



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



# 2020–21 Corporate Plan

Covering the period 2020–21 to 2023–24



# Welcome to our Corporate Plan

## Acknowledgement of Country

ARPANSA respectfully acknowledges Australia's Aboriginal and Torres Strait Islander communities and their rich culture and pays respect to their Elders past and present. We acknowledge Aboriginal and Torres Strait Islander peoples as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely.

We recognise and value the ongoing contribution of Aboriginal and Torres Strait Islander peoples and communities to Australian life and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

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# CEO foreword

I am pleased to present the 2020–21 Corporate Plan of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). I will, together with ARPANSA's dedicated and highly capable staff, endeavour to deliver according to the targets outlined in this plan, with the aim of protecting the Australian community and environment from the harmful effects of radiation.

Radiation has always been a natural part of our environment. Every day we are exposed to radiation from natural sources as wide-ranging as outer space (cosmic radiation), the sun (ultraviolet radiation), bedrock (including radon gas entering homes and workplaces), and naturally occurring radioactive substances in food and drink.

In addition to natural sources, artificial sources of radiation have been introduced into our environment over the past century. The use of radiation in medical procedures is now the largest source of exposure to the population, and very powerful sources of radiation are used for cancer treatment. Radiation sources are used for a variety of purposes, such as materials testing and density measurement. Radiation is used in research

and for production of medicines and for communication (radiofrequency radiation). There are also workplaces with elevated levels of radiation of either natural or artificial origin.

Exposure to radiation from natural sources and the use of radiation for justified and beneficial purposes necessitates actions to protect the health and safety of people and of the environment from the harmful effects of radiation. ARPANSA achieves its protection mission by various means. We regulate Commonwealth entities using radiation, including nuclear installations. We collaborate with the states and territories to develop policies, codes and guidance for national implementation. We engage with a range of stakeholders to enable them to make their own decisions in relation to radiation risks. We are involved in radiation research and provide services such as calibrations, audits and monitoring, for the purpose of protecting the community and environment.

We are looking forward to continuing our delivery of services to the Australian community over the next four years, and to deal with the challenges we may face in doing so.

## Statement of preparation

I, Carl-Magnus Larsson, as the accountable authority of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), present the 2020–21 ARPANSA Corporate Plan, which covers the periods of 2020–21 to 2023–24, as required under paragraph 35(1)(b) of the *Public Governance, Performance and Accountability Act 2013*.

**Carl-Magnus Larsson**  
CEO of ARPANSA





# Our purpose

## Vision

A safe radiation environment for the Australian community.

## Mission

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is the Australian Government's primary authority on radiation protection and nuclear safety. Our purpose is to **protect the Australian people and the environment from the harmful effects of radiation**, through understanding risks, best practice regulation, research, policy, services, partnerships and engaging with the community.

## Objectives

The ARPANSA program of work entails **six key strategic objectives** that guide our priorities and contribute to delivering radiation protection and nuclear safety outcomes to the Australian community:

**1.**

Identify, assess and communicate health, safety and environmental risks from radiation

**2.**

Promote radiological and nuclear safety and security, and emergency preparedness

**3.**

Promote the safe and effective use of ionising radiation in medicine

**4.**

Ensure risk informed and effective regulation

**5.**

Enhance engagement with stakeholders

**6.**

Enhance organisational innovation, capability and resilience

# Environment

Under the *Australian Radiation Protection and Nuclear Safety Act 1998* (the Act), ARPANSA regulates Commonwealth entities using radiation with the objective of protecting people and the environment from the harmful effects of radiation. Under the Act, ARPANSA also carries out a number of additional functions such as undertaking research and the provision of advice and services, with the aim of promoting radiation safety across all Australian jurisdictions.

ARPANSA works with the medical sector to ensure that radiation exposures delivered to patients are as low as reasonably achievable while still delivering clinical objectives. ARPANSA maintains the Australian Primary Standard for absorbed dose and calibrates hospitals' dose detectors against this standard to ensure that the correct amount of radiation is being delivered to 60,000+ cancer patients being treated by linear accelerators (linac) in Australia per year. ARPANSA's investment in the establishment of the Roger Allison Radiotherapy Quality Centre in March 2019 will ensure the agency is well placed to respond to changes in the medical oncology practice, and continue to develop and deliver clinically relevant dose calibration and audit services for Australia.

Skin cancer incidence and mortality rates in Australia are among the highest in the world, posing a significant health burden and economic cost. Caused by ultraviolet (UV) radiation, skin cancer is also one of the most preventable forms of cancer and, if detected early, the vast majority of cases can be treated successfully. ARPANSA works with a number of stakeholders to promote 'sun smart' behaviours, with the aim of providing information and other services that will enhance people's understanding of the risks associated with exposure to UV radiation, thus contributing to prevention of skin cancer.

Exposures to other sources of radiation found in our environment are generally low but variable. Their application and purpose, for example in medicine, industry and mobile telephony, is constantly changing. Scientific research is constantly investigating how these exposures may impact our health and the world around us. ARPANSA continually reviews emerging science about risks from ionising and non-ionising radiation and engages with stakeholders, including community groups, to inform about any such risks.

In recognition of renewed concerns about electromagnetic energy (EME) from new and emerging communications technology, the Commonwealth Government announced in December 2019 an expansion of the EME program. Under the enhanced program, ARPANSA will administer a new research program with the aim of conducting targeted research into EME issues of relevance to Australia. This includes measurement of EME exposure levels in the community, involvement in international forums (such as the World Health Organization), setting and maintenance of EME standards and provision of expert scientific advice on EME and health to stakeholders. A major feature of the new program is a capital investment to enable the construction of a new anechoic chamber that would cater for millimetre wave frequencies that would be used in future 5G technologies.

Our operating environment is currently influenced by discussions about final management of radioactive waste, including disposal. The Australian Government has initiated a process to establish a National Radioactive Waste Management Facility (NRWMF) including a facility for disposal of low level radioactive waste and a storage facility for intermediate level waste. The facility is primarily intended for waste

held by the Commonwealth, and is intended only for management of waste of domestic origin. On 1 February 2020, the Minister for Resources and Northern Australia announced that Napandee in Kimba, South Australia has been identified to host the NRWMF. Siting, construction and operation of the facility requires licences issued by ARPANSA, which in turn requires significant planning and resourcing within ARPANSA. We will continue our existing engagement with the community in Kimba and develop plans for formal consultation to commence on receipt of a licence application.

Since receiving an Integrated Regulatory Review Service (IRRS) mission in November 2018, coordinated by the International Atomic Energy Agency (IAEA), Australia has been working to implement the findings from the report, which included 23 recommendations and 12 suggestions for improvement. A national action plan that provides a governance structure for monitoring progress against the findings has been developed and will be publicly available once endorsed by the Australian Health Protection Principal Committee (AHPPC). The Environmental Health Standing Committee, under AHPPC, is responsible for managing the multi-jurisdictional findings. ARPANSA has developed its own governance framework to progress findings that were addressed solely to the agency. A follow-up IRRS mission is due in 2022.

ARPANSA publishes Fundamentals, Codes and Guides in the Radiation Protection Series (RPS), which promote national policies and practices that protect human health and the environment from harmful effects of radiation. ARPANSA develops these publications jointly with state and territory regulators through the Radiation Health Committee (RHC), which oversees the preparation of draft

policies and standards with the view of their uniform implementation in all Australian jurisdictions. To the extent possible and relevant for Australian circumstances, the RPS publications give effect in Australia to international standards and guidance. The sources of such standards and guidance include the International Commission on Radiological Protection (ICRP), the International Commission on Non-Ionizing Radiation Protection (ICNIRP), the World Health Organization (WHO) and the IAEA.

Through our engagement with the IAEA, WHO, ICNIRP, ICRP and the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), we integrate scientific knowledge and international best practice into our regulatory activities, advice and services, and into our promotion of national uniformity of policies and practices across Australia.

The recent outbreak of the novel coronavirus (COVID-19) has introduced new challenges to our operating environment which calls for a measured, practical and informed approach. The COVID-19 pandemic has seen a shift in the way we operate and continue to deliver outcomes and critical services to the Australian public. Our response has considered not just how to adapt to working remotely, safeguard the health and wellbeing of our employees, and minimise the impact to our business operations, but also how to sustain workforce productivity through this disruption and potentially prepare for a different kind of future. ARPANSA will take into account the lessons learned from our response to the COVID-19 pandemic and will consider whether any changed practices have produced benefits and how these can be integrated into our current and/or future operating environment to improve organisational resilience and service delivery.



# Capability

ARPANSA will continue to **build organisational capability** to support delivery of our purpose.

Over the next four years key areas of capability enhancement include further investment in our **workforce, ICT, infrastructure and scientific expertise.**

## Workforce

ARPANSA is committed to ensuring that its people strategies and wellbeing practices align with our strategic objectives as this is critical to our success and to the delivery of our vision and purpose. In 2020–21 ARPANSA will perform a review of our workforce plan to reset priorities which will ensure we continue to build our organisational capabilities and invest in initiatives that support our highly skilled and technically proficient workforce to deliver quality outcomes.

To achieve our desired people strategies and capabilities, we will continue to develop our learning and capability framework to ensure that ARPANSA staff have access to learning and development programs that support them in developing and refining skills critical to succeeding in both their current and future roles within the agency. The ARPANSA attraction and recruitment strategy will continue to be developed with a focus on workforce planning thereby ensuring that the organisation retains, recruits and develops the right people to ensure our workforce evolves to meet our external challenges and contribute to the continued success of ARPANSA.

ARPANSA recognises that diversity and inclusion plans and programs create a workplace where people feel supported to achieve their potential and our program of work will continue on developing an inclusive and flexible workplace culture that leverages the power of our differences to achieve better results. During this planning period, ARPANSA will continue to explore health and wellbeing initiatives that improve the health of our staff and target organisational and environmental practices to improve the overall health and safety of the workplace.

## Infrastructure

ARPANSA manages and maintains a number of business critical specialised assets and infrastructure, including buildings, laboratories, instrumentation and mobile equipment. The agency has a detailed program of works to better support technology, accommodation and facilities needs of the agency in the most cost-effective manner. The program of works comprises ongoing facility maintenance and refurbishment, replacement of assets and equipment that are nearing end of life, and upgrade of infrastructure to modern standard.

In 2020–22 a significant capital project is planned to enhance the capability of one of ARPANSA's laboratories. The capital investment involves the construction of a new anechoic chamber and associated field measurement equipment as part of our enhanced EME program. The upgrades will enable ARPANSA to expand its research and deliver better information and education so that Australians can fully exploit the advantages of safe technologies that utilise EME.

## ICT

ARPANSA's technology, information and data systems support the delivery of our regulatory, scientific, research and business operations. During the period of this plan, ARPANSA will continue to implement digital technology initiatives to enhance service delivery, improve customer experience and streamline business processes. We will also continue to strengthen our cyber security capability through further investment in our cyber security strategies.

In 2020–21 ARPANSA will commence the staged implementation of laboratory information management systems that enhance management and delivery of our scientific services to ensure a responsive and sustainable future. Improvements for internal communication and information dissemination will commence to support effective collaboration and the further development of the ARPANSA Integrated Management System.

## Scientific expertise

ARPANSA will continue to promote a culture that ensures our advice is based on high quality scientific research and maintains our scientific integrity. We will encourage innovation and research to deliver excellence in scientific and technological capabilities and ensure the effective management of radiation risks. We will review and update our research and innovation strategy to redefine ARPANSA's research priorities and guide future research. We will enhance innovation through collaboration and partnerships, and ensure relevant, trustworthy and high quality research is undertaken to support radiation protection, nuclear safety, safety in medical uses of radiation and regulatory activities.

In 2020–21 ARPANSA will administer a new research program with the aim of conducting targeted research into electromagnetic energy (EME) issues of relevance to Australia. This will involve the development and implementation of an EME action plan to deliver evidence-based scientific advice with a clearly informed picture of the problem and associated risks and uncertainty about EME from new and emerging communication technologies.

# Cooperation

ARPANSA is the **main safety regulator for Commonwealth entities** that use radiation.

However, ARPANSA does not perform this role in isolation.

There are other Commonwealth departments and agencies that are also involved in **regulating the safe use, possession or transport of radioactive and nuclear material**, and response to national or international radiological or nuclear incidents and emergencies.

These include the Australian Safeguards and Non-Proliferation Office, Emergency Management Australia, the Department of Defence, the Department of Agriculture, Water and Environment, the Civil Aviation Safety Authority and the Australian Maritime Safety Authority. ARPANSA also works with the Department of Home Affairs to regulate the import and export of radioactive materials under the relevant Customs regulations.

Coordination mechanisms have been established with these agencies through either memoranda of understanding or regular meetings. ARPANSA has entered into more than 30 memoranda of understanding, including cooperation agreements and service agreements, with international and national bodies. These arrangements contribute to the elimination or management of areas of uncertainty, or any areas of overlap that could create conflicting requirements for authorised parties.

ARPANSA works closely with Commonwealth departments and agencies that develop policies that affect radiation protection and nuclear safety. ARPANSA's main partner in this regard is our portfolio department, the Department of Health. ARPANSA provides specialist advice to influence the development of health policy and outcomes. ARPANSA provides a similar role to the Department of Agriculture, Water and Environment and the Department of Infrastructure, Transport, Regional Development and Communications.

ARPANSA provides specialist advice and research to a suite of stakeholders, in government, the education sector and other organisations. Some of these bodies include Food Standards Australia and New Zealand, the Department of Defence, universities and health organisations such as Cancer Council Australia and Victoria.

ARPANSA also engages and coordinates with radiation safety regulators from the States and Territories. This is via formal and informal mechanisms. One of the main avenues for cooperation is the Radiation Health Committee (RHC), which provides a forum to collaborate on the development of radiation protection codes and standards, among other issues. Cooperation is also fostered via the Environmental Health Standing Committee, under the Australian Health Protection Principal Committee. In addition, there are informal meetings between inter-jurisdictional participants in the Radiation Protection Network.

ARPANSA's international cooperation includes a range of multilateral and bilateral partnerships and networks. These partnerships enable ARPANSA to shape international best practice for regulation and advice on radiation protection and nuclear safety. One of ARPANSA's most prominent international partners is the IAEA. ARPANSA representatives sit on committees that develop standards for nuclear, radiation, waste and transport safety, and for emergency preparedness and response. Agency specialists support dedicated IAEA training courses on a range of issues. ARPANSA closely cooperates with the WHO, where the agency is a Collaborating Centre for radiation protection. ARPANSA works with the Comprehensive Nuclear Test Ban Treaty Organization through the management of Australia's radionuclide detection network. ARPANSA representatives hold positions on international scientific bodies such as UNSCEAR, ICRP and ICNIRP. ARPANSA has bilateral memoranda of understanding with ten partner agencies across the globe.

# Planning

Our Corporate Plan is a central part of our **business planning, budgeting and reporting process** and will support planning activities across the agency.

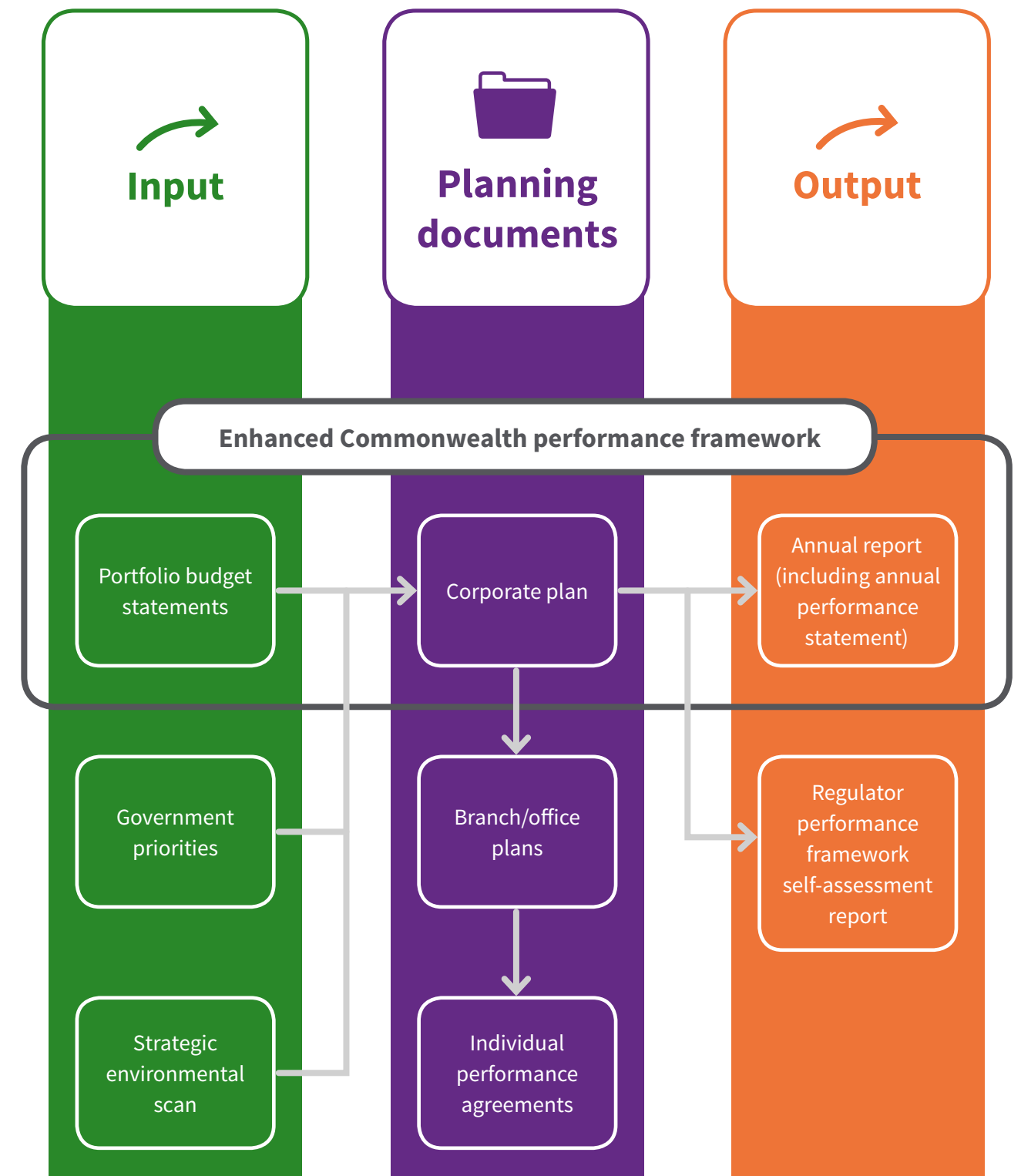
The plan spans four annual reporting periods and will be updated each period. The plan is expected to **evolve over coming years** as the agency works toward its vision and adapts to emerging priorities.

This plan is directly aligned to the relevant outcomes and programs set out in the Department of Health 2020–21 Portfolio Budget Statements; specifically:

- Outcome 1: Protection of people and the environment through radiation protection and nuclear safety research, policy, advice, codes, standards, services and regulation
- Program 1.1: Radiation protection and nuclear safety
- Program 1.9: Health Protection, Emergency Response and Regulation.

The Department of Health (Health) contributes to Outcome 1 as Health has strategic regulatory policy and national leadership responsibility for radiation protection and nuclear safety, with particular regard to the regulatory framework. This includes best practice for health technologies related to radiation and nuclear safety.

This plan is aligned with the six strategic objectives that will assist ARPANSA to protect the Australian people and the environment from the harmful effects of radiation. The 2020–21 agency business plans and individual performance agreements are also aligned with this plan.



**Figure 1:** Overview of ARPANSA’s planning and performance framework



# Performance

We recognise the **importance of measuring our performance**, and continue to improve the way that we measure success.

Every year we undertake a comprehensive review of our non-financial performance measures with the aim to embed **best practice performance management**, leading to more meaningful and reliable reporting on our achievements against our purpose.

ARPANSA's planned performance for the next four years is contained in the 2020–21 Portfolio Budget Statements, as performance measures (performance criteria). These performance measures set out the high-level activities we will undertake in order to achieve our purpose, to protect the Australian people and the environment from the harmful effects of radiation through understanding risks, best practice regulation, research, policy, services, partnerships and engaging with the community.

Our performance information in the corporate plan is presented under six objectives, the strategies we will employ to deliver on these, and the key activities and projects that will aid in this delivery. This includes an outcome-based key performance indicator as required by the Commonwealth's Regulator Performance Framework<sup>1</sup> which encourages regulators to undertake their functions with the minimum impact necessary to achieve regulatory objectives and to effect positive ongoing and lasting cultural change within regulators.

Progress against the measures and other commitments outlined in our corporate plan and agency business plans will be monitored and reported to our Strategic Management Committee and the Audit and Risk Committee on a quarterly basis. Our results for the year against the performance criteria detailed the 2020–21 Portfolio Budget Statements and this corporate plan will be published in our annual performance statement, as part of the 2020–21 ARPANSA Annual Report.

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<sup>1</sup> For more information on our annual self-assessment of regulatory performance see the [Regulator Performance Framework](#) on our website.

# 1 Identify, assess and communicate health, safety and environmental risks from radiation

★ Indicates reporting periods where performance will be measured against an unchanged target  
 ● Measure that appears in the Portfolio Budget Statements  
 ● Quantitative  
 ▲ Qualitative

ARPANSA will gather scientific knowledge to inform its regulatory activities and provide evidence-based, risk-informed advice to the Australian Government and community. We will deliver this by providing expertise, specialised resources and services to support the protection of the public, workers and the environment from the hazards of both ionising and non-ionising radiation.

ARPANSA will implement an enhanced electromagnetic energy (EME) program, undertaking and partnering on new EME research, undertaking measurement studies, operating calibration services and providing expert advice on EME and health. The enhanced EME program will create clear, reliable and reputable information accessible to all Australians.

ARPANSA will build partnerships with a range of stakeholders in targeted areas of scientific research, and will continue to support the implementation of a national skin cancer prevention program, with the aim to raise awareness and influence the behaviour of the Australian public and workers in order to reduce the incidence of skin cancer in Australia.

## Strategies

The strategies we will employ to achieve this objective are:

- conduct hazard identification and exposure analysis of radiation sources
- evaluate the health risks to public, workers and the environment
- mitigate the health, safety and environmental risks from radiation.

## Performance measures

We will demonstrate our performance through the following measures:

No	Measure	Target	Method	2020-21	2021-22	2022-23	2023-24
1.1	Percentage of time that UV monitoring network data is available to the public	>95%	●	★	★	★	★
1.2	Monitor radiation doses to occupationally exposed workers	Annual reporting of trend in radiation doses received by workers, determined from quantitative dose measurement, provides evidence of optimisation of radiation protection	▲	★	★	★	★
1.3	Percentage of time the 'Talk to a Scientist' call centre is made available to the public as advertised	>95%	●	★	★	★	★
PBS1 ●	Provide high quality advice to government and the community on health, safety and environmental risks from radiation	Identify, assess and communicate health, safety and environmental risks from radiation to the Australian Government and community through research, communication, provision of radiation protection services, and community consultation and awareness activities	▲	★	★	★	★

We will also demonstrate our performance through delivery of the following projects:

No	Project	Description	Estimated completion date
1.4	EME Program	Publication and implementation of an EME Action Plan to deliver evidence-based scientific advice with a clearly informed picture of the problem and associated risks and uncertainty	Dec 2020
		Upgrade EME facilities including the anechoic chamber and field measurement equipment	Dec 2022



## 2 Promote radiological and nuclear safety and security, and emergency preparedness

★ Indicates reporting periods where performance will be measured against an unchanged target

● Measure that appears in the Portfolio Budget Statements

● Quantitative

▲ Qualitative

ARPANSA will support a national approach to the secure and safe management of radiation sources, radiation facilities and nuclear installations. We will deliver this by supporting national and regional arrangements for preventing accidents and security events that may lead to radiation exposure and maintaining effective emergency response systems that protect the Australian community in the case of a radiological or nuclear event.

ARPANSA will also work collaboratively across government and all jurisdictions to implement Australia’s National Action Plan for Health Security 2019–2023, developed to address the recommendations made in regard to radiological emergencies, by the WHO in Australia’s Joint External Evaluation Report. The plan to address recommendations made by the International Regulatory Review Service mission report related to emergency preparedness and response will also be developed.

### Strategies

The strategies we will employ to achieve this objective are:

- prevent a nuclear or radiological event with safety or security implications
- prepare for a nuclear or radiological event
- respond to a nuclear or radiological event
- recover from a nuclear or radiological event.

### Performance measures

We will demonstrate our performance through the following measures:

No	Measure	Target	Method	2020–21	2021–22	2022–23	2023–24
2.1	Data availability of ARPANSA operated CTBTO IMS <sup>2</sup> Radionuclide stations	>95%	●	★	★	★	★
PBS2 ●	Provide emergency preparedness and response systems for a radiological or nuclear incident	Emergency preparedness and response systems for field, network and laboratory measurements, and information management and decision support systems, are available, calibrated, tested and aligned with national planning	▲	★	★	★	★

We will also demonstrate our performance through delivery of the following projects:

No	Project	Description	Estimated completion date
2.2	Reference Accident for nuclear powered vessels	Publish a review of the Reference Accident for nuclear powered vessels as part of the implementation of Emergency Exposure Guide	Jun 2021
2.3	CTBTO IMS monitoring station upgrades	Deliver, in cooperation with the CTBTO, upgrades to the Macquarie Island <sup>3</sup> radionuclide monitoring station	Jun 2022

2 The Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) monitors for nuclear explosions on the Earth’s surface, in the atmosphere, underwater and underground through a network of waveform (seismic, hydroacoustic and infrasound) and radionuclide (particulate and noble gas) stations that form part of the CTBTO International Monitoring System (IMS). ARPANSA operates nine radionuclide and two noble gas stations that are part of the CTBTO IMS.

3 Upgrades to the Macquarie Island monitoring station scheduled for 2021–22 may be delayed due to the impact of government measures in response to the novel coronavirus (COVID-19) pandemic.

### 3 Promote the safe and effective use of ionising radiation in medicine

★ Indicates reporting periods where performance will be measured against an unchanged target

● Measure that appears in the Portfolio Budget Statements

● Quantitative

▲ Qualitative

#### Performance measures

We will demonstrate our performance through the following measures:

Medical procedures in diagnosis, intervention and therapy are the largest source of ionising radiation exposure to the Australian population. ARPANSA seeks to ensure that the use of radiation is justified and takes patient safety into account. We engage with this aim through calibration, auditing, education and a diagnostic survey program.

#### Strategies

The strategies we will employ to achieve this objective are:

- ensure accurate delivery of radiotherapy in Australia
- encourage justification and optimisation of diagnostic procedures
- enhance medical professionals' knowledge of ionising radiation.

No	Measure	Target	Method	2020-21	2021-22	2022-23	2023-24
3.1	Number of Diagnostic Reference Level (DRL) surveys per category are sufficient to infer national characteristics per annual survey period	2400	●	★	★	★	★
3.2	Percentage of Australian radiotherapy providers subscribing in the national dosimetric auditing program provided by the Australian Clinical Dosimetry Service	95%	●	★	★	★	★
3.3	Number of hospital radiotherapy local dosimetry standards calibrated by ARPANSA against the national primary standard	15	●	★	★	★	★
PBS3 ●	Promote patient safety in radiotherapy and diagnostic radiology	Report annually on significant deviations and trends discovered through the Australian Clinical Dosimetry Service and Diagnostic Reference Level programs	▲	★	★	★	★

We will also demonstrate our performance through delivery of the following projects:

No	Project	Description	Estimated completion date
3.4	New DRL for image-guided interventional procedures	Develop new DRL for image-guided interventional procedures in conjunction with relevant professional bodies	Dec 2020
3.5	Development of new audit techniques for emerging brain cancer treatments	Using ARPANSA's newly commissioned linear accelerator, develop audit techniques for stereo tactic radiosurgery (SRS) brain cancer treatments	Jun 2021
3.6	Proton radiotherapy dosimetry and advice	Providing guidance, informed through research, to professional organisations and governments Provide dosimetry support and measurement services to radiotherapy clinics	Jun 2023



## 4 Ensure risk informed and effective regulation

★ Indicates reporting periods where performance will be measured against an unchanged target

● Measure that appears in the Portfolio Budget Statements

● Quantitative

▲ Qualitative

ARPANSA takes a graded, risk-informed approach to regulation of radiation sources, radiation facilities and nuclear installations across the lifecycle. The regulatory approach aims to not unduly limit justified practices involving radiation and to avoid unnecessary regulatory burden. Notwithstanding, effective regulatory actions will be taken, including enforcement actions as appropriate and required, to promote processes, attitudes and behaviour among licenced entities so that their activities can be carried out safely and without undue risks to the workers, public and environment. Using review and analysis we will continually improve ARPANSA's regulatory processes for the benefit of Commonwealth licence holders, applicants and the Australian community to ensure that regulation is not only effective but also efficient. ARPANSA will work with State and Territory jurisdictions to promote national uniformity in radiation protection policies and practices throughout Australia.

### Strategies

The strategies we will employ to achieve this objective are:

- ensure the safe use of radiation by Commonwealth entities
- ensure regulatory actions are proportionate to the risk
- provide timely and evidence based assessment of applications
- promote international best practice in regulatory policy and practices
- communication with regulated entities is clear, targeted and effective
- contribute to the continuous improvement of regulatory framework and processes.

### Performance measures

We will demonstrate our performance through the following measures:

No	Measure	Target	Method	2020-21	2021-22	2022-23	2023-24
4.1	Percentage of Regulator Performance Framework (RPF) KPIs met or exceeded by ARPANSA	>75%	●	★	★	★	★
4.2	The principles of radiation protection (justification, optimisation and limitation) are applied to all Commonwealth licence holder operations	The radiation doses of the 100 most exposed workers at licenced Commonwealth entities trend downwards over time	▲	★	★	★	★
PBS4 ●	Ensure risk-informed and effective regulation	Implement ARPANSA-specific findings as necessary from the IAEA IRRS mission to Australia, in which Australia's national regulatory, legal and governmental framework for nuclear and radiation safety was benchmarked against international best practice	▲	★	★	★	★

We will also demonstrate our performance through delivery of the following projects:

No	Project	Description	Estimated completion date
4.3	National action plan and strategy	Support the work of the Environmental Health Standing Committee (enHealth) to coordinate efforts to achieve nationally consistent regulatory practices and uniform safety and protection outcomes through the implementation of the multi-jurisdictional findings from the IAEA IRRS mission to Australia	Dec 2021

## 5 Enhance engagement with stakeholders

★ Indicates reporting periods where performance will be measured against an unchanged target

◆ Measure that appears in the Portfolio Budget Statements

● Quantitative  
▲ Qualitative

ARPANSA is the Australian Government's primary authority on radiation protection and nuclear safety. We provide accessible, evidence-based and risk-informed advice to the Australian Government, industry and the public. To aid us in the delivery of this objective we strive to understand our stakeholder's needs and meaningfully communicate and engage on topics of interest.

We will continue to enhance our relationships and profile across government, including to assist with national uniformity outcomes. Effective international relations will also play an important role in our ability to deliver against this objective, particularly as we support meeting Australia's international obligations for radiation protection and nuclear safety. We will continue to focus on securing valued international partnerships and building our reputation with key international stakeholders.

### Strategies

The strategies we will employ to achieve this objective are:

- ensure Australia's international obligations for radiation protection and nuclear safety are met
- influence and collaborate with domestic and international partner organisations
- ensure effective stakeholder engagement
- communicate health risks and mitigation strategies for the public, workers and the environment.

### Performance measures

We will demonstrate our performance through the following measures:

No	Measure	Target	Method	2020-21	2021-22	2022-23	2023-24
5.1	Compliance with international agreements and treaties	Compliance through international conventions and codes through submitting national reports to review meetings as per schedule	▲	★	★	★	★
5.2	Facilitate stakeholder engagement in major decision making processes such as arranging public forums and community consultation meetings	Stakeholders are consulted when major decisions are made at ARPANSA	▲	★	★	★	★

We will also demonstrate our performance through delivery of the following projects:

No	Project	Description	Estimated completion date
5.3	National Radioactive Waste Management Facility (NRWMF) stakeholder engagement	Undertake stakeholder engagement activities for the NRWMF prior to the receipt of a licence application. This will include community visits as needed and ongoing communication with interested parties via written correspondence and telephone. Additional activities may include the provision of new fact sheets and guidance material	If, and when, a licence application to site a NRWMF is received



## 6 Enhance organisational innovation, capability and resilience

ARPANSA continues to invest in projects that build capability, increase agility and focus on future needs. Over the four year planning period we will commence the implementation of digital technology projects identified in the 2020 review of business systems and technology platforms. The agency will continue to implement our Integrated Management System and deliver a comprehensive high quality research program to support radiation protection, nuclear safety and regulatory activities and mitigate radiation risk in the Australian context.

### Strategies

The strategies we will employ to achieve this objective are:

- strengthen existing capabilities and identify new capabilities required now and into the future
- continually improve governance arrangements, systems and processes
- use technology, information and data to improve service delivery
- build financial resilience through data driven business insights
- further develop our integrated safety and security programs
- support and develop an innovative research culture across the agency.

★ Indicates reporting periods where performance will be measured against an unchanged target

◆ Measure that appears in the Portfolio Budget Statements

● Quantitative  
▲ Qualitative

### Performance measures

We will demonstrate our performance through the following measures:

No	Measure	Target	Method	2020-21	2021-22	2022-23	2023-24
6.1	Employee engagement score achieved in annual APS employee census <sup>4</sup>	>APS average	●	★	★	★	★
6.2	Number of ARPANSA breaches identified in radiation safety and security compliance assessments <sup>5</sup>	0	●	★	★	★	★
6.3	Peer reviewed publications demonstrating high quality research in radiation protection, nuclear safety and medical exposures to radiation	6	●	★	★	★	★

We will also demonstrate our performance through delivery of the following projects:

No	Project	Description	Estimated completion date
6.4	Workforce Plan	Review and update the existing Workforce Plan 2017–2021 to reset priorities ensuring we continue to build our organisational capabilities strategies including health and wellbeing, attraction and recruitment, leadership and learning, and diversity and inclusion	Jun 2021
6.5	Digital Technology Roadmap	Implement digital technology initiatives to enhance service delivery, improve customer experience and streamline business processes. This will include the commencement of approved projects to increase business sustainability, integrate data and uplift technology platforms	Jun 2022
6.6	Cybersecurity Plan	Develop and commence implementation of a Cybersecurity Plan, with a focus on the principles to govern, protect, detect and respond to a cybersecurity event	Jun 2021
6.7	Research and Innovation Strategy 2021–2025	Review and update the existing Research and Innovation Strategy 2017–2021 to reflect contemporary practice and drivers. The resulting strategy will guide the areas and types of research which ARPANSA should pursue	Jun 2021

<sup>4</sup> Employee engagement is measured by the Australian Public Service Commission (APSC) using the APS Employee Engagement Model. This model measures the relationship employees have with four dimensions of their work: the job they do each day, the team they work with, their immediate supervisor, and the agency they work for. For the 2017–18 reporting period the ARPANSA employee engagement score was 73%, compared with the APS overall average of 71%.

<sup>5</sup> Breaches identified under the ARPANS Act and Protective Security Policy Framework (PSPF)

# Risk oversight and management

ARPANSA's risk management framework and guidelines are aligned with better practice methodologies and consistent with the international standard on risk management (AS/NZS ISO 31000:2009) and the Commonwealth Risk Management Policy 2014. Our risk management framework deals with three main types of risks:

- risks to our ability to carry out our statutory functions (such as funding, legal, government, policy, staffing level and competence obligations)
- risks to our people and assets (such as a safe work environment and practices, protective security, and asset management)
- radiation risks to the Australian people and environment (such as risks to workers, the public, patients undergoing medical procedures, and the environment).

Building on the identification of risks, preventive controls (preventing undesired events from occurring), and mitigating controls (that will mitigate consequences should the undesired event occur) are identified for the strategic risks. Some of these risks are shared and ARPANSA is engaging with other agencies in their management.

In 2020–21, ARPANSA will continue to enhance our risk management culture by improving our risk management training program for staff, further building our risk informed approach to effective regulation of radiation and nuclear facilities and practices, and identifying key events we want to prevent from occurring. We will continue to invest in our people, governance, infrastructure and technology to ensure we have the required capability to address current and emerging risks and challenges in our operating environment.

Risks are continually monitored and reported to the Audit and Risk Committee. The strategic risks currently being monitored and their preventive controls are listed here.

## Security or safety event at ARPANSA

### Risk description

ARPANSA maintains and operates a number of assets, which require special attention to both the safety of ARPANSA's workers and the agency's security arrangements. ARPANSA's laboratories use chemicals, pressurised gases, high-voltage appliances and radiation sources; all of them utilised for the purpose of carrying out core functions of the agency. Assets also include data and information where some may be of a sensitive nature. Safety and security are at the forefront of the agency's management of activities with implications for safety and security, of which a significant number are carried out in the field or at the premises of licensees and clients. Consequences range from personal injury to damage/loss of assets, potentially caused by acts with malicious intent including threat aimed at third parties, and loss or corruption of data and information.

### Prevention

ARPANSA has controls in place to manage and mitigate risks to ensure a safe and secure work environment. Preventive risk management activities are based on the relevant frameworks, which include the Protective Security Policy, the Work Health and Safety Policy and arrangements, and the Radiation Safety Framework. Controls based on these policies include: security vetting and annual security health checks; induction and annual security and safety refresher courses and awareness raising; work health and safety (WHS) and security inspections; threat analyses and safety issue reporting; and safety culture surveys.

### Ownership and responsibilities

WHS and security is owned by all ARPANSA staff. Special functions are carried out by the Agency Security Advisor, WHS Advisor and Radiation Safety Officer. The Chief Security Officer, Chief Information Officer, Chief Information Security Officer and the CEO (who also chairs the WHS Committee) have the overarching responsibilities for agency safety and security.



# Risk oversight and management

## Adverse nuclear or radiation event in Australia or overseas

### Risk description

ARPANSA develops requirements on its licensed entities to implement stringent nuclear and radiation safety (including security) measures. The requirements aim at optimising protection so that activities that are considered justified can be carried out without undue risks to the health and safety of people (workers and the public) and with due attention to environmental protection. A life-cycle perspective is applied so that decommissioning and waste management is appropriately considered. ARPANSA recognises that an adverse nuclear or radiation event in any of the Australian jurisdictions has the potential to cause significant harm to workers' health and safety, and may, depending on circumstances, lead to public exposure, contamination, and generation of significant amounts of waste. Likewise, such events overseas may impact on the safety of Australians in affected regions and their ability to return to Australia, and on international trade including import of goods and commodities from impacted countries. The occurrence of such events may prevail in an environment where regulatory activities are ineffective, or where the licensed entity has a poor safety culture or lack of organisational capability or capacity to meet compliance obligations.

### Prevention

ARPANSA's regulatory activities are carried out in accordance with the Policy for ARPANSA's Regulatory Activities. A core trait is the integrity, supported by a strong safety culture, among ARPANSA's staff. The safety culture is periodically surveyed. The responsibility for safety lies with the operator of licensed facilities and activities; however, the regulatory framework constitutes a key control in preventing safety/security events that may lead to harmful effects of radiation. The framework includes: implementation of international best practice; risk-informed compliance monitoring; site visits and inspections; inspector rotation; a graded approach to enforcement; openness and transparency including effective stakeholder engagement; and third party oversight of self-regulation of own radiation sources and facilities. ARPANSA works closely with the State and Territory regulatory bodies to reinforce the importance of good safety culture within their licence holders, and to share lessons learned and good practices in leadership and management for safety. ARPANSA is also able to model radiological exposures from adverse events both nationally and internationally, provide advice and measure radiation levels in foodstuff and other commodities sourced from affected regions, and coordinates closely with a range of other government agencies to ensure response arrangements are exercised and tested.

### Ownership and responsibilities

ARPANSA staff involved in regulatory activities must be mindful of the integrity of the regulatory processes and decisions. The Chief Regulatory Officer is accountable to the CEO for ARPANSA's regulatory policies and their implementation in practice, for the purpose of preventing safety/security events among licensed entities, while recognising that the prime responsibility for safety and security rests with the licensed entity. The Chief Radiation Health Scientist and the Chief Medical Radiation Scientist are responsible for the safe operations of ARPANSA's own licensed sources and facilities. The CEO is responsible for advice provided to Australian governments on radiation health and safety in relation to adverse events, nationally and internationally.

# Risk oversight and management

## Reduced workforce capability or capacity

### Risk description

ARPANSA has a highly skilled and technically proficient workforce and our people are at the heart of our capability and capacity to deliver organisational objectives, now and into the future. External factors may impact on the capability and capacity, and internal processes may not support the necessary agility and innovation capability. Failure to make decisions that take into account the workforce capacity and capability may impact our ability to attract and retain people with the necessary skills and experience, manage competing resource demands, fulfil statutory functions and government requirements, be innovative, and deliver successful business outcomes.

### Prevention

ARPANSA manages risks associated with investing in our people through our workforce planning process which is incorporated into the agency's integrated business and budget planning process. ARPANSA has developed a Workforce Plan 2017–2021 which outlines how we can best place our people's capability, performance and productivity to enable achievement of ARPANSA's strategic objectives. The plan sets out the six key people management strategies that we intend to implement to build on current knowledge and prepare for future challenges. These strategies include succession planning, attraction and recruitment, leadership and learning, performance and reward, diversity and inclusion, and health and wellbeing.

### Ownership and responsibilities

ARPANSA's Executive Group has responsibilities to analyse and sustain capability and capacity of the workforce to deliver on statutory functions and organisational objectives. Every ARPANSA staff member has a role in achieving the objectives in the Workforce Plan, supported by people leaders, with coordination of initiatives by the People and Culture section.

## Substandard service delivery

### Risk description

ARPANSA as an agency of the Australian Public Service serves the Australian Government, Parliament and public. It includes delivering quality products and services to all interested parties; including members of the public, governments, Commonwealth licence holders, hospitals and radiotherapy centres, fee-paying customers, and other organisations, including international organisations under contractual treaty obligations. Without an agency-wide comprehensive approach to delivering excellent customer service there is a risk of stakeholder dissatisfaction, increased service costs and reputational damage and ultimately, loss of sustainability and public value attributed to ARPANSA's delivery.

### Prevention

ARPANSA manages risks associated with service delivery through various mechanisms, including service charter, quality management processes, National Association of Testing Authorities (NATA) accreditation of scientific services, customer surveys, stakeholder forums, parliamentary and government processes, and integrated business and financial planning process. Accreditation of certain services provides a third-party control that prevents deterioration of services due to erosion of processes or adherence to processes, and that promotes regular interaction with stakeholders and measurement of stakeholder satisfaction.

### Ownership and responsibilities

ARPANSA's Executive Group must understand the needs of our interested parties. The Chief of Staff has special responsibility for maintaining the government and parliamentary interactions. All staff have responsibilities for ensuring that the services we deliver meet the needs and expectations of our stakeholders, operates under appropriate regimes for generating revenue, and remain relevant now and into the future.



# Risk oversight and management

## Disruption or degradation of technology or infrastructure

### Risk description

ARPANSA manages and maintains a number of business critical digital technology systems and infrastructure, including buildings, laboratories, instrumentation and mobile assets. The agency must ensure this environment is robust and resilient enough to sustain any disruption which may challenge our business continuity and avoid degradation to our property, facilities and digital technology systems. Consequences may include loss of productivity, reputational damage, loss of resources both financial and non-financial, inability to meet Government requirements and deliver strategic objectives.

### Prevention

ARPANSA manages disruption or degradation to technology and infrastructure through testing of business continuity and disaster recovery plans, asset management practices, security of IT networks, and integrated business and budget planning process. The asset management includes scientific equipment and mobile resources maintained for the purpose of using in a nuclear or radiological emergency. External valuation of certain assets are performed regularly. The maintenance of buildings and property is supported through whole-of-government arrangements. Over the next three years ARPANSA will implement a digital technology roadmap to enhance the performance and reliability of our digital technology systems.

### Ownership and responsibilities

The Chief Information Officer has the overarching responsibilities for managing ARPANSA's digital technology and infrastructure, with support from the Digital Technology Section and the Agency Security Group. The Chief Financial Officer (CFO) has responsibility for ARPANSA's property and facilities infrastructure. The Chief Radiation Health, and Medical Radiation Scientists oversee maintenance of laboratory equipment and infrastructure within their areas of responsibility, in collaboration with the CFO.

## Fraud, corruption, or maladministration

### Risk description

ARPANSA recognises that fraud, corruption and maladministration have the potential to cause significant financial loss and non-financial harm in the form of reputational damage. Such events also have significant impact on staff morale and engagement. The occurrence of such events will prevail in an environment where opportunities exist for abuse or malpractices due to varied reasons, including lack of internal controls, lack of appropriate systems and procedures, or lack of appropriate oversight or lack of awareness by the management. ARPANSA's strategies for managing this risk involve putting in place measures that seek to prevent the occurrence of fraud, corruption and maladministration, detect occurrences should they occur and limit the consequences of any occurrences.

### Prevention

ARPANSA has created a robust internal control environment in the form of policies and procedures, appropriate delegations, close oversight by management and regular reporting on business performance. The agency also benefits from significant oversight from internal and external auditors, the Audit and Risk Committee and regular intergovernmental reporting to the Department of Health and Department of Finance. ARPANSA believes that the most effective way to prevent the occurrence of fraud and corruption is to promote an ethical environment in which internal control mechanisms have been implemented. ARPANSA uses various means to promote an ethical environment including through regular tailored fraud awareness training, the construction of job descriptions, adherence to APS Code of Conduct and Values, general education and awareness of relevant policies and procedures.

### Ownership and responsibilities

Every staff member has a significant role to play in managing this risk and the Executive Group must lead by example. All staff assist in preventing these risk events by understanding the responsibilities of their position and familiarising themselves with the agency's policies and procedures and adhering to them at all times. ARPANSA's General Counsel and Chief Financial Officer have specific responsibilities for the prevention and investigation of fraud, corruption and maladministration, and for ARPANSA's financial performance.

# Governance

Our governance structure enables consideration of risk in all core business decisions and supports informed decision making.

The CEO is advised by three statutory advisory bodies established by the Australian Radiation Protection and Nuclear Safety Act 1998:

- Radiation Health and Safety Advisory Council (Council)**

The role of Council in relation to radiation protection and nuclear safety is to: identify emerging issues; examine matters of major concern to the community; consider the adoption of recommendations, policies, codes and standards; advise and report to the CEO, at the CEO's request or as Council considers appropriate, on the above and any other matters.
- Radiation Health Committee (RHC)**

The role of RHC in relation to radiation protection is to: advise the CEO and the Council; develop policies and to prepare draft publications for the promotion of uniform national standards; formulate draft national policies, codes and standards for consideration by the Commonwealth, the states and the territories; from time to time, to review national policies, codes and standards to ensure that they continue to substantially reflect world best practice; and consult publicly in the development and review of such policies, codes and standards.
- Nuclear Safety Committee (NSC)**

The role of NSC in relation to nuclear safety and the safety of controlled facilities is to: advise the CEO and the Council; review and assess the effectiveness of standards, codes, practices and procedures; develop detailed policies and prepare draft publications to promote uniform national standards; and report to the CEO.
- Strategic Management Committee (SMC)**

The SMC is strategically focused and looks forward to the medium and long term future of the agency rather than ongoing day-to-day business. The SMC considers the threats and opportunities that may influence the strategic direction of the agency and contributes at key times throughout the year to ARPANSA's planning and performance framework.
- Audit and Risk Committee**

The Public Governance, Performance and Accountability Act 2013 requires Commonwealth entities to establish an audit committee. ARPANSA's Audit and Risk Committee provides independent assurance and advice to the CEO on the agency's financial reporting, performance reporting, system of risk oversight and management and system of internal control.

The relationship between the statutory advisory bodies and ARPANSA's senior governance committees is illustrated in figure 2.

At the strategic level the CEO is advised by two key committees:

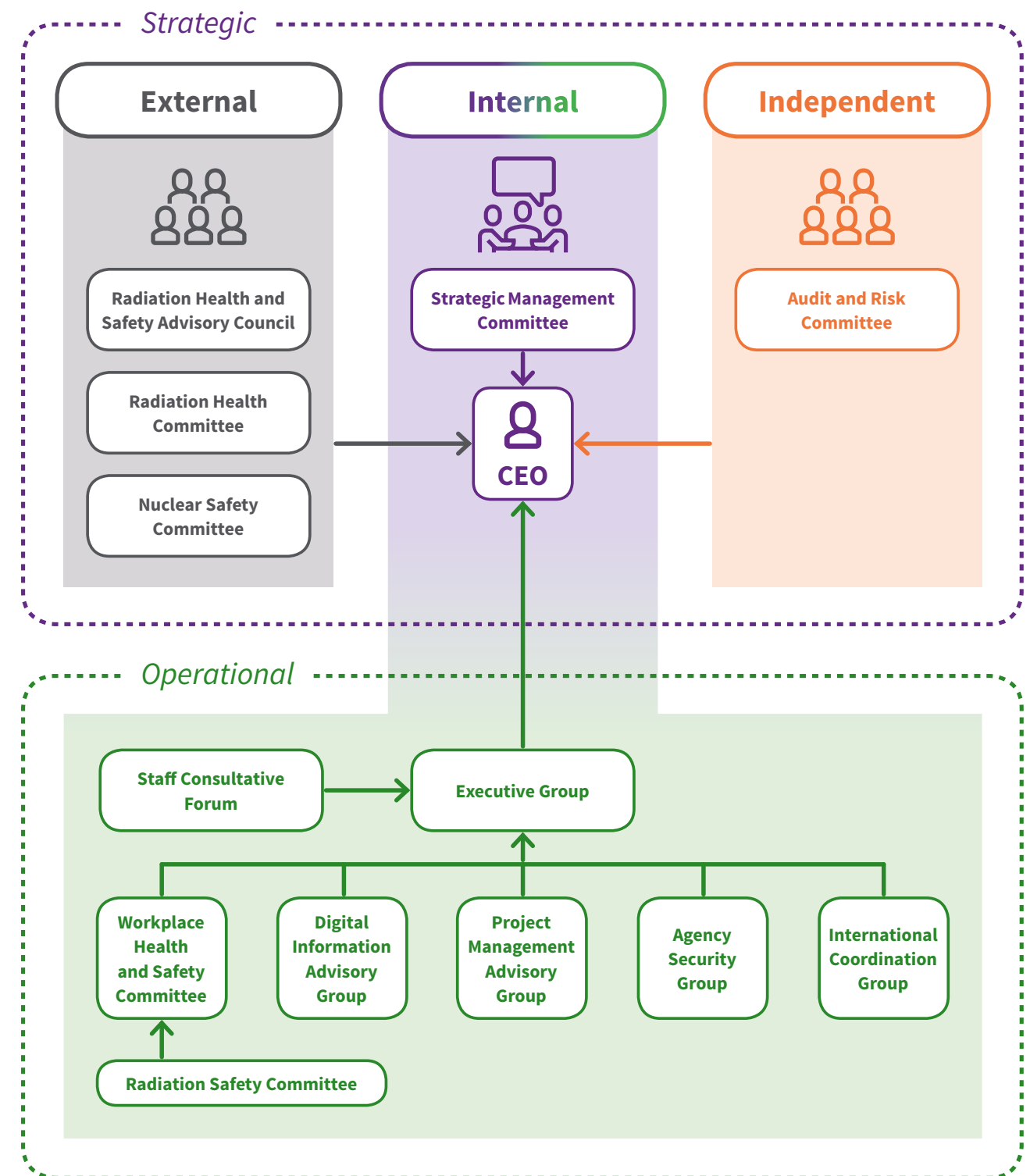


Figure 2: ARPANSA governance structure