by the licence holder.
- A licensee failed to follow its plans and arrangements as required by Regulation 49. The breach was assessed to have minor safety implications and appropriate corrective actions were undertaken by the licence holder.
- The third breach was due to a failure by a licence holder to comply with an operational limit and condition requiring a fire suppression system for a filtration system to be functional on the duty filter. The breach was assessed to have minor safety implications.

Table 14: Facility licences as at 30 June 2015

Commonwealth entity	Licences held
Australian Nuclear Science and Technology Organisation (ANSTO)	23
Australian Customs and Border Protection Service	4
Australian Defence Force /Department of Defence	5
Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)	1
Australian National University	3
Department of the Environment – Parks Australia	1
Total	**37**

Table 15: Source licences as at 30 June 2015

Commonwealth entity	Licences held
ANU Enterprise Pty Ltd	1
ASC Pty Ltd	1
Attorney-General's Department	1
AUSTRAC	1
Australian Crime Commission	1
Australian Customs and Border Protection Service	2
Australian Defence Force /Department of Defence	1
Australian Federal Police	1
Australian Institute of Marine Science	1
Australian National University	1
Australian Nuclear Science and Technology Organisation (ANSTO)	3
Australian Postal Corporation	1
Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)	2
Australian Securities and Investments Commission	1
Australian Sports Commission	1
Australian Trade Commission	1
Australian War Memorial	1
Bureau of Meteorology – Cape Grim	1
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	9
Decipha Pty Ltd	1
Department of Agriculture	1
Department of Foreign Affairs and Trade	1
Department of Infrastructure and Regional Development	1
Department of Immigration and Border Protection	1
Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education – National Measurement Institute	1
Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education – Department of Climate Change and Energy Efficiency	1
Department of Parliamentary Services	1
Department of the Prime Minister and Cabinet	1
Department of Regional Australia, Regional Development and Local Government – Indian Ocean Territories Health Service	1

Table 15: Source licences as at 30 June 2014 (cont).

Commonwealth entity	Licences held
Department of Resources Energy and Tourism - Geoscience Australia	1
Department of Resources Energy and Tourism - Geoscience Australia – Geospatial and Earth Monitoring Division	1
Department of the Environment – Australian Antarctic Division	1
Department of the Environment – Australian Antarctic Division, Polar Medicine	1
Department of the Environment – Supervising Scientist	1
Family Court of Australia	1
Federal Court of Australia	1
High Court of Australia	1
Law Courts Limited	1
National Archives of Australia	1
National Gallery of Australia	1
National Museum of Australia	1
Note Printing Australia	1
Reserve Bank of Australia	1
Royal Australian Mint	1
Silex Systems Ltd	1
Total number of licences	**57**

Appendix 8: Operations of the Radiation Health and Safety Advisory Council and Committees

Operations of the Radiation Health and Safety Advisory Council

During 2014-15, the Radiation Health and Safety Advisory Council (the Council) met on two occasions (21-22 August and 13-14 November 2014) and considered a wide range of radiation protection and nuclear safety topics. Summaries of the meetings as well as other relevant council information can be found at: www.arpansa.gov.au/AboutUs/Committees/rhsacmt.cfm.

Membership of the Council:

Council's 2012-14 triennium ended on 31 March 2015, and a new Council (with six new members and six members reappointed), as listed below, was appointed by the Minister in April 2015.

- *Chair*:
  Dr Roger Allison (QLD), Executive Director Cancer Care Services, Royal Brisbane and Women's Hospital
- *CEO of ARPANSA*:
  Dr Carl-Magnus Larsson (NSW)
- *Person to represent the interests of the general public*:
  Ms Geraldine Robertson (ACT), an experienced consumer advocate with a working knowledge of the consumer-related radiation protection issues addressed by the Council
- Radiation Control Officers:
  - Mr Keith Baldry (SA), Director, Regulation and Compliance, SA Environment Protection Authority
  - Mr Simon Critchley (QLD), Director, Radiation Health, Queensland Health
- *Nominee of the Chief Minister of NT*:
  Dr Stephen Skov (NT), Community Physician, Centre for Disease Control, Department of Health of the NT
- *Other Members:*
  - Mr Niall Byrne (VIC), Creative Director of Science in Public
  - Dr Jane Canestra (VIC), Medical practitioner and emergency physician with expertise in the health aspects of radiological emergencies
  - Prof Adele Green (QLD), Head, Cancer and Population Studies Group, Queensland Institute of Medical Research
  - Mr Frank Harris (QLD), Chief Adviser Radiation Governance and Product Stewardship, Rio Tinto Uranium
  - Ms Melissa Holzberger (QLD), Director and Principal – Sloan Holzberger Lawyers
  - Prof Pamela Sykes (SA), Professor Preventive Cancer Biology, Flinders University
  - Dr Melanie Taylor (NSW), Senior Research Fellow at the Centre for Health Research, University of Western Sydney.

During 2014-15, Council considered and discussed:

- Community submissions on various issues including smart meters and Wi-Fi in schools.
- ARPANSA's current activities in relation to non-ionising radiation research, services and advice, and on emerging issues in this area.
- The need to provide advice on the application of the Precautionary Approach and the Linear-No-Threshold approach to regulation.
- The outcome of an expert panel review of ARPANSA publication, *Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz (2002)* (RPS 3), which found that while RPS 3 remains fit for purpose there are opportunities for improvement. Both the Radiation Health Committee and ARPANSA have committed to begin reviewing RPS 3 in 2015.
- The need to set safety limits for electromagnetic energy (EME) based on scientific information, noting that when limits are arbitrary the focus moves to compliance rather than optimisation. Precaution and radiation protection are best driven by actively addressing safety rather than by just meeting limits.

Members met with:

- Dr Emilie van Deventer from the World Health Organization (WHO), who delivered a presentation on the role of the WHO in relation to both ionising and non-ionising radiation protection, specifically in shaping research agendas, setting norms and standards and monitoring health. Dr van Deventer conveyed

the WHO's appreciation of ARPANSA's work as a WHO Collaborating Centre, raising the possibility of ARPANSA acting as a 'Radiation Champion' for the WHO and emphasising the need for WHO Member States to continue to highlight the importance of radiation as an ongoing health issue.

- Representatives from the Australian Mobile Telecommunications Association (AMTA) on the protections in place at mobile telecommunications radio base station sites ('towers') in Australia and of the information on these sites that is available to the public. Members discussed the processes in place to ensure that industry complies with RPS 3. The level of information provided in Australia is highly advanced in both quality and accessibility compared to most other countries. AMTA emphasised that the current detail of information available to the public is made possible by the mobile telecommunications carriers' commitment to sharing information.
- Two members of the public made a presentation to inform Council of their concerns about the potential risk of long term, low level exposure to electromagnetic radiation (EMR) or EME. They made a number of recommendations to Council, particularly in relation to the current EME exposure standard RPS 3, the state of scientific research in this area and the application of the Precautionary Principle. Members thanked the presenters for their attendance and presentations. Further dialogue and working together to achieve the common goal of protection of children was encouraged.

The membership of the council for the period 1 July to 31 March 2015 was:

- *Chair*:
  Professor Ray Kemp (VIC)
- *CEO of ARPANSA*:
  Dr Carl-Magnus Larsson (NSW)
- *Person to represent the interests of the general public*:
  Emeritus Professor Ian Lowe (QLD)
- *Radiation Control Officers*:
  - Mr Keith Baldry (SA)
  - Mr Simon Critchley (QLD)
- *Nominee of the Chief Minister of NT*:
  Dr Stephen Skov (NT)
- *Other Members*:
  - Dr Roger Allison (QLD)
  - Ms Jill Fitch (SA)
  - Dr Brad Cassels (VIC)
  - Dr Denise Wheeler (QLD)
  - Ms Melissa Holzberger (QLD)
  - Mr Frank Harris (QLD)
  - Ms Sylvia Kidziak AM (NSW)

Operations of the Radiation Health Committee

During 2014-15, the Radiation Health Committee (RHC) met on three occasions on 19 November 2014, 25 March 2015 and 24 June 2015. Minutes of the meetings can be found at www.arpansa.gov.au/AboutUs/Committees/rhc.cfm.

The RHC is appointed on a three year term. The 2012-14 triennium ended in December 2014.

The Chair and Members for the 2012-14 triennium were:

- *Chair*:
  Mr Keith Baldry (SA), Director, Regulation and Compliance, SA Environment Protection Authority
- *CEO of ARPANSA*:
  Dr Carl-Magnus Larsson (NSW)
- *Radiation Control Officers*: (each state and territory)
  - Mr Ross Bevan (ACT), Manager Radiation Safety, Health Protection Service, ACT Health
  - Associate Professor Brad Cassels (VIC), Expert Advisor Radiation, Department of Health and Human Services
  - Mr Simon Critchley (QLD), Director, Radiation Health, Queensland Health
  - Mr Len Potapof (NSW), Manager Radiation Regulation Unit, NSW Environment Protection Authority
  - Mr Russell Robinson (NT), Manager Radiation Protection, Department of Health
  - Dr Barbara Shields (TAS), Senior Health Physicist, Department of Health and Human Services
  - Ms Hazel Upton (WA), Managing Health Physicist, Radiation Health Unit, Department of Health
- *Nuclear Safety Committee representative*:
  Mr Robert Lyon (QLD), nuclear safety expert, formerly with AECL (Canada) and the IAEA.

- *Person to represent the interests of the general public*:
  Dr Peter Karamoskos (VIC), radiologist and nuclear medicine specialist
- *Other members*:
  - Dr Roslyn Drummond (VIC), Deputy Director of Radiation Oncology, Peter MacCallum Cancer Centre
  - Dr Andrew Kerans (ACT), Adjunct Associate Professor of Engineering, James Cook University (QLD)

For the 2015-17 triennium, Dr Roslyn Drummond was appointed as Chair of the Committee, replacing Mr Keith Baldry; Mr Leif Dahlskog, Senior Health Physicist, was appointed as the Radiation Control Officer representing WA, replacing Ms Hazel Upton; Dr Bruce Hocking, consulting specialist in occupational medicine, was appointed as an other member, replacing Dr Andrew Kerans. All other members were reappointed.

During the period significant progress was made on the Code for Radiation Protection in Planned Exposure Situations and the Guide for Radiation Protection of the Environment with drafts released for public consultation. Work commenced on codes for Radiation Protection in Existing Exposure Situations and Emergency Exposure Situations. Work also commenced on a code for Management Systems and Safety Culture and a review of the *Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation* (RPS 14).

A Consultation Regulatory Impact Statement on the use of Intense Pulsed Light sources (IPLs) and Lasers for Cosmetic or Beauty Therapy was released for public consultation in June 2015.

Amendment 7 of the NDRP for disposal of radioactive waste by the user was completed and is progressing through the Australian Health Ministers' approval process.

The RHC recommended that the CEO withdraw the existing National Health and Medical Research Council guidance on ELF exposure and instead refer to the International Commission on Non-Ionizing Radiation Protection (ICNIRP) *Guidelines for Limiting Exposure to Time-Varying Electric and Magnetic Fields (1 Hz -100 kHz)* on the ARPANSA website. The ICNIRP ELF guidelines are aimed at preventing the established health effects resulting from exposure to ELF EMF and are consistent with ARPANSA's and the RHC's understanding of the scientific basis for the protection of people from exposure to ELF EMF. RHS 15 *Code of practice for the safe use of microwave diathermy units (1985)* and RHS 16 *Code of practice for the safe use of short wave (radiofrequency) diathermy units (1985)* were also withdrawn as the technology is largely outdated.

The RHC agreed to suspend the project to develop Australian specific NIR Fundamentals and supported ARPANSA's participation in the World Health Organisation (WHO) project to develop International Basic Safety Requirements for Non-Ionising Radiation, including Fundamental Safety Principles.

A Position Statement on Regulatory Expectations for users of radiation sources seeking to obtain authorisations in more than one jurisdiction was endorsed by ARPANSA and the radiation regulatory bodies of New South Wales, Northern Territory, Queensland, South Australia, Tasmania and Victoria. The document sets out what applicants can expect when seeking authorisations (licences or registrations) for the same activity in multiple jurisdictions. It endeavours to promote nationally uniform radiation protection outcomes and minimise unnecessary regulatory burden.

To further assist in the promotion of national uniformity, a Stakeholder Feedback Form was endorsed by the RHC and published on the ARPANSA website. The form invites businesses to advise the CEO of difficulties encountered when seeking authorisations in more than one jurisdiction. ARPANSA does not undertake to resolve individual issues but will raise them with the relevant authority. Information collected will be used to recommend improvements to reduce regulatory burden and increase efficiency.

The CEO of ARPANSA announced his intention to host an Integrated Regulatory Review Service (IRRS) Mission in 2018 and invited state and territory regulators to include their regulatory activities in the scope of the peer review. Responses to the invitation are still being received.

Operations of the Nuclear Safety Committee

During 2014-15, the Nuclear Safety Committee (NSC) met on three occasions: 31 October 2014, 5-6 March 2015 and 19 June 2015. Summaries of the meetings can be found on the ARPANSA website at www.arpansa.gov.au/AboutUs/Committees/nscmt.cfm.

The NSC is appointed on a three year term. The 2012-14 triennium ended in December 2014.

The Chair and members for the 2012-14 triennium f the NSC for the 2012-14 triennium were:

- *Chair*:
  Dr Tamie Weaver (VIC), Technical Director - Hydrogeology, environmental resources management consultancy
- *CEO of ARPANSA*:
  Dr Carl-Magnus Larsson (NSW)
- *Radiation Health Committee representative*:
  Dr Barbara Shields (TAS) Senior Health Physicist, Department of Health and Human Services
- *Local Government representative*:
  Mr Ian Drinnan (NSW) Principal Environmental Scientist, Sutherland Shire Council
- *Person to represent the interests of the general public*:
  Mr Christopher Tola (NSW) Grants Officer, local government authority
- *Other members*:
  - Ms Kerrie Christian (NSW), metallurgist with background in governance, safety and reliability
  - Dr Rob Lee (ACT), human factors, systems safety and risk management expert with experience of aviation and other high technology industries
  - Mr Robert Lyon (QLD), nuclear safety expert, formerly with AECL and the IAEA
  - Mr Don Macnab (NSW), former Director, Regulatory and Policy Branch, ARPANSA
  - Em. Prof. Ian Polmear (VIC), Monash University, Materials Science, metallurgist with expertise in nuclear and other high technology industries
  - Mr Peter Wilkinson (ACT), consultant in safety management and safety culture in hazardous industries

Em Prof Ian Polmer retired from the NSC at the end of the 2014. All other members were re-appointed for the 2015-17 triennium together with the following new members:

- Mr Tony Irwin (NSW), Engineer with experience in nuclear power and research reactor operations; commissioning; training and regulatory interaction
- Mr Peter Karamoskos (VIC), practicing radiologist and nuclear medicine specialist.

Key topics reviewed by the Nuclear Safety Committee during this financial year included the following:

- Consideration and advice regarding the periodic safety review of the OPAL Reactor.
- Consideration and advice regarding the licence application for the Little Forest Legacy Site which, from 1960 to 1968, was used by the Australian Atomic Energy Commission as a disposal site for low level radioactive waste. Members provided advice on the social and technical issues associated with licensing legacy sites.
- Progress and developments towards the establishment of a National Radioactive Waste Management Facility. The NSC concentrated on the regulatory role in stakeholder communication and the need to clearly outline the science of waste management.
- The ARPANSA development of holistic safety tools which may be used by the regulator and licence holders to assist them to improve the safety of their operations. NSC members provided advice on these tools.
- The update of ARPANSA's Regulatory Delivery Model which set out how ARPANSA will undertake its regulatory functions from 1 January 2015. The conduct of inspections was discussed, including the benefits and disadvantages of announced and unannounced inspections. The NSC considered the updated inspection approach to be efficient and effective.
- Various aspects of organisational safety, including licence holder arrangements regarding change management, internal review processes and implementation of changes. In this regard the NSC also reviewed the implementation of ARPANSA's guidance on when a change has significant implications for safety.

- Priorities for the Harmonised Radiation Protection Series. This topic concerns a project for the adoption of the radiation protection standards from the International Atomic Energy Agency (IAEA) for use in Australia. A number of Committee members are actively involved in working groups that are considering the suitability of these standards for use within the Australian environment. One such example is the use of IAEA General Safety Requirements Part 2 – Leadership and Management for Safety.
- The potential regulatory implications arising from the South Australian Nuclear Fuel Cycle Royal Commission. The NSC has undertaken to provide advice in regard to the options for a future nuclear regulator if the nuclear industry expands. Topics discussed included the functional structure of the regulatory body; the jurisdictional scope, the jurisdiction (state/territory and Commonwealth; the required regulatory capacity and capability.

Appendix 9: ARPANSA's action plan addressing Australian National Audit Office recommendations

The 2014 Australian National Audit Office (ANAO) audit focused on the management of ARPANSA's regulatory role and responsibilities. Four recommendations resulted from the audit. The ANAO also reviewed issues that were considered not fully resolved from the 2005 audit.

Following the 2014 audit, ARPANSA management evaluated the ANAO's findings and made significant changes with respect to the delivery of its regulatory services. ARPANSA has improved the quality and rigour of internal processes that validate and document the implementation of audit recommendations.

Regulatory Services Branch strives for continuous improvement; policies and procedures will continue to be regularly reviewed within the Branch's quality management system.

ARPANSA will perform self-assessments of its regulatory performance at least annually in accordance with the Australian Government's Regulatory Performance Framework. To ensure that the intent of the 2014 recommendations are not diluted, the scope of the next self-assessment will include aspects of better practices with respect to risk and avoiding conflicts of interest.

ARPANSA considers the intent of the ANAO recommendations has been met. Consultant RSM Bird Cameron was engaged by the ARPANSA Audit and Risk Committee to conduct a reasonable assurance review in relation to the ANAO recommendations. Their report is yet to be finalised.

Appendix 10: Publications

Codes and Guides

In December 2014, ARPANSA published the *Code for the Safe Transport of Radioactive Material*, RPS C-2 (commonly referred to as the Transport Code), which replaces the *Code of Practice for the Safe Transport of Radioactive Material (2008)* (RPS 2). It adopts the International Atomic Energy Agency *Regulations for the Safe Transport of Radioactive Material 2012 Edition* (No. SSR-6). This Code is intended to establish uniform requirements for the transport of radioactive material in Australia by road, rail or those waterways not covered by the Maritime legislation.

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Wallace, A, Thomas, P & Hayton A, 2015, 'Data distributions and the impact of iterative reconstruction algorithms from the first three years of the Australian MDCT DRL project (2011-2014)', *European Congress of Radiology*, Vienna, 6 – 10 March.

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Reports

Butler, D, Takau, V, Ramanathan, G, Harty, P, Oliver C, Webb, D & Wright, T, 2015, 'Report to the 22nd Meeting of the CCRI(I): Recent Activities in Measurement Standards and Dosimetry at ARPANSA, 2013-2015', Paris 24-26 March.

Appendix 11: Financial statements for the year ended 30 June 2015

Australian National
Audit Office

INDEPENDENT AUDITOR'S REPORT

To the Assistant Minister for Health

I have audited the accompanying annual financial statements of the Australian Radiation Protection and Nuclear Safety Agency for the year ended 30 June 2015, which comprise:

- Statement by the Accountable Authority and the Chief Financial Officer;
- Statement of Comprehensive Income;
- Statement of Financial Position;
- Statement of Changes in Equity;
- Cash Flow Statement;
- Schedule of Commitments; and
- Notes to and forming part of the financial statements comprising a Summary of Significant Accounting Policies and other explanatory information.

Chief Executive's Responsibility for the Financial Statements

The Chief Executive of the Australian Radiation Protection and Nuclear Safety Agency is responsible under the *Public Governance, Performance and Accountability Act 2013* for the preparation and fair presentation of annual financial statements that comply with Australian Accounting Standards and the rules made under that Act. The Chief Executive is also responsible for such internal control as is necessary to enable the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on the financial statements based on my audit. I have conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. These auditing standards require that I comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the Accountable Authority of the entity, as well as evaluating the overall presentation of the financial statements.

GPO Box 707 CANBERRA ACT 2601
19 National Circuit BARTON ACT
Phone (02) 6203 7300 Fax (02) 6203 7777

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Independence

In conducting my audit, I have followed the independence requirements of the Australian National Audit Office, which incorporate the requirements of the Australian accounting profession.

Opinion

In my opinion, the financial statements of the Australian Radiation Protection and Nuclear Safety Agency:

(a) comply with Australian Accounting Standards and the *Public Governance, Performance and Accountability (Financial Reporting) Rule 2015*; and

(b) present fairly the financial position of the Australian Radiation Protection and Nuclear Safety Agency as at 30 June 2015 and its financial performance and cash flows for the year then ended.

Australian National Audit Office

Peter Kerr

Executive Director

Delegate of the Auditor-General

Canberra

14 September 2015

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)

Financial Statements - 30 June 2015

Australian Radiation Protection and Nuclear Safety Agency
STATEMENT BY THE ACCCOUNTABLE AUTHORITY AND CHIEF FINANCIAL OFFICER

In our opinion, the attached financial statements for the year ended 30 June 2015 comply with subsection 42(2) of the Public Governance, Performance and Accountability Act 2013 (PGPA Act), and are based on properly maintained financial records as per subsection 41(2) of the PGPA Act.

In our opinion, at the date of this statement, there are reasonable grounds to believe that the Australian Radiation Protection and Nuclear Safety Agency will be able to pay it debts as and when they fall due.

Signed.....

Carl-Magnus Larsson
Accountable Authority

14 September 2015

Signed.....

George Savvides
Chief Financial Officer

14 September 2015

Australian Radiation Protection and Nuclear Safety Agency
STATEMENT OF COMPREHENSIVE INCOME
for the period ended 30 June 2015

NET COST OF SERVICES	Notes	2015 $	2014 $
EXPENSES			
Employee benefits	3A	**15,752,820**	17,138,979
Suppliers	3B	**7,037,712**	6,637,147
Depreciation and amortisation	3C	**2,332,573**	2,272,567
Write-down and impairment of assets	3D	**665,723**	314,198
Total expenses		**25,788,828**	26,362,891
OWN-SOURCE INCOME			
Own-source revenue			
Sale of goods and rendering of services	4A	**6,162,101**	6,679,150
Licence fees	4B	**4,671,536**	4,549,548
Other revenue	4C	**56,500**	56,500
Total own-source revenue		**10,890,137**	11,285,198
Gains			
Foreign exchange	4D	**1,879**	805
Total gains		**1,879**	805
Total own-source income		**10,892,016**	11,286,003
Net cost of services		**14,896,812**	15,076,888
Revenue from Government	4E	**13,253,000**	13,813,000
Deficit attributable to the Australian Government		**(1,643,812)**	(1,263,888)
OTHER COMPREHENSIVE INCOME			
Items not subject to subsequent reclassification to net cost of services			
Changes in asset revaluation surplus		**2,630,310**	1,375,058
Total other comprehensive income		**2,630,310**	1,375,058
Total comprehensive income attributable to the Australian Government		**986,498**	111,170

The above statement should be read in conjunction with the accompanying notes.

Australian Radiation Protection and Nuclear Safety Agency
STATEMENT OF FINANCIAL POSITION
as at 30 June 2015

	Notes	2015 $	2014 $
ASSETS			
Financial assets			
Cash and cash equivalents	6A	**1,510,837**	1,395,004
Trade and other receivables	6B	**4,011,480**	4,075,822
Other financial assets	6C	**47,675**	90,922
Total financial assets		**5,569,992**	5,561,748
Non-financial assets			
Land and buildings	7A	**24,316,564**	21,182,301
Plant and equipment	7B,7F	**5,978,450**	5,743,710
Intangibles	7C,7G	**622,950**	591,661
Inventories	7D	**1,495,537**	1,473,815
Other non-financial assets	7E	**403,081**	368,855
Total non-financial assets		**32,816,582**	29,360,342
Total assets		**38,386,574**	34,922,090
LIABILITIES			
Payables			
Suppliers	8A	**1,276,994**	1,157,261
Other payables	8B	**1,071,017**	832,727
Total payables		**2,348,011**	1,989,988
Provisions			
Employee provisions	9	**4,737,800**	4,620,837
Total provisions		**4,737,800**	4,620,837
Total liabilities		**7,085,811**	6,610,825
Net assets		**31,300,763**	28,311,265
EQUITY			
Contributed equity		**17,503,000**	15,500,000
Reserves		**13,644,439**	11,014,129
Retained surplus		**153,324**	1,797,136
Total equity		**31,300,763**	28,311,265

The above balance sheet should be read in conjunction with the accompanying notes.

Australian Radiation Protection and Nuclear Safety Agency
STATEMENT OF CHANGES IN EQUITY
for the period ended 30 June 2015

	Retained earnings		Asset revaluation surplus		Contributed equity/capital		Total equity	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014
	$	$	**$**	$	**$**	$	**$**	$
Opening balance								
Balance carried forward from previous period	**1,797,136**	3,061,024	**11,014,129**	9,639,071	**15,500,000**	11,056,000	**28,311,265**	23,756,095
Adjusted opening balance	**1,797,136**	3,061,024	**11,014,129**	9,639,071	**15,500,000**	11,056,000	**28,311,265**	23,756,095
Comprehensive income								
Other comprehensive income - Changes in asset revaluation reserves	**-**	-	**2,630,310**	1,375,058	**-**	-	**2,630,310**	1,375,058
Deficit for the period	**(1,643,812)**	(1,263,888)					**(1,643,812)**	(1,263,888)
Total comprehensive income	**(1,643,812)**	(1,263,888)	**2,630,310**	1,375,058	**-**	-	**986,498**	111,170
Transactions with owners								
Contributions by owners								
Departmental capital budget	**-**	-	**-**	-	**2,003,000**	1,944,000	**2,003,000**	1,944,000
Equity injection	**-**	-	**-**	-	**-**	2,500,000	**-**	2,500,000
Total transactions with owners	**-**	-	**-**	-	**2,003,000**	4,444,000	**2,003,000**	4,444,000
Closing balance as at 30 June	**153,324**	1,797,136	**13,644,439**	11,014,129	**17,503,000**	15,500,000	**31,300,763**	28,311,265

The above statement should be read in conjunction with the accompanying notes.

Australian Radiation Protection and Nuclear Safety Agency
CASH FLOW STATEMENT
for the period ended 30 June 2015

	Notes	2015 $	2014 $
OPERATING ACTIVITIES			
Cash received			
Appropriations		**11,967,000**	13,813,000
Sales of goods and rendering of services		**11,810,133**	10,905,698
Net GST received		**503,694**	220,542
Total cash received		**24,280,827**	24,939,240
Cash used			
Employees		**(15,740,521)**	(17,256,546)
Suppliers		**(8,423,864)**	(7,624,400)
Total cash used		**(24,164,385)**	(24,880,946)
Net cash from operating activities	10	**116,442**	58,294
INVESTING ACTIVITIES			
Cash used			
Purchase of property, plant, equipment and intangibles		**(3,219,609)**	(2,324,024)
Total cash used		**(3,219,609)**	(2,324,024)
Net cash (used by) investing activities		**(3,219,609)**	(2,324,024)
FINANCING ACTIVITIES			
Cash received			
Contributed equity		**3,219,000**	2,661,000
Total cash received		**3,219,000**	2,661,000
Net cash from financing activities		**3,219,000**	2,661,000
Net increase in cash held		**115,833**	395,270
Cash and cash equivalents at the beginning of the reporting period		**1,395,004**	999,734
Cash and cash equivalents at the end of the reporting period	6A	**1,510,837**	1,395,004

The above statement should be read in conjunction with the accompanying notes.

Australian Radiation Protection and Nuclear Safety Agency
SCHEDULE OF COMMITMENTS
as at 30 June 2015

	2015	2014
BY TYPE	**$**	$
Commitments receivable		
Net GST recoverable on commitments [1]	**(300,924)**	(377,854)
Total commitments receivable	**(300,924)**	(377,854)
Commitments payable		
Capital commitments		
Building, Infrastructure, plant and equipment [2]	**1,589,460**	1,993,453
Total capital commitments	**1,589,460**	1,993,453
Other commitments		
Operating leases [3]	**289,732**	653,965
Other commitments [4]	**1,795,111**	1,508,978
Total other commitments	**2,084,843**	2,162,943
Net commitments by type	**3,373,379**	3,778,542
BY MATURITY		
Commitments receivable		
Within 1 year	**(254,757)**	(323,995)
Between 1 to 5 years	**(46,167)**	(53,859)
Total commitments receivable	**(300,924)**	(377,854)
Commitments payable		
Capital commitments		
Within 1 year	**1,589,460**	1,993,453
Between 1 to 5 years	**-**	-
Total capital commitments	**1,589,460**	1,993,453
Operating lease commitments		
Within 1 year	**289,732**	390,948
Between 1 to 5 years	**-**	263,017
Total operating lease commitments	**289,732**	653,965
Other commitments		
Within 1 year	**1,524,253**	1,179,540
Between 1 to 5 years	**270,858**	329,438
Total other commitments	**1,795,111**	1,508,978
Net commitments by maturity	**3,373,379**	3,778,542

Note:

1. Commitments are GST inclusive where relevant.

2. Building,Infrastructure plant and equipment - contractual payments for building renovation, computer and scientific equipment

3. Operating leases are effectively non-cancellable and comprise:

Leases for office accommodation.

Lease payments are not subject to annual increase as per the lease. The remaining lease term is 1 year.

Agreements for the provision of motor vehicles to senior executive officers.

No contingent rentals exist. There are no renewal or purchase options available to the Agency.

4. Other commitments - contracts for the procurement of goods and services

The above schedule should be read in conjunction with the accompanying notes.

NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS
for the period ended 30 June 2015

Note 1: Summary of Significant Accounting Policies

1.1 Objectives of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)

ARPANSA is an Australian Government controlled not-for-profit entity. It is a non-corporate Commonwealth Entity under the Public Governance Performance and Accountability Act 2013. The objectives of ARPANSA are to: *protect people and the environment from the harmful effects of radiation.*

The Entity is structured to meet one outcome:

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

The continued existence of the Entity in its present form and with its present programs is dependent on Government policy and on continuing funding by Parliament for the Entity's administration and programs.

ARPANSA's activities contributing toward the outcome are classified as departmental. Departmental activities involve the use of assets, liabilities, income and expenses controlled or incurred by the Entity in its own right.

1.2 Basis of Preparation of the Financial Report

The financial statements are general purpose financial statements and are required by section 42 of the Public Governance Performance and Accountability Act 2013.

The financial statements and notes have been prepared in accordance with:

a) Financial Reporting Rule (FRR) for reporting periods ending on or after 1 July 2014; and
b) Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis and are in accordance with historical cost convention, except for certain assets and liabilities at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position.

The financial statements are presented in Australian dollars and values are rounded to the nearest dollar unless otherwise specified.

Unless an alternative treatment is specifically required by an accounting standard or the FRR, assets and liabilities are recognised in the Statement of Financial Position when and only when it is probable that future economic benefits will flow to the Entity or a future sacrifice of economic benefits will be required and the amounts of the assets or liabilities can be reliably measured. However, assets and liabilities arising under executory contracts are not recognised unless required by an accounting standard. Liabilities and assets that are unrecognised are reported in the schedule of commitments or the contingencies note.

Unless alternative treatment is specifically required by an accounting standard, income and expenses are recognised in the Statement of Comprehensive Income when and only when the flow, consumption or loss of economic benefits has occurred and can be reliably measured**.**

1.3 Significant Accounting Judgements and Estimates

In the process of applying the accounting policies listed in this note, ARPANSA have made the following judgements that have the most significant impact on the amounts recorded in the financial statements:

- The fair value of land and buildings is taken to be the market value and depreciated replacement cost respectively as determined by an independent valuer.
- The long service leave liability is calculated using the shorthand method developed by the Australian Government Actuary. This method is impacted by fluctuations in the Commonwealth Government 10 year Treasury Bond rate and the Entity's estimated salary growth rates.

No accounting assumptions or estimates have been identified that have a significant risk of causing a material adjustment to carrying amounts of assets and liabilities within the next accounting period.

1.4 New Australian Accounting Standards

Adoption of new Australian Accounting Standard requirements

No accounting standard has been adopted earlier than the application date as stated in the standard.

The following new or revised standard that was issued prior to the signing of the statement by the Accountable Authority and Chief Financial Officer, was applicable to the current reporting period and had an effect on the Entity's financial statements.

- AASB 1055 Budgetary Reporting required ARPANSA to disclose budgeted information, presented to Parliament in the Portfolio Budget Statements. ARPANSA was also required to provide explanations of significant variances between the budgeted amounts and actual results. This standard was applicable to reporting periods commencing on or after 1 July 2014.

Future Australian Accounting Standard requirements

New standards, revised or amending standards and interpretations that were issued prior to the signing of the statement by the Accountable Authority and Chief Financial Officer and are applicable to the future reporting period are expected to have an effect on the Entity's financial statements.

- AASB 9 Financial Instruments will impact the classification of Financial assets.

1.5 Revenue

Revenue from Government

Amounts appropriated for departmental appropriations for the year (adjusted for any formal additions and reductions) are recognised as Revenue from Government when the Entity gains control of the appropriation, except for certain amounts that relate to activities that are reciprocal in nature, in which case revenue is recognised only when it has been earned.

Section 56 (3) of the *Australian Radiation Protection and Nuclear Safety Act 1998* (the Act), requires that money appropriated by the Parliament be transferred to the special account (notes 6A and 16 refer).

Appropriations receivable are recognised at their nominal amounts.

Licence Fees

Under paragraph 34(b) of the Act, an application for a licence must be accompanied by a fee prescribed in the regulations. Revenue for licence applications is recognised when an application for a licence is received.

Revenue for annual licence fees is recognised when a licence is issued to the licensee.

Other Types of Revenue

Revenue from the sale of goods is recognised when:

a) The risks and rewards of ownership have been transferred to the buyer;

b) The Entity retains no managerial involvement nor effective control over the goods;

c) The revenue and transaction costs incurred can be reliably measured; and

d) It is probable that the economic benefits associated with the transaction will flow to the Entity.

Revenue from rendering of services is recognised by reference to the stage of completion of contracts at the reporting date. The revenue is recognised when:

a) The amount of revenue, stage of completion and transaction costs incurred can be reliably measured; and

b) The probable economic benefits associated with the transaction will flow to the Entity.

The stage of completion of contracts at the reporting date is determined by reference to the proportion that costs incurred to date bear to the estimated total costs of the transaction.

Receivables for goods and services, which have 30 day terms, are recognised at the nominal amounts due less any impairment allowance account. Collectability of debts is reviewed at end of reporting period. Allowances are made when collectability of the debt is no longer probable.

Resources Received Free of Charge

Resources received free of charge are recognised as revenue when and only when a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense.

Resources received free of charge are recorded as either revenue or gains depending on their nature.

Contributions of assets at no cost of acquisition or for nominal consideration are recognised as gains at their fair value when the asset qualifies for recognition, unless received from another Government entity as a consequence of a restructuring of administrative arrangements. (Refer Note 1.7)

Parental Leave Payments Scheme

All amounts received by the Entity under the parental leave payments scheme have been paid to employees. The total amount received under this scheme was $43,591 (2014: $11,197).

1.6 Gains

Sale of Assets

Gains from disposal of assets are recognised when control of the asset has passed to the buyer.

Foreign exchange

Gains from foreign currency are recognised when incurred.

1.7 Transactions with the Government as Owner

Equity Injections

Amounts appropriated which are designated as 'equity injections' for a year (less any formal reductions) and Departmental Capital Budgets (DCBs) are recognised directly in contributed equity in that year.

Restructuring of Administrative Arrangements

Net assets received from or relinquished to another Government entity under a restructuring of administrative arrangements are adjusted at their book value directly against contributed equity.

1.8 Employee Benefits

Liabilities for 'short-term employee benefits' (as defined in AASB 119 *Employee Benefits*) and termination benefits expected within twelve months of the end of the reporting period are measured at their nominal amounts.

The nominal amount is calculated with regard to the rates expected to be paid on settlement of the liability.

Other long-term employee benefit liabilities are measured as net total of the present value of the defined benefit obligation at the end of the reporting period minus the fair value at the end of the reporting period of plan assets (if any) out of which the obligations are to be settled directly.

Leave

The liability for employee benefits includes provision for annual leave and long service leave. No provision has been made for sick leave as all sick leave is non-vesting and the average sick leave taken in future years by employees of the Entity is estimated to be less than the annual entitlement for sick leave.

The leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that will be applied at the time the leave is taken, including the Entity's employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination.

The liability for long service leave is recognised and measured at the present value of the estimated future cash flows to be made in respect of employees as at 30 June 2015. The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

Separation and Redundancy

Provision is made for separation and redundancy benefit payments. The Entity recognises a provision for termination when is has developed a detailed plan for terminations and has informed those employees affected that it will carry out the terminations.

Superannuation

The majority of staff of ARPANSA are members of the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS) or the PSS accumulation plan (PSSap), and the Australian Government Employee Superannuation Trust (AGEST). There are a small number of staff covered under various other superannuation schemes.

The CSS and PSS are defined benefit schemes for the Australian Government. The PSSap is a defined contribution scheme. The AGEST Superannuation Trust is an industry fund which was previously the Australian Government Default Superannuation fund for non-ongoing employees.

The liability for defined benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course. This liability is reported in the Department of Finance's administered schedules and notes.

ARPANSA makes employer contributions to the employees' superannuation scheme at rates determined by an actuary to be sufficient to meet the current cost to the Government. ARPANSA accounts for the contributions as if they were contributions to defined contribution plans.

The liability for superannuation recognised as at 30 June represents outstanding contributions for the final fortnight of the year.

1.9 Leases

A distinction is made between finance leases and operating leases. Finance leases effectively transfer from the lessor to the lessee substantially all the risks and rewards incidental to ownership of leased assets. An operating lease is a lease that is not a finance lease. In operating leases, the lessor effectively retains substantially all such risks and benefits.

Where an asset is acquired by means of a finance lease, the asset is capitalised at either the fair value of the lease property or, if lower, the present value of minimum lease payments at the inception of the contract and a liability is recognised at the same time and for the same amount.

The discount rate used is the interest rate implicit in the lease. Leased assets are amortised over the period of the lease. Lease payments are allocated between the principal component and the interest expense.

Operating lease payments are expensed on a straight-line basis which is representative of the pattern of benefits derived from the leased assets.

1.10 Fair Value Measurement

When an asset or liability, financial or non-financial, is measured at fair value for recognition or disclosure purposes, the fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date; and assumes that the transaction will take place either: in the principle market; or in the absence of a principal market, in the most advantageous market.

Fair value is measured using the assumptions that market participants would use when pricing the asset or liability, assuming they act in their economic best interest. For non-financial assets, the fair value measurement is based on its highest and best use. Valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, are used, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

Assets and liabilities measured at fair value are classified, into three levels, using a fair value hierarchy that reflects the significance of the inputs used in making the measurements. Classifications are reviewed each reporting date and transfers between levels are determined based on a reassessment of the lowest level input that is significant to the fair value measurement.

For recurring and non-recurring fair value measurements, external valuers may be used when internal expertise is either not available or when the valuation is deemed to be significant. External valuers are selected based on market knowledge and reputation. Where there is a significant change in fair value of an asset or liability from one period to another, an analysis is undertaken, which includes a verification of the major inputs applied in the latest valuation and a comparison, where applicable, with external sources of data.

1.11 Cash

Cash is recognised at its nominal amount. Cash and cash equivalents includes:

a) cash on hand;
b) cash held by outsiders; and
c) cash in special accounts.

1.12 Financial Assets

ARPANSA only holds financial assets that are classified as "loans and receivables". The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition. Financial assets are recognised and derecognised upon trade date.

Effective Interest Method

The effective interest method is a method of calculating the amortised cost of a financial asset and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset, or, where appropriate, a shorter period.

Income is recognised on an effective interest rate basis.

Loans and Receivables

Trade receivables, loans and other receivables that have fixed or determinable payments that are not quoted in an active market are classified as 'loans and receivables'. Loans and receivables are measured at amortised cost using the effective interest method less impairment. Interest is recognised by applying the effective interest rate.

Impairment of Financial Assets

Financial assets are assessed for impairment at the end of each reporting period.

Financial assets held at amortised cost - if there is objective evidence that an impairment loss has been incurred for loans and receivables held at amortised cost, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the asset's original effective interest rate. The carrying amount is reduced by way of an allowance account. The loss is recognised in the Statement of Comprehensive Income.

Financial assets held at cost - If there is objective evidence that an impairment loss has been incurred, the amount of the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cash flows discounted at the current market rate for similar assets.

1.13 Financial liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other liabilities. Financial liabilities are recognised and derecognised upon 'trade date'. The Entity only holds other financial liabilities.

Other Financial Liabilities

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

1.14 Contingent Liabilities and Contingent Assets

Contingent liabilities and contingent assets are not recognised in the Statement of Financial Position but are reported in the notes. They may arise from uncertainty as to the existence of a liability or asset, or represent an asset or liability in respect of which the amount cannot be reliably measured. Contingent assets are disclosed when settlement is probable but not virtually certain and contingent liabilities are disclosed when settlement is greater than remote.

1.15 Acquisition of Assets

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Financial assets are initially measured at their fair value plus transaction costs where appropriate.

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and income at their fair value at the date of acquisition, unless acquired as a consequence of restructuring of administrative arrangements. In the latter case, assets are initially recognised as contributions by owners at the amounts at which they were recognised in the transferor's accounts immediately prior to the restructuring.

1.16 Property, Plant and Equipment

Asset Recognition Threshold

Purchases of property, plant and equipment are recognised initially at cost in the Statement of Financial Position, except for purchases costing less than $2,000, which are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

Revaluations

Fair values for each class of asset are determined as shown below:

Asset class	Fair value measures at:
Land	Market Value
Buildings exc.leasehold improvement	Depreciated replacement cost
Leasehold improvements	Depreciated replacement cost
Plant & equipment	Market Value

Following initial recognition at cost, property plant and equipment is carried at fair value. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets do not differ materially from the assets' fair values as at the reporting date. The regularity of independent valuations depends upon the volatility of movements in market values for the relevant assets.

Revaluation adjustments are made on a class basis. Any revaluation increment is credited to equity under the heading of asset revaluation reserve except to the extent that it reverses a previous revaluation decrement of the same asset class that was previously recognised in the surplus/deficit. Revaluation decrements for a class of assets are recognised directly in the surplus/deficit except to the extent that they reverse a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date is eliminated against the gross carrying amount of the asset and the asset restated to the revalued amount.

Depreciation

Depreciable property plant and equipment assets, are written-off to their estimated residual values over their estimated useful lives to ARPANSA, using the straight-line method of depreciation. Leasehold improvements are depreciated using the straight line method over the lesser of the estimated useful life of the leasehold improvements or the unexpired period of the lease.
Depreciation rates (useful lives), residual values and methods are reviewed at each reporting date and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

Depreciation rates applying to each class of depreciable asset are based on the following useful lives:

	2015	2014
Buildings on freehold land	**18 years**	18 years
Leasehold improvements	**Lease term - 4 years**	Lease term - 4 years
Plant and equipment	**1 to 27 years**	1 to 27 years

Impairment

All assets were assessed for impairment at 30 June 2015. Where indications of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

The recoverable amount of an asset is the higher of its fair value less costs to sell and its value in use. Value in use is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if ARPANSA were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

Derecognition

An item of property, plant and equipment is derecognised upon disposal or when no further future economic benefits are expected from its use or disposal.

1.17 Intangibles

ARPANSA's intangibles comprise purchased software, internally developed software for internal use and trade marks. These assets are carried at cost less accumulated amortisation and accumulated impairment losses.

Intangibles are amortised on a straight-line basis over their anticipated useful life. The useful lives of ARPANSA's intangibles are 5 to 15.5 years (2013-14: 5 to 15.5 years).

All intangibles assets were assessed for indications of impairment as at 30 June 2015.

1.18 Inventories

Inventories held for sale are valued at the lower of cost and net realisable value.

Inventories held for distribution are valued at cost, adjusted for any loss of service potential.

1.19 Foreign Currency Transactions

Transactions denominated in a foreign currency are converted at the exchange rate at the date of the transaction. Foreign currency receivables and payables are translated at the exchange rates current at balance date where the impact is assessed as material. Exchange gains and losses are reported in the Statement of Comprehensive Income.

1.20 Taxation

The Entity is exempt from all forms of taxation except Fringe Benefits Tax(FBT) and the Goods and Services Tax(GST).

Revenues, expenses and assets are recognised net of GST, except:

a) where the amount of GST incurred is not recoverable from the Australian Taxation Office; and

b) for receivables and payables.

1.21 Comparative Figures

Where required by Accounting Standards comparative figures have been adjusted to conform with changes in presentation for the current financial year.

Note 2: Events after the Reporting Period

A bill passed both houses of Parliament on 18 August 2015, to amend the Australian Radiation Protection and Nuclear Safety Act 1998. Amendments include: adjust the licensing regime by enabling ARPANSA to regulate remediation activities involving contaminated legacy sites, issue time limited licences; and issue single licences for multiple activities; clarify the application of the Act to contractors and others working with Commonwealth entities; provide ARPANSA with increased capacity to respond to emergencies and with increased compliance monitoring and enforcement powers; and make technical amendments.

Note 3: Expenses

	2015	2014
	$	$
Note 3A: Employee benefits		
Wages and salaries	**11,205,006**	12,039,746
Superannuation - defined contribution	**1,747,559**	1,743,676
Superannuation - defined benefit	**388,379**	409,021
Leave and other entitlements	**2,058,850**	2,328,519
Separation and redundancies	**353,026**	618,017
Total employee benefits	**15,752,820**	17,138,979
Note 3B: Suppliers		
Goods and services supplied or rendered		
Audit fees - ANAO	**56,500**	56,500
Audit fees - outsourced	**185,962**	94,581
Advisory council and committees	**101,434**	101,158
Communications	**314,053**	338,909
Construction and maintenance - Comprehensive nuclear test ban treaty	**560,555**	646,069
Contractors/Consultants	**853,703**	407,911
Information technology	**702,448**	705,714
Insurance	**55,569**	519,252
Laboratory supplies	**317,267**	301,749
Postage and freight	**157,408**	191,070
Reference material & subscriptions	**265,941**	225,878
Repair and maintenance	**589,112**	387,755
Training and conferences	**205,890**	208,235
Travel	**1,086,469**	920,379
Utilities	**460,966**	586,174
Other goods and services	**637,667**	511,128
Total goods and services supplied or rendered	**6,550,944**	6,202,462
Goods supplied in connection with		
External parties	**1,195,683**	1,209,771
Total goods supplied	**1,195,683**	1,209,771
Services rendered in connection with		
Related entities	**589,271**	1,061,672
External parties	**4,765,990**	3,931,019
Total services rendered	**5,355,261**	4,992,691
Total goods and services supplied or rendered	**6,550,944**	6,202,462
Other supplier expenses		
Operating lease rentals - external entity		
Minimum lease payments	**447,055**	383,598
Workers compensation premiums	**39,713**	51,087
Total other supplier expenses	**486,768**	434,685
Total supplier expenses	**7,037,712**	6,637,147

Note 3: Expenses (continued)

	2015 $	2014 $
Note 3C: Depreciation and amortisation		
Depreciation:		
Property, plant and equipment	**1,274,257**	1,238,576
Buildings	**849,562**	807,090
Total depreciation	**2,123,819**	2,045,666
Amortisation:		
Intangibles:		
Computer software	**208,586**	226,571
Other	**168**	330
Total amortisation	**208,754**	226,901
Total depreciation and amortisation	**2,332,573**	2,272,567
Note 3D: Write-down and impairment of assets		
Impairment on financial assets	**4,848**	25
Property, plant and equipment - write-off	**116,861**	74,135
Computer software - write-off	**193**	25,990
Inventories - write-off	**543,821**	214,048
Total write-down and impairment of assets	**665,723**	314,198

Note 4: Income

	2015	2014
Own-source revenue	**$**	$
Note 4A: Sale of goods and rendering of services		
Scientific services - Personal radiation monitoring service	**2,411,440**	2,574,137
Construction and maintenance - Comprehensive nuclear test ban treaty	**1,724,039**	1,792,880
Other scientific services	**2,026,622**	2,312,133
Total sale of goods and rendering of services	**6,162,101**	6,679,150
Sale of goods in connection with		
Related entities	**3,260**	3,322
External parties	**297,663**	320,377
Total sale of goods	**300,923**	323,699
Rendering of services in connection with		
Related entities	**658,202**	1,096,650
External parties	**5,202,976**	5,258,801
Total rendering of services	**5,861,178**	6,355,451
Total sale of goods and rendering of services	**6,162,101**	6,679,150
Note 4B: Licence fees		
Application fees	**224,418**	514,769
Annual charges	**4,447,118**	4,034,779
Total licence fees	**4,671,536**	4,549,548
Note 4C: Other revenue		
Resources received free of charge - ANAO audit fees	**56,500**	56,500
Total other revenue	**56,500**	56,500
Gains		
Note 4D: Foreign exchange gains		
Non-speculative	**1,879**	805
Total foreign exchange gains	**1,879**	805
Revenue from Government		
Note 4E: Revenue from Government		
Appropriation:		
Departmental appropriation	**13,253,000**	13,813,000
Total revenue from Government	**13,253,000**	13,813,000

The Agency has received $43,591 (2014: $11,197) under the Parental Leave Payments Scheme.

Note 5: Fair Value Measurements

The following tables provide an analysis of assets and liabilities that are measured at fair value.
The different levels of the fair value hierarchy are defined below.

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at measurement date.
Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
Level 3: Unobservable inputs for the asset or liability.

Note 5A: Fair Value Measurements, Valuation Technique and Inputs used

	Fair value measurements at the end of the reporting period			For Levels 2 and 3 fair-value measurement		
	2015	2014	Category (Level 2 or Level 3)	Valuation technique(s)[1]	Inputs used	Range (weighted average)[2]
	$	$				
Non-financial assets						
Land	7,500,000	5,700,000	Level 2	Market approach	Values based on evidence of comparable sales	
Buildings on freehold land	16,816,564	15,482,301	Level 3	Depreciated replacement cost	Values based on estimated construction cost for replacement	
Plant and equipment	2,409,296	2,606,252	Level 2	Market approach	Adjusted market transactions Replacement cost new assets	
Plant and equipment	3,569,154	3,137,458	Level 3	Depreciated replacement cost	Consumed economic benefit/ obsolescence of asset	2.5%-20.00% (9.59%) per annum
Total non-financial assets	**30,295,014**	**26,926,011**				

1. No change in valuation technique occurred during the period.

2. Significant unobservable inputs only. Not applicable for assets or liabilities in the Level 2 category.

Fair value measurements - highest and best use

ARPANSA's assets are held for operational purposes and not held for the purposes of deriving a profit. The current use of the assets is considered the highest and best use.

Recurring and non-recurring Level 3 fair value measurements - valuation processes

The Agency procured valuation services from Jones Lang LaSalle Advisory Services Pty Ltd in relation to land and buildings at 30 June 2015, and the Australian Valuation Office (AVO) in relation to land and buildings at 30 June 2014. All revaluations are conducted in accordance with the revaluation policy stated at Note 1.

Recurring Level 3 fair value measurements - sensitivity of inputs
The significant unobservable inputs used in the fair value measurement of the Agency's buildings relate to total and remaining useful life, as these are essentially subjective assessment by the valuers. The significant unobservable inputs in the fair value measurement of the Agency's plant and equipment relate to the consumed economic benefit /obsolescence of the asset. A significant increase (decrease) in this input would result in significantly lower (higher) fair value measurement.

Note 5: Fair Value Measurements

Note 5B: Level 1 and Level 2 Transfers for Recurring Fair Value Measurements

There have been no level 1 or level 2 transfers for recurring fair value measurements.

The entity's policy for determining when transfers between levels are deemed to have occurred can be found in Note 1.

Note 5C: Reconciliation for Recurring Level 3 Fair Value Measurements

Recurring Level 3 fair value measurements - reconciliation for assets

	Non-financial assets					
	Buildings		Plant and equipment		Total	
	2015	2014	**2015**	2014	**2015**	2014
	$	$	**$**	$	**$**	$
Opening balance	**15,482,301**	14,118,000	**3,137,458**	2,993,764	**18,619,759**	17,111,764
Purchases	**1,353,515**	1,632,301	**446,909**	826,942	**1,800,424**	2,459,243
Revaluation	**830,310**	475,058	**-**	-	**830,310**	475,058
Depreciation	**(849,562)**	(743,059)	**(716,070)**	(683,248)	**(1,565,632)**	(1,426,307)
Closing balance	**16,816,564**	15,482,301	**2,868,297**	3,137,458	**19,684,861**	18,619,759

The entity's policy for determining when transfers between levels are deemed to have occurred can be found in Note 1.

Note 6: Financial Assets

	2015	2014
	$	$
Note 6A: Cash and cash equivalents		
Special accounts	**1,485,669**	1,357,982
Cash on hand or on deposit	**25,168**	37,022
Total cash and cash equivalents	**1,510,837**	1,395,004
Note 6B: Trade and other receivables		
Goods and services receivables in connection with		
External parties	**1,003,945**	1,134,496
Total goods and services receivables	**1,003,945**	1,134,496
Appropriations receivable:		
For existing program	**2,939,000**	2,869,000
Total appropriations receivables	**2,939,000**	2,869,000
Other receivables		
Statutory receivables - GST	**83,539**	86,154
Other - bond advance	**2,499**	-
Total other receivables	**86,038**	86,154
Total trade and other receivables (gross)	**4,028,983**	4,089,650
Less impairment allowance account		
Goods and services	**(17,503)**	(13,828)
Total trade and other receivables (net)	**4,011,480**	4,075,822
Trade and other receivables (net) to be recovered in:		
No more than 12 months	**4,011,480**	4,075,822
More than 12 months		-
Total trade and other receivables (net)	**4,011,480**	4,075,822
Total trade and other receivables (gross) are aged as follows:		
Not overdue	**3,879,223**	3,996,220
Overdue by:		
0 to 30 days	**113,365**	75,168
31 to 60 days	**25,350**	18,262
61 to 90 days	**11,045**	-
Total trade and other receivables (gross)	**4,028,983**	4,089,650
Impairment allowance is aged as follows:		
Overdue by:		
31 to 60 days	**17,503**	13,828
61 to 90 days	**-**	-
Total impairment allowance	**17,503**	13,828

Goods and sevices receivable was with entities external to the Australian Government. Credit terms are net 30 days (2014: 30 days)

Reconciliation of Impairment Allowance		
Goods and services		
Opening Balance	**13,828**	19,699
Amounts recovered and reversed	**-**	-
Amounts written off	**(1,173)**	(5,896)
Increase/decrease recognised in net cost of services	**4,848**	25
Closing Balance	**17,503**	13,828
Note 6C: Other financial assets		
Accrued revenue	**47,675**	90,922
Total other financial assets	**47,675**	90,922

Total other financial assets are expected to be recovered in no more than 12 months.

Note 7: Non-Financial Assets

	2015	2014
	$	$
Note 7A: Land and buildings		
Land at fair value	**7,500,000**	5,700,000
Total land at fair value	**7,500,000**	5,700,000
Buildings on freehold land:		
– Work in progress	**116,564**	1,632,301
– Fair value	**16,700,000**	13,850,000
– Accumulated depreciation	**-**	-
Total buildings on freehold land	**16,816,564**	15,482,301
Leasehold improvements		
– Fair value	**-**	159,600
– Accumulated depreciation	**-**	(159,600)
Total leasehold improvements	**-**	-
Total land and buildings	**24,316,564**	21,182,301

Revaluation of land and buildings

All revaluations are conducted in accordance with the revaluation policy stated at Note 1. On 30 June 2015 independent valuers from the Jones Lang LaSalle Advisory Services Pty Ltd conducted a valuation of Land and Buildings. The previous revaluation was conducted on 30 June 2014.

Revaluation increments of $1,800,000 for land (2014: $900,000) and $830,310 for buildings on freehold land (2014: $475,058) were recognised.

All increments were transferred to the asset revaluation reserve surplus by asset class and included in the equity section of the statement of financial position

No indicators of impairment were found for land and buildings.

No land and buildings are expected to be sold or disposed of within the next 12 months.

Note 7: Non-Financial Assets (continued)

	2015	2014
	$	$
Note 7B: Plant and equipment		
Plant and equipment:		
– work in progress	**657,258**	-
– fair value	**8,764,136**	8,041,336
– accumulated depreciation	**(3,442,944)**	(2,297,626)
Total plant and equipment	**5,978,450**	5,743,710

Revaluation of plant and equipment

All revaluations are conducted in accordance with the revaluation policy stated at Note 1. Plant and equipment was subject to an independent revaluation at 30 June 2012.

Following a review of plant and equipment for indicators of impairment assets with a book value of $116,861 were identified as impaired and written off.

No plant and equipment are expected to be sold or disposed of within the next 12 months.

Note 7C: Intangibles		
Computer software:		
Purchased	**1,743,024**	1,637,967
Accumulated amortisation	**(1,233,264)**	(1,265,743)
Internally developed – in use	**1,092,900**	1,121,464
Accumulated amortisation	**(979,710)**	(902,196)
Total computer software	**622,950**	591,492
Trademarks:		
Trademarks	**4,620**	4,620
Accumulated amortisation	**(4,620)**	(4,451)
Total trademarks	**-**	169
Total intangibles	**622,950**	591,661

Following a review of intangibles for indicators of impairment assets with a book value of $193 were identified as impaired and written off.

No intangibles are expected to be sold or disposed of within the next 12 months.

Note 7: Non-Financial Assets (continued)

	2015 $	2014 $
Note 7D: Inventories		
Inventories held for sale		
Finished goods	**52,906**	35,760
Total Inventories held for sale	**52,906**	35,760
Inventories held for distribution	**1,442,631**	1,438,055
Total inventories	**1,495,537**	1,473,815

During 2014-15, $39,850 of inventory held for sale was recognised as an expense (2013-14: $76,759).

During 2014-15, $51,235 of inventory held for distribution was recognised as an expense (2013-14: $69,156).

No items of inventory were recognised at fair value less cost to sell.

All inventory is expected to be sold or distributed in the next 12 months.

Note 7E: Other non-financial assets		
Prepayments	**403,081**	368,855
Total other non-financial assets	**403,081**	368,855
Other non-financial assets expected to be recovered		
No more than 12 months	**403,081**	368,855
Total other non-financial assets	**403,081**	368,855

No indicators of impairment were found for other non-financial assets.

Note 7: Non-Financial Assets (continued)

Note 7F: Reconciliation of the Opening and Closing Balances of Property, Plant and Equipment

Reconciliation of the opening and closing balances of property, plant and equipment for 2015

	Land $	Buildings $	Leasehold Improvements $	PP & E $	Total $
As at 1 July 2014					
Gross book value	**5,700,000**	**15,482,301**	**-**	**8,041,336**	**29,223,637**
Accumulated depreciation and impairment	**-**	**-**	**-**	**(2,297,626)**	**(2,297,626)**
Net book value 1 July 2014	**5,700,000**	**15,482,301**	**-**	**5,743,710**	**26,926,011**
Additions:					
By purchase	**-**	**1,353,515**	**-**	**1,625,858**	**2,979,373**
Revaluations and impairments recognised in other comprehensive income	**1,800,000**	**830,310**	**-**		**2,630,310**
Depreciation expense	**-**	**(849,562)**	**-**	**(1,274,257)**	**(2,123,819)**
Disposals:					
Other disposals	**-**	**-**	**-**	**(116,861)**	**(116,861)**
Net book value 30 June 2015	**7,500,000**	**16,816,564**	**-**	**5,978,450**	**30,295,014**
Net book value as of 30 June 2015 represented by:					
Gross book value	**7,500,000**	**16,816,564**	**-**	**9,421,394**	**33,737,958**
Accumulated depreciation and impairment	**-**	**-**	**-**	**(3,442,944)**	**(3,442,944)**
Net book value 30 June 2015	**7,500,000**	**16,816,564**	**-**	**5,978,450**	**30,295,014**

Reconciliation of the opening and closing balances of property, plant and equipment 2014

	Land $	Buildings $	Leasehold Improvements $	PP & E $	Total $
As at 1 July 2013					
Gross book value	4,800,000	14,118,000	159,600	7,385,731	26,463,331
Accumulated depreciation and impairment	-	-	(95,569)	(1,263,864)	(1,359,433)
Net book value 1 July 2013	4,800,000	14,118,000	64,031	6,121,867	25,103,898
Additions:					
By purchase	-	1,632,301	-	934,555	2,566,856
Revaluations and impairments recognised in other comprehensive income	900,000	475,058	-		1,375,058
Depreciation expense	-	(743,059)	(64,031)	(1,238,576)	(2,045,666)
Disposals:					
Other disposals	-	-	-	(74,136)	(74,136)
Net book value 30 June 2014	5,700,000	15,482,301	-	5,743,710	26,926,011
Net book value as of 30 June 2014 represented by:					
Gross book value	5,700,000	15,482,301	159,600	8,041,336	29,383,237
Accumulated depreciation and impairment	-	-	(159,600)	(2,297,626)	(2,457,226)
Net book value 30 June 2014	5,700,000	15,482,301	-	5,743,710	26,926,011

Note 7: Non-Financial Assets (continued)

Note 7G: Reconciliation of the Opening and Closing Balances of Intangibles

Reconciliation of the opening and closing balances of intangibles 2015

	Computer software internally developed $	Computer software purchased $	Other intangibles - Trademarks $	Total $
As at 1 July 2014				
Gross book value	**1,121,464**	**1,637,967**	**4,620**	**2,764,051**
Accumulated amortisation and impairment	**(902,196)**	**(1,265,743)**	**(4,451)**	**(2,172,390)**
Net book value 1 July 2014	**219,268**	**372,224**	**169**	**591,661**
Additions:				
By purchase	**-**	**240,237**	**-**	**240,237**
Amortisation	**(106,078)**	**(102,508)**	**(169)**	**(208,755)**
Disposals:				
Other disposals	**-**	**(193)**	**-**	**(193)**
Net book value 30 June 2015	**113,190**	**509,760**	**-**	**622,950**
Net book value as of 30 June 2015 represented by:				
Gross book value	**1,092,900**	**1,743,024**	**4,620**	**2,840,544**
Accumulated amortisation and impairment	**(979,710)**	**(1,233,264)**	**(4,620)**	**(2,217,594)**
Net book value 30 June 2015	**113,190**	**509,760**	**-**	**622,950**

Reconciliation of the opening and closing balances of intangibles 2014

	Computer software internally developed $	Computer software purchased $	Other intangibles - Trademarks $	Total $
As at 1 July 2013				
Gross book value	1,121,464	1,477,659	4,620	2,603,743
Accumulated amortisation and impairment	(796,118)	(1,181,375)	(4,121)	(1,981,614)
Net book value 1 July 2013	325,346	296,284	499	622,129
Additions:				
By purchase		222,422	-	222,422
Amortisation	(106,078)	(120,492)	(330)	(226,900)
Disposals:				
Other disposals	-	(25,990)	-	(25,990)
Net book value 30 June 2014	219,268	372,224	169	591,661
Net book value as of 30 June 2014 represented by:				
Gross book value	1,121,464	1,637,967	4,620	2,764,051
Accumulated amortisation and impairment	(902,196)	(1,265,743)	(4,451)	(2,172,390)
Net book value 30 June 2014	219,268	372,224	169	591,661

Note 8: Payables

	2015 $	2014 $
Note 8A: Suppliers		
Trade creditors and accruals	**1,276,994**	1,157,261
Total suppliers	**1,276,994**	1,157,261
Suppliers expected to be settled		
No more than 12 months	**1,276,994**	1,157,261
Total suppliers	**1,276,994**	1,157,261
Suppliers in connection with		
Related parties	**287,136**	314,502
External parties	**989,858**	842,759
Total supplier payables	**1,276,994**	1,157,261
Settlement is usually made within 30 days.		
Note 8B: Other payables		
Salaries and wages	**467,385**	452,727
Superannuation	**75,528**	61,894
Separation and redundancies	**99,951**	235,471
Unearned income	**403,421**	48,613
Other	**24,732**	34,022
Total other payables	**1,071,017**	832,727
Other payables are expected to be settled in:		
No more than 12 months	**1,071,017**	832,727
Total other payables	**1,071,017**	832,727

Note 9: Provisions

Employee provisions		
Leave	**4,737,800**	4,620,837
Total employee provisions	**4,737,800**	4,620,837
Employee provisions are expected to be settled in:		
No more than 12 months	**1,115,699**	1,152,866
More than 12 months	**3,622,101**	3,467,971
Total employee provisions	**4,737,800**	4,620,837

Note 10: Cash Flow Reconciliation

	2015 $	2014 $
Reconciliation of cash and cash equivalents as per financial position to Cash Flow Statement		
Cash and cash equivalents as per:		
Cash Flow Statement	**1,510,837**	1,395,004
Statement of financial position	**1,510,837**	1,395,004
Difference	**-**	-
Reconciliation of net cost of services to net cash from (used by) operating activities:		
Net cost of services	**(14,896,812)**	(15,076,888)
Revenue from Government	**13,253,000**	13,813,000
Adjustments for non-cash items		
Depreciation/amortisation	**2,332,573**	2,272,567
Net write down of non-financial assets	**117,054**	100,125
Other adjustments		
Movement in capital receivable	**(1,216,000)**	1,317,745
Changes in assets / liabilities		
(Increase) / decrease in net receivables	**64,342**	(2,080,445)
(Increase) / decrease in inventories	**(21,722)**	(35,870)
(Increase) / decrease in prepayments	**(34,226)**	(18,472)
(Increase) / decrease in accrued revenue	**43,247**	22,824
Increase / (decrease) in employee provisions	**116,963**	(288,549)
Increase / (decrease) in supplier payables	**119,733**	488,984
Increase / (decrease) in other payables	**238,290**	(456,727)
Net cash from operating activities	**116,442**	58,294

Note 11: Contingent Liabilities and Assets

As at 30 June 2015 ARPANSA had no quantifiable, unquantifiable or significant remote contingencies.

Note 12: Senior Management Personnel Remuneration

	2015 $	2014 $
Short-term employee benefits:		
Salary	**1,109,352**	1,188,106
Performance bonuses	**900**	1,200
Motor vehicle and other allowances	**175,792**	128,019
Short-term employee benefits	**1,286,044**	1,317,325
Post-employment benefits		
Superannuation	**210,468**	203,727
Post-employment benefits	**210,468**	203,727
Other long-term employee benefits		
Annual leave	**96,710**	95,802
Long-service leave	**31,286**	31,000
Other long-term employee benefits	**127,996**	126,802
Termination benefits		
Voluntary redundancy payments	**98,840**	-
Total	**1,723,348**	1,647,854

The total number of full-time senior management personnel that are included in the above table are 7 individuals (2014: 7 individuals)

Note 13: Financial Instruments

	2015 $	2014 $
Note 13A: Categories of financial instruments		
Financial assets		
Loans and receivables		
Cash and cash equivalents	**1,510,837**	1,395,004
Receivables for goods and services	**986,442**	1,120,668
Other financials assets	**47,675**	90,922
Total loans and receivables	**2,544,954**	2,606,594
Total financial assets	**2,544,954**	2,606,594
Financial liabilities		
Financial liabilities measured at amortised cost		
Trade creditors	**937,850**	362,010
Total financial liabilities measured at amortised cost	**937,850**	362,010
Total Financial liabilities	**937,850**	362,010

There was no interest income from financial assets not at fair value through profit or loss nor interest expense from financial liabilites not at fair value through profit or loss in the year ending 30 June 2015 (2014: Nil)

The Fair value of Financial Instruments are equal to the carry value of these items.

Note 13: Financial Instruments (continued)

Note 13B: Credit risk

ARPANSA is exposed to minimal credit risk as loans and receivables are cash and trade receivables. The maximum exposure to credit risk is the risk that arises from potential default of a debtor. This amount is equal to the total amount of trade receivables (2015: $1,003,945 and 2014:$1,134,496). ARPANSA has assessed the risk of the default on payment and has allocated $17,503 in 2015 (2014: $13,828) to an impairment allowance account.

ARPANSA has policies and procedures that guide employees' debt recovery techniques that are to be applied when debts are past due.

ARPANSA holds no collateral to mitigate against credit risk.

Credit quality of financial assets not past due or individually determined as impaired

	Not Past Due Nor Impaired 2015 $	Not Past Due Nor Impaired 2014 $	**Past due or impaired 2015 $**	Past due or impaired 2014 $
Cash and cash equivalent	**1,510,837**	1,395,004	**-**	-
Receivables for goods and services	**854,185**	1,041,066	**149,760**	93,430
Other financials assets	**47,675**	90,922	**-**	-
Total	**2,412,697**	2,526,992	**149,760**	93,430

Ageing of financial assets that were past due but not impaired in 2015

	0 to 30 days $	**31 to 60 days $**	**61 to 90 days $**	**90+ days $**	**Total $**
Loans and receivables					
Receivables for goods and services	**113,365**	**7,847**	**11,045**	**-**	**132,257**
Total	**113,365**	**7,847**	**11,045**	**-**	**132,257**

Ageing of financial assets that were past due but not impaired in 2014

	0 to 30 days $	**31 to 60 days $**	**61 to 90 days $**	**90+ days $**	**Total $**
Loans and receivables					
Receivables for goods and services	75,168	4,434	-	-	79,602
Total	75,168	4,434	-	-	79,602

Note 13: Financial Instruments (continued)

Note 13C: Liquidity risk

ARPANSA's financial liabilities are trade creditors. The majority of ARPANSA's funding is appropriated from the Australian Government. The Agency manages its budgeted funds to ensure it has adequate funds to meet payments as they fall due. In addition, ARPANSA has policies in place to ensure timely payments are made when due and has no past experience of default. ARPANSA does not expect to have difficulty meeting its financial liabilities as and when they become due and payable.

Maturities for non-derivative financial liabilities in 2015

	On demand	**within 1 year 2015 $**	**1 to 2 years 2015 $**	**2 to 5 years 2015 $**	**Total 2015 $**
Trade creditors	-	**937,850**	-	-	**937,850**
Total	-	**937,850**	-	-	**937,850**

Maturities for non-derivative financial liabilities in 2014

	On demand	within 1 year 2014 $	1 to 2 years 2014 $	2 to 5 years 2014 $	Total 2014 $
Trade creditors		362,010	-	-	362,010
Total		362,010	-	-	362,010

ARPANSA has no derivative financial liabilities in either 2015 or 2014.

Note 13D: Market Risk

Currency Risk

ARPANSA's exposure to "Currency Risk" is minimal as only a small number of contracts are in currencies other than Australian Dollars.

Interest Rate Risk

ARPANSA's financial instruments are not exposed to interest rate risk.

Other Price Risk

ARPANSA's financial instruments are not exposed to other price risk.

Note 14: Financial Assets Reconciliation

	Notes	2015 $	2014 $
Total financial assets as per statement of financial position		**5,569,992**	5,561,748
Less: Non-financial instrument components			
Appropriations receivables	6B	**2,939,000**	2,869,000
Other receivables	6B	**86,038**	86,154
Total non-financial instrument components		**3,025,038**	2,955,154
Total financial assets as per financial instruments note	13A	**2,544,954**	2,606,594

Note 15: Appropriations

Section 83 of the constitution provides that no amount may be paid out of the Consolidated Revenue Fund except under an appropriation made by law. In respect of ARPANSA's operations, ARPANSA is not aware of any specific breaches of section 83.

In accordance with section 56 of the *Australian Radiation Protection and Nuclear Safety Act 1998,* all monies received by ARPANSA are to be paid into the ARPANSA Special Account. Pursuant to this section, all monies paid into this Account are automatically appropriated for the use of ARPANSA.

Note 15A: Annual Appropriations ('Recoverable GST exclusive')

Annual Appropriations for 2015

	Appropriation Act		*PGPA Act*					
	Annual Appropriation $	AFM $	Section 74 $	Section 75 $	Total appropriation $	Appropriation applied in 2015 (current and prior years) $	Variance [1] $	Section 51 determinations [2] $
DEPARTMENTAL								
Ordinary annual services	**15,261,000**	-	-	-	**15,261,000**	**13,961,000**	**1,300,000**	**(5,000)**
Other services								
Equity	-	-	-	-	-	**1,225,000**	**(1,225,000)**	-
Total departmental	**15,261,000**	-	-	-	**15,261,000**	**15,186,000**	**75,000**	**(5,000)**

Notes:

1. The variance of $75,000 for departmental ordinary annual services reflects the quarantined amount of $5,000 and movement in appropriation receivable of $70,000.

2. A Section 51 determination has resulted in the permanent loss of control of $5,000.

Annual Appropriations for 2014

	Appropriation Act			*FMA Act*					
	Annual Appropriation $	Appropriations reduced [1] $	AFM [2] $	Section 30 $	Section 31 $	Section 32 $	Total appropriation $	Appropriation applied in 2014 (current and prior years) $	Variance [3] $
DEPARTMENTAL									
Ordinary annual services	**15,804,000**	-	-	-	-	-	**15,804,000**	**15,199,000**	**605,000**
Other services									
Equity	**2,500,000**	-	-	-	-	-	**2,500,000**	**1,275,000**	**1,225,000**
Total departmental	**18,304,000**	-	-	-	-	-	**18,304,000**	**16,474,000**	**1,830,000**

Notes:

1. Appropriations reduced under Appropriation Acts (Nos. 1,3 and 5) 2013-14: sections 10,11, 12 and 15 and under Appropriation Acts (Nos. 2,4 and 6) 2013-14: sections 12,13, 14 and 17. Departmental appropriations do not lapse at financial year-end. However, the responsible Minister may decide that part or all of a departmental appropriation is not required and request the Finance Minister to reduce that appropriation. The reduction in the appropriation is effected by the Finance Minister's determination and is disallowable by Parliament.

2. Advance to the Finance Minister (AFM) - Appropriation Acts (Nos. 1,3&5) 2013-14: section 13 and Appropriation Acts (Nos. 2,4&6) 2013-14: section 15.

3. In 2013-14 , there was an adjustment of $47,000 that met the recognition criteria of a formal reduction in revenue (in accordance with FMO Div. 101) but at law the appropriation had not been amended before the end of the reporting period.

4. The variance of $1,830,000 for departmental ordinary annual services reflects the appropriation adjustment amount of $47,000 and movement in appropriation receivable of $1,783,000.

Note 15: Appropriations (continued)

Note 15B: Departmental Capital Budgets ('Recoverable GST exclusive')

	2015 Capital Budget Appropriations			Capital Budget Appropriations Applied in 2015 (current and prior years)			
	Appropriation Act	*PGPA Act*					
	Annual Capital Budget	Section 75	Total Capital Budget Appropriations	Payments for non-financial assets [2]	Payments for other purposes	Total payments	Variance [3]
	$	$	$	$	$	$	$
DEPARTMENTAL							
Ordinary annual services - Departmental Capital Budget [1]	**2,003,000**	**-**	**2,003,000**	**3,219,609**	**-**	**3,219,609**	**(1,216,609)**

Notes:

1. Departmental Capital Budgets are appropriated through Appropriation Acts (No.1,3,5). They form part of ordinary annual services, and are not separately identified in the Appropriation Acts. For more information on ordinary annual services appropriations, please see Note 15A: Annual Appropriations.

2. Payments made on non-financial assets include purchases of assets, expenditure on assets which has been capitalised, costs incurred to make good an asset to its original condition, and the capital repayment component of finance leases.

3. The variance of ($1,216,609) between annual capital budget and payments for non-financial assets reflects the utilisation of unspent appropriation from prior years.

	2014 Capital Budget Appropriations				Capital Budget Appropriations Applied in 2014 (current and prior years)			
	Appropriation Act		*FMA Act*					
	Annual Capital Budget	Appropriations reduced [2]	Section 32	Total Capital Budget Appropriations	Payments for non-financial assets [3]	Payments for other purposes	Total payments	Variance
	$	$	$	$	$	$	$	$
DEPARTMENTAL								
Ordinary annual services - Departmental Capital Budget [1]	**1,944,000**	**-**	**-**	**1,944,000**	**2,324,000**	**-**	**2,324,000**	**(380,000)**

Notes:

1. Departmental Capital Budgets are appropriated through Appropriation Acts (No.1,3,5). They form part of ordinary annual services, and are not separately identified in the Appropriation Acts. For more information on ordinary annual services appropriations, please see Note 15A: Annual Appropriations.

2. Appropriations reduced under Appropriation Acts (No.1,3,5) 2013-14: sections 10, 11, 12 and 15 or via a determination by the Finance Minister.

3. Payments made on non-financial assets include purchases of assets, expenditure on assets which has been capitalised, costs incurred to make good an asset to its original condition, and the capital repayment component of finance leases.

Note 15 C: Unspent Departmental Annual Appropriations ('Recoverable GST exclusive')

	2015	2014
Authority	**$**	$
DEPARTMENTAL		
Appropriation Act (No. 1) 2013-14	**-**	1,681,022
Appropriation Act (No. 2) 2013-14	**-**	1,225,000
Appropriation Act (No. 1) 2014-15	**2,964,168**	**-**
Total Departmental	**2,964,168**	2,906,022

Note 16: Special Accounts

ARPANSA Special Account (Departmental)	**2015**	2014
	$	$
Establishing Instrument: *Australian Radiation Protection and Nuclear Safety Act 1998; s56(4)*		
Appropriation: Public Governance, Performance and Accountability Act 2013; s80		
Purpose : The purpose of the Special Account is set out in the Australian Radiation Protection and Nuclear Safety Act 1998 at section 56(4): "The purposes of the Special Account are to make payments: (a) to further the object of this Act (as set out in section 3); and (b) otherwise in connection with the performance of the CEO's functions under this Act or the Regulations."		
Balance brought forward from previous period	**1,395,004**	999,734
Increases		
Appropriations credited to special account	**15,186,000**	16,474,000
GST credits	**503,694**	220,542
Other receipts	**11,810,133**	10,905,698
Total increase	**27,499,827**	27,600,240
Available for payments	**28,894,831**	28,599,974
Decreases		
Payments made to employees	**(15,740,521)**	(17,256,546)
Payments made to suppliers	**(11,643,473)**	(9,948,424)
Total decrease	**(27,383,994)**	(27,204,970)
Total Balance carried to next period	**1,510,837**	1,395,004

Note 17: Reporting of Outcomes

All ARPANSA's transactions fall within Outcome 1, "The Australian people and the environment are protected from the harmful effects of radiation"

Note 17A: Net cost of outcome delivery

	Outcome	
	2015	2014
	$	$
Departmental		
Expenses	**25,788,828**	26,362,891
Own-source income	**10,892,016**	11,286,003
Net cost of outcome delivery	**14,896,812**	15,076,888

Note 17B: Major classes of departmental expense, income, assets and

	Outcome	
	2015	2014
	$	$
Expenses		
Employees	**15,752,820**	17,138,979
Suppliers	**7,037,712**	6,637,147
Depreciation and amortisation	**2,332,573**	2,272,567
Write-down and impairment of assets	**665,723**	314,198
Total Expenses	**25,788,828**	26,362,891
Own-Source Income		
Revenue from government	**13,253,000**	13,813,000
Sales of goods and services	**6,162,101**	6,679,150
Licence Fees	**4,671,536**	4,549,548
Other revenue	**56,500**	56,500
Foreign exchange	**1,879**	805
Total Own-Source Income	**24,145,016**	25,099,003
Assets		
Cash and cash equivalents	**1,510,837**	1,395,004
Trade and other receivables	**4,011,480**	4,075,822
Other financial assets	**47,675**	90,922
Land and buildings	**24,316,564**	21,182,301
Property, plant and equipment	**5,978,450**	5,743,710
Intangibles	**622,950**	591,661
Inventories	**1,495,537**	1,473,815
Other non-financial assets	**403,081**	368,855
Total Assets	**38,386,574**	34,922,090
Liabilities		
Suppliers	**1,276,994**	1,157,261
Other payables	**1,071,017**	832,727
Employee provisions	**4,737,800**	4,620,837
Total Liabilities	**7,085,811**	6,610,825

Net cost shown include intra-government costs that were eliminated in calculating the actual Budget Outcome.

Note 18: Net Cash Appropriation Arrangements

	2015 $	2014 $
Total comprehensive income (loss) less depreciation/amortisation expenses previously funded through revenue appropriations *	**3,319,071**	2,383,737
Plus: depreciation/amortisation expenses previously funded through revenue appropriations		
Depreciation and amortisation expenses	**(2,332,573)**	(2,272,567)
Total comprehensive income (loss) as per the Statement of Comprehensive Income	**986,498**	111,170

* From 2010-11, the Government introduced net cash appropriation arrangements, where revenue appropriations for depreciation/amortisation expenses ceased. Entities now receive a separate capital budget provided through equity appropriations. Capital budgets are to be appropriated in the period when cash payment for capital expenditure is required.

Note 19: Budgetary Reports and Explanations of Major Variances

The following tables provide a comparison between the 2014-15 Portfolio Budget Statements (PBS) budget and the final financial outcome in the 2014-15 financial statements. The Budget is not audited and does not reflect additional budget estimates provided in the 2014-15 Portfolio Additional Estimates Statements (PAES) or the revised budget provided as part of the 2015-16 Portfolio Budget Statements (PBS). However major changes in budget have been explained as part of the variance analysis where relevant.

The actuals are prepared in accordance with Australian Accounting Standards.

Explanations have been provided where movements are greater than 10% of the line item or 2% of total income or expense unless the movement is clearly trivial.

Note 19A: Departmental Budgetary Reports

Statement of Comprehensive Income

for the period ended 30 June 2015

	Actual	Budget estimate	
		Original[1]	Variance[2]
	2015	2015	2015
	$	$	$
NET COST OF SERVICES			
Expenses			
Employee benefits	**15,752,820**	**16,348,000**	(595,180)
Suppliers	**7,037,712**	**6,956,000**	81,712
Depreciation and amortisation	**2,332,573**	**2,171,000**	161,573
Write-down and impairment of assets	**665,723**	**536,000**	129,723
Total expenses	**25,788,828**	**26,011,000**	(222,172)
Own-Source Income			
Own-source revenue			
Sale of goods and rendering of services	**6,162,101**	**4,771,000**	1,391,101
Other revenue	**4,728,036**	**5,275,000**	(546,964)
Total own-source revenue	**10,890,137**	**10,046,000**	844,137
Gains			
Foreign exchange gains	**1,879**	**-**	1,879
Total gains	**1,879**	**-**	1,879
Total own-source income	**10,892,016**	**10,046,000**	846,016
Net (cost of)/contribution by services	**(14,896,812)**	**(15,965,000)**	1,068,188
Revenue from Government	**13,253,000**	**13,258,000**	(5,000)
Deficit attributable to the Australian Government	**(1,643,812)**	**(2,707,000)**	1,063,188
OTHER COMPREHENSIVE INCOME			
Items not subject to subsequent reclassification to net cost of services			
Changes in asset revaluation surplus	**2,630,310**	**-**	2,630,310
Total other comprehensive income	**2,630,310**	**-**	2,630,310
Total comprehensive income/(loss) attributable to the Australian Government	**986,498**	**(2,707,000)**	3,693,498

1. The entity's original budgeted financial statement that was first presented to parliament in respect of the reporting period.
2. Between the actual and original budgeted amounts for 2015. Explanations of major variances are provided further below.

Note 19: Budgetary Reports and Explanations of Major Variances (continued)

Statement of Financial Position
as at 30 June 2015

	Actual	Budget estimate	
		Original[1]	Variance[2]
	2015	2015	2015
	$	$	$
ASSETS			
Financial assets			
Cash and cash equivalents	**1,510,837**	**501,000**	1,009,837
Trade and other receivables	**4,011,480**	**1,773,000**	2,238,480
Other financial assets	**47,675**	**114,000**	(66,325)
Total financial assets	**5,569,992**	**2,388,000**	3,181,992
Non-financial assets			
Land and buildings	**24,316,564**	**21,893,000**	2,423,564
Property, plant and equipment	**5,978,450**	**5,374,000**	604,450
Intangibles	**622,950**	**565,000**	57,950
Inventories	**1,495,537**	**1,409,000**	86,537
Other non-financial assets	**403,081**	**350,000**	53,081
Total non-financial assets	**32,816,582**	**29,591,000**	3,225,582
Total assets	**38,386,574**	**31,979,000**	6,407,574
LIABILITIES			
Payables			
Suppliers	**1,276,994**	**-**	1,276,994
Other payables	**1,071,017**	**1,378,000**	(306,983)
Total payables	**2,348,011**	**1,378,000**	970,011
Provisions			
Employee provisions	**4,737,800**	**5,489,000**	(751,200)
Total provisions	**4,737,800**	**5,489,000**	(751,200)
Total liabilities	**7,085,811**	**6,867,000**	218,811
Net assets	**31,300,763**	**25,112,000**	6,188,763
EQUITY			
Contributed equity	**17,503,000**	**17,503,000**	-
Reserves	**13,644,439**	**9,639,000**	4,005,439
Retained surplus/(Accumulated deficit)	**153,324**	**(2,030,000)**	2,183,324
Total equity	**31,300,763**	**25,112,000**	6,188,763

1. The entity's original budgeted financial statement that was first presented to parliament in respect of the reporting period.

2. Between the actual and original budgeted amounts for 2015. Explanations of major variances are provided further below.

Note 19: Budgetary Reports and Explanations of Major Variances (continued)

Statement of Changes in Equity
for the period ended 30 June 2015

	Retained earnings			Asset revaluation surplus			Contributed equity/capital			Total equity		
	Actual	Budget estimate		Actual	Budget estimate		Actual	Budget estimate		Actual	Budget estimate	
		Original[1]	Variance[2]		Original[1]	Variance[2]		Original[1]	Variance[2]		Original[1]	Variance[2]
	2015	**2015**	2015	**2015**	**2015**	2015	**2015**	**2015**	2015	**2015**	**2015**	2015
	$	**$**	$	**$**	**$**	$	**$**	**$**	$	**$**	**$**	$
Opening balance												
Balance carried forward from previous period	**1,797,136**	**677,000**	1,120,136	**11,014,129**	**9,639,000**	1,375,129	**15,500,000**	**15,500,000**	-	**28,311,265**	**25,816,000**	2,495,265
Adjusted opening balance	**1,797,136**	**677,000**	1,120,136	**11,014,129**	**9,639,000**	1,375,129	**15,500,000**	**15,500,000**	-	**28,311,265**	**25,816,000**	2,495,265
Comprehensive income												
Deficit for the period	**(1,643,812)**	**(2,707,000)**	1,063,188							**(1,643,812)**	**(2,707,000)**	1,063,188
Other comprehensive income	-	-	-	**2,630,310**	-	2,630,310	-	-	-	**2,630,310**	-	2,630,310
Total comprehensive income	**(1,643,812)**	**(2,707,000)**	1,063,188	**2,630,310**	-	2,630,310	-	-	-	**986,498**	**(2,707,000)**	3,693,498
Transactions with owners												
Contributions by owners												
Departmental capital budget	-	-	-	-	-	-	**2,003,000**	**2,003,000**	-	**2,003,000**	**2,003,000**	-
Total transactions with owners	-	-	-	-	-	-	**2,003,000**	**2,003,000**	-	**2,003,000**	**2,003,000**	-
Closing balance as at 30 June	**153,324**	**(2,030,000)**	2,183,324	**13,644,439**	**9,639,000**	4,005,439	**17,503,000**	**17,503,000**	-	**31,300,763**	**25,112,000**	6,188,763

1. The entity's original budgeted financial statement that was first presented to parliament in respect of the reporting period.
2. Between the actual and original budgeted amounts for 2015. Explanations of major variances are provided further below.

Note 19: Budgetary Reports and Explanations of Major Variances (continued)

Cash Flow Statement
for the period ended 30 June 2015

	Actual	Budget estimate	
		Original[1]	Variance[2]
	2015	**2015**	2015
	$	**$**	$
OPERATING ACTIVITIES			
Cash received			
Appropriations	**11,967,000**	**13,258,000**	(1,291,000)
Sale of goods and rendering of services	**11,810,133**	**9,561,000**	2,249,133
Net GST received	**503,694**	**485,000**	18,694
Total cash received	**24,280,827**	**23,304,000**	976,827
Cash used			
Employees	**(15,740,521)**	**(16,348,000)**	607,479
Suppliers	**(8,423,864)**	**(6,745,000)**	(1,678,864)
Net GST paid	**-**	**(726,000)**	726,000
Total cash used	**(24,164,385)**	**(23,819,000)**	(345,385)
Net cash from/(used by) operating activities	**116,442**	**(515,000)**	631,442
INVESTING ACTIVITIES			
Cash used			
Purchase of property, plant and equipment	**(3,219,609)**	**(2,003,000)**	(1,216,609)
Total cash used	**(3,219,609)**	**(2,003,000)**	(1,216,609)
Net cash from/(used by) investing activities	**(3,219,609)**	**(2,003,000)**	(1,216,609)
FINANCING ACTIVITIES			
Cash received			
Contributed equity	**3,219,000**	**2,003,000**	1,216,000
Total cash received	**3,219,000**	**2,003,000**	1,216,000
Net cash from/(used by) financing activities	**3,219,000**	**2,003,000**	1,216,000
Net increase/(decrease) in cash held	**115,833**	**(515,000)**	630,833
Cash and cash equivalents at the beginning of the reporting period	**1,395,004**	**1,016,000**	379,004
Cash and cash equivalents at the end of the reporting period	**1,510,837**	**501,000**	1,009,837

1. The entity's original budgeted financial statement that was first presented to parliament in respect of the reporting period.

2. Between the actual and original budgeted amounts for 2015. Explanations of major variances are provided further below.

Note 19: Budgetary Reports and Explanations of Major Variances-continued

Note 19B: Departmental Major Budget Variances for 2015

Explanations of major variances	Affected line items (and statement)
Employees The variance was caused by a difference between the actual ASL (126) and budgeted ASL (130) figures.	*Employee benefits expense (Statement of Comprehensive Income), Employee provisions (Statement of Financial Position). Cash used - employees (Statement of cash flow)*
Write-down and impairment of assets The variance of $0.129m was caused by the write-down of property plant and equipment, in addition to the budgeted write-down of inventory.	*Write-down and impairment of assets (Statement of Comprehensive Income), Property, plant and equipment (Statement of Financial Position).*
Own source revenue Increase of $0.530m was caused by additional non-budgeted services being provided via Memorandum of Understanding (MOU), relating to the Australian Clinical Dosimetry Service and Improving the Safety and Quality of Diagnostic Imaging in Australia. Remaining own-source revenue variance of $0.314m was the result of an increase in provision of existing scientific services, compared to the level budgeted.	*Total own source revenue (Statement of Comprehensive Income), Operating cash received -sale of goods and rendering of services(Cash Flow Statement)*
Total other comprehensive income. The variance of $2.630m relates to the unbudgeted independent revaluation of land and buildings.	*Total other comprehensive income (Statement of Comprehensive Income), Land and Building (Statement of Financial Position).*
Appropriations The variance of $2.238m relates to the difference in the budget and actual appropriation receivable. This is a result of a higher accounts payable balance combined with lower than anticipated employee payments.	*Trade and other receivables (Statement of Financial Position) and Operating cash received -appropriations (Cash Flow Statement)*
Land and Buildings and property, plant and equipment The variance relates to the independent revaluation of land and buildings and an increase in actual purchases of replacement property plant and equipment	*Land and buildings and Property plant and equipment (Statement of Financial Position) and Investing cash used - purchase of property plant and equipment (Cash Flow Statement)*
Payables and cash Total payables increase of $0.970m is offset by the actual cash and cash equivalents at 30 June. Total payments to suppliers were greater than budgeted due to timing difference at the start of the year and additional expense flowing from the increase in revenue.	*Total payables and Cash and cash equivalents (Statement of Financial Position). Payments to suppliers (Cash Flow statement). Own source revenue (Statement of Comprehensive Income)*
Retained surplus/Accumulated deficit Effect of other variances detailed above has resulted in a $2.1m reduction in the budgeted accumulated deficit at year end.	*Land and buildings and reserves (Statement of Financial Position)*
Reserves Increase relates to the actual independent revaluation of land and buildings in 2015 and 2014, since the budget was prepared.	*Land and buildings and reserves (Statement of Financial Position)*
Contributed Equity The increase in contributed equity reflects the utilisation of unspent appropriation from prior years.	*Financing activities (Cash Flow statement)*

Appendix 12: Index of compliance with reporting requirements

List of tables and figures

Tables

Figures

Abbreviations

ACDS	Australian Clinical Dosimetry Service
ACSQHC	Australian Commission on Safety and Quality in Health Care
ALARA	as low as reasonably achievable
ANAO	Australian National Audit Office
ANRDR	Australian National Radiation Dose Register
ANSTO	Australian Nuclear Science and Technology Organisation
APS	Australian Public Service
ARGOS	Accident Reporting and Guidance Operating System
ARIR	Australian Radiation Incident Register
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
CBRN	Chemical, Biological, Radiological and Nuclear
CEO	Chief Executive Officer
CPRs	Commonwealth Procurement Rules
CT	computed tomography
CTBT	Comprehensive Nuclear-Test-Ban Treaty
CTBTO	Comprehensive Nuclear-Test-Ban Treaty Organization
DRLs	diagnostic reference levels
ELF	extremely low frequency
EME	electromagnetic energy
EMF	electric and magnetic fields
EPR	emergency preparedness and response
FMA Act	Financial Management and Accountability Act 1997
FOI	Freedom of Information
HIFAR	High-Flux Australian Research Reactor
IAEA	International Atomic Energy Agency
ICNIRP	International commission for Non-Ionizing Radiation Protection
ICRP	International Commission on Radiological Protection
ICT	information and communication technology
ILW	intermediate level waste
IMP	Incident management plan
IPL	intense pulsed light
IRRS	Integrated Regulatory Review Service (IAEA)
KPIs	key performance indicators
LFLS	Little Forest Legacy Site
MoU	Memorandum of Understanding
NATA	National Association of Testing Authorities
NDRP	National Directory for Radiation Protection
NRWMF	National Radioactive Waste Management Facility
NSC	Nuclear Safety Committee
OPAL	Open Pool Australian Lightwater reactor
PGPA Act	*Public Governance, Performance and Accountability Act 2013*
RHC	Radiation Health Committee
SES	Senior Executive Service
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
UPF	Ultraviolet Protection Factor
UVR	ultraviolet radiation
WHO	World Health Organization
WHS	work health and safety

Glossary

absorbed dose

The energy absorbed per unit mass by matter from ionising radiation which impinges upon it.

accident

An unintended event which causes, or has the potential to cause, employees or members of the public to be exposed to radiation from which the individual doses or collective doses received do not lie within the range of variation which is acceptable for normal operation. An accident may result from human error, equipment failure or other mishap; it may require emergency action to save life or to safeguard health, property or the environment; it requires investigation of its causes and consequences and, possibly, corrective action within the program for control of radiation; and it may require remedial action to mitigate its consequences.

activity

The measure of quantity of radioactive decay.

air kerma

The measure of the kinetic energy of all charged particles liberated per unit of mass and released in a volume of air at some distance from a radioactive source.

AS/ISO

Standard established by Standards Australia and the International Organization for Standardization.

Australian National Radiation Dose Register

A centralised repository for the radiation dose records of workers as supplied by the employers, maintained by ARPANSA. It is currently limited to those engaged in the uranium mining and milling industry in Australia.

Code of Practice for radiation protection

A document prescribing specific requirements for radiation protection in a particular application.

computed tomography (CT)

A three dimensional x-ray image of an object or patient. The final image is a combination of multiple images taken as an x-ray tube rotates about the object or patient.

constraint

Either dose constraint in the case of exposures anticipated to be received, or risk constraint in the case of potential exposures (see dose constraint and risk constraint).

controlled apparatus – as defined in the ARPANS Act

(a) An apparatus that produces ionising radiation when energised or that would, if assembled or repaired, be capable of producing ionising radiation when energised,

(b) An apparatus that produces ionising radiation because it contains radioactive material, or

(c) An apparatus prescribed by the Regulations that produces harmful non-ionising radiation when energised.

diagnostic reference levels (DRLs)

Dose levels for medical exposures in medical radio-diagnostic practices, or levels of activity in the case of radiopharmaceuticals, applied to groups of standard-sized patients or standard phantoms for common types of diagnostic examination and broadly defined types of equipment. These levels are expected not to be consistently exceeded for standard procedures when good and normal practice regarding diagnostic and technical performance is applied. DRLs will be set by relevant professional bodies and published by ARPANSA or the relevant regulatory authority from time to time.

dose

A generic term which may mean absorbed dose, equivalent dose or effective dose depending on context.

dose constraint

A prospective restriction on anticipated dose, primarily intended to be used to discard undesirable options in an optimisation calculation. In occupational exposure, a dose constraint may be used to restrict the options considered in the design of the working environment for a particular category of employee. In medical exposure, a dose constraint for volunteers in medical research may be used to restrict the options considered in the design of an experimental protocol. In public exposure, a dose constraint may be used to restrict the exposure of the critical group from a particular source of radiation.

dosimetry

The theory and application of the principles and techniques involved in the measurement, calculation and recording of radiation doses.

effective dose

A measure of dose which takes into account both the type of radiation involved and the radiological sensitivities of the organs and tissues irradiated.

electromagnetic energy

The energy stored in an electromagnetic field. Expressed in joule (J).

equivalent dose

A measure of dose in organs and tissues which takes into account the type of radiation involved.

exposure

The circumstance of being exposed to radiation.

extremely low frequency radiation

Has very long wavelengths (in the order of a thousand kilometres or more) and frequencies in the range of 100 hertz or less.

gamma ray

Ionising electromagnetic radiation emitted by a radionuclide during radioactive decay or during a nuclear (isomeric) transition.

incident

An event which causes, or has the potential to cause, abnormal exposure of employees or of members of the public and which requires investigation of its causes and consequences and may require corrective action within the program for control of radiation, but which is not of such scale as to be classified as an accident.

Integrated Regulatory Review Service (IRRS)

A peer review and appraisal service offered by the IAEA to strengthen and enhance the effectiveness of a national regulatory system in nuclear, radiation, radioactive waste, transport safety and nuclear security.

Intense Pulsed Light Devices (IPLs)

Instruments that use a full spectrum (noncoherent), non-laser, broadband, filtered Xenon flash lamps. Flash lamps emit in the UVR, visible and IR region of the electromagnetic spectrum. The UVR and IR wavelength components of the emissions are blocked using specific cut-off filters. These properties allow for variability in selecting individual treatment parameters and adapting to different skin types. Cosmetic uses of IPLs include hair removal, removal of skin pigmentation, wrinkles and the treatment of certain skin disorders by dermatologists.

ionisation

The process by which one or more electrons are removed from, or sometimes added to, an atom leaving the atom in a charged state.

ionising radiation

Radiation which is capable of causing ionisation.

ISO Series

Internationally accepted standards developed by the International Organization for Standardization which is a network of the national standards institutes of 157 countries, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.

justification

The notion that human activities which lead to exposure to radiation should be justified, before they are permitted to take place, by showing that they are likely to do more good than harm.

licence

A written authorisation issued to an operator which allows the operator to carry out an operation legally.

limitation

The requirement that radiation doses and risks should not exceed a value regarded as unacceptable.

medical exposure

Exposure of a person to radiation received as a patient undergoing medical diagnosis or therapy, or as a volunteer in medical research, or non-occupational exposure received as a consequence of assisting an exposed patient.

non-ionising radiation

Ranges from extremely low frequency radiation, through the radiofrequency, microwave, and visible portions of the spectrum into the ultraviolet range.

occupational exposure

Exposure of a person to radiation which occurs in the course of that person's work and excludes the the component of exposure that arises from natural background radiation.

operator

Any person or entity responsible for an operation which may lead to exposure to ionising radiation.

optimisation

The process of determining what level of radiation protection and safety makes exposures, and the probability and magnitude of potential exposures, as low as reasonably achievable with economic and societal factors being taken into account.

public exposure

Exposure of a person, or persons, to radiation which is neither occupational nor medical exposure.

radiation

Electromagnetic waves or quanta, and atomic or sub-atomic particles, propagated through space or through a material medium.

radioactive material

Material which spontaneously emits ionising radiation as a consequence of radioactive decay.

radiofrequency

Electromagnetic energy with frequencies in the range 3 kHz to 300 GHz.

radiofrequency field

A physical field, which specifies the electric and magnetic states of a medium or free space, quantified by vectors representing the electric field strength and the magnetic field strength.

radiological emergency

An emergency in which there is, or is perceived to be, a hazard due to:

(a) the energy resulting from a nuclear chain reaction or from the decay of the products of a chain reaction, or

(b) radiation exposure.

radionuclide

A species of atomic nucleus which undergoes radioactive decay.

Regulatory Impact Statement

A Regulatory Impact Statement (RIS) is required, under the Australian Government's requirements, when a regulatory proposal is likely to have significant impacts on business and individuals or the economy. The primary role of the RIS is to improve government decision-making processes by ensuring that all relevant information is presented to the decision-maker when a policy decision is being made. A RIS is prepared for each of ARPANSA's Codes of Practice and Standards and contains a cost benefit analysis.

Synchrotron

A giant particle accelerator capable of creating light beams a million times brighter than the sun to examine the sub microscopic structures.

UV Index Data

Simple numerical indication of the maximum solar UVR during the day, the higher the number, the higher the UVR hazard. The UV index is calculated from data collected by broadband detectors which measure the UV radiation from the sun. It is a scale primarily used in daily forecasts aimed at the general public.

X-ray

Ionising electromagnetic radiation emitted during the transition of an atomic electron to a lower energy state or during the rapid deceleration of a charged particle.

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