Australian Government
Australian Radiation Protection and Nuclear Safety Agency

arpansa

Radiation Health and Safety Advisory Council ('Council')

Meeting Minutes

Date: 19 – 20 April 2021

Time: Day 1 – 13.30 to 16.30 (AEDT), Day 2 – 9.00 to 12.30 (AEDT)

Location: via Microsoft Teams

Chair: Dr Roger Allison

Members: Dr Carl-Magnus Larsson, Dr Hugh Heggie, Mr Keith Baldry, Prof Pam Sykes, Ms Melissa Holzberger, Dr Peter Karamoskos, Prof Adele Green, Prof Mel Taylor, Dr Jane Canestra, Mr Jim Hondros, Dr Trevor Wheatley.

Apologies: Mr Keith Baldry (Day 1 only), Mr John Piispanen, Dr Peter Karamoskos (Day 2 only)

Secretariat: Ms Helen Alexander, Mr James Wheaton, Mr Ben Paritsky.

Observers: A/Prof Ivan Williams, Dr Gillian Hirth, Mr Jim Scott, Mr Ryan Hemsley, Ms Jennifer Stiffe, Dr Rick Tinker, Dr Peter Thomas, Mr David Urban, Mr Nathan Wahl, A/Prof Ken Karipidis, Mr John Ward, Dr Chris Brzozek (all from ARPANSA), Mr Nick Johnson, Mr Tom Ashby (Commonwealth Department of Health).

Standing items

CEO Welcome

The CEO welcomed the Council.

Meeting formal open

The Chair formally opened the meeting, facilitated introductions and further welcomes, and noted that there were no declarations of conflicts of interest pertaining to the current agenda.

Action items and correspondence

Outstanding Action Items were noted. The two items of correspondence that have been received since the December meeting were detailed and tabled for discussion under Other Business (Section 8.0):

- Letter received 19 January 2021 from the Australian Society of Dermal Clinicians (ASDC).
- Letter received 9 April 2021 from the Dental and Oral Health Therapists Association Ltd (ADOHTA) and the Dental Hygienists Association of Australia Ltd (DHAA).

CEO update on Radiation Health Committee (RHC), Nuclear Safety Committee (NSC) and ARPANSA

The CEO welcomed Mr John Piispanen (in absentia) as a new Council member, noting the benefit of his views on national uniformity as a representative on the Environmental Health Standing Committee (enHealth), which advises the Australian Health Protection Principal Committee (AHPPC).

The CEO noted recent activities of ARPANSA's statutory advisory committees, including the RHC's review of the framework for the Radiation Protection Series (RPS) fundamentals, codes and guidance documents, and the Nuclear Safety Committee's (NSC) observations regarding safety of the nuclear facilities operated by the Australian Nuclear Science and Technology Organisation (ANSTO). ARPANSA is also reviewing its emergency preparedness and response capability in relation to expectations on ARPANSA's service delivery in case of a radiological or nuclear emergency.

The Council heard an overview of ARPANSA's recent public and media enquiries. The Council discussed the use and public release of data on enquiries to ARPANSA, for transparency and to inform the public of the lead or trending issues. It was noted that public enquiries already inform the type of ongoing information ARPANSA publishes through online communications channels.

Action: ARPANSA to consider whether data on the nature of public enquiries received can be published.

Member representing the interests of the general public

The member representing the interest of the general public noted there had been no substantial issues drawn to their attention. They did however note the ongoing community concern around 5G communication technology, and local community concerns around the Department of Industry, Science, Energy and Resources' (DISER) current proposal for a National Radioactive Waste Management Facility (NRWMF) in Kimba, South Australia. The member has received no new correspondence since the last meeting in December 2020.

Medical Imaging

The Council's medical imaging working group gave an update on the outcomes of its out-of-session meetings. It had considered the availability of data to inform its understanding of the radiation exposure of the Australian population from medical imaging procedures.

The Council discussed the options of addressing individual risks (mainly cancer) based on cumulative dose, or simply reducing the overall population exposure to radiation as a general principle. It was noted that ARPANSA would be better placed to consider the issue from a population risk perspective.

The working group had broadly agreed that the collective dose from medical imaging was increasing. However, the Council acknowledged that better data is ultimately required to justify any expenditure aimed at reducing this dose, or to properly identify any potential areas of concern in medical imaging, and to track any technological or behavioural change from actions taken to reduce doses or to reduce inappropriate or unnecessary imaging.

The Council discussed focussing on computed tomography (CT) data and lumbosacral spine imaging to help keep data analysis manageable. Pursuing cancer-linkage data was noted as being particularly difficult. It also discussed what ARPANSA could contribute to the collection, sourcing or analysis of data.

It was noted that Medicare does not capture public hospital procedures, a factor which would skew the data, although it was noted that private clinics and hospitals do account for a large share of imaging procedures and therefore the Medicare data could at least be indicative. Another idea the Council discussed was repeating a key University of Sydney study (Evaluation of imaging ordering by general practitioners in Australia 2002–03 to 2011–12; Family Medicine Research Centre). The Council also expressed interest in how the Northern Territory's new 'pathways program' might influence the actions of referrers such as general practitioners, given its broad deployment across various clinical settings and purposes.

The Council discussed the proposed next steps of the working group and agreed the next full Council meeting could discuss recommended actions for ARPANSA, and a draft letter to the CEO of ARPANSA.

It was suggested that, as part of this process, the Council could invite views from the Royal Australian and New Zealand College of Radiologists (RANZCR), and the Royal Australian College of General Practitioners (RACGP), and later request ARPANSA approach the AHPPC to raise any concerns that the Council finds.

Council further suggested approaching the Australian Institute of Health and Welfare (AIHW) and the Department of Human Services to seek access to generalised Medicare data which may inform more detailed analysis on the use of medical imaging.

Action: Working group to request that ARPANSA seek out links with other organisations and investigate inviting them to a future Council meeting, to gain views and data.

Action: Working group to request ARPANSA to check internally or via the Department of Health to see if it can ask for access to Medicare data as a government agency.

Action: Working group to discuss how ARPANSA can have the most influence on this topic and draft a letter to the CEO of ARPANSA.

Regulator Risks

The Council discussed ARPANSA's regulatory effectiveness and reviews of other Commonwealth regulators in recent years. Discussions reiterated the need for ARPANSA to remain fit for purpose with adequate resources in its important role.

ARPANSA provided an update of recent regulatory activities, noting its main regulatory efforts and resources (approximately 60%) continues to be expended on the oversight of nuclear technology applications at the Australian Nuclear Science and Technology Organisation (ANSTO). ARPANSA noted that there had been an increase in the requirement for ARPANSA's regulatory involvement, such as review of changes with implications for safety under section 63 of the Australian Radiation Protection and Nuclear Safety Regulations 2018 (the ARPANS Regulations), at ANSTO in the past year, which is expected to continue.

The Council discussed several issues related to sourcing regulatory expertise in nuclear engineering in Australia as a key challenge, especially in the context of future regulatory demands from new major projects and the timing of periodic safety and security reviews of major facilities such as the OPAL reactor and the ANM Facility for production of nuclear medicine.

The Council asked ARPANSA how the agency compares to similar radiation or nuclear regulators around the world and ARPANSA noted that the findings of the 2018 Integrated Regulatory Review Service mission coordinated by the International Atomic Energy Agency's (IAEA) were largely positive.

The Council noted that Australia's relatively small nuclear industry presents some recruitment challenges due to the limited availability of specialist staff. Regulatory staff are often recruited from appropriately qualified science or engineering applicants and trained on the job.

The Council noted recent amendments to the ARPANS Regulations that allow ARPANSA to cost-recover its work on review and assessment of licence applications in direct proportion to the expended regulatory effort, which could provide funds to cover the cost of temporary increases in staff resources if regulatory workloads rise. ARPANSA agreed that it could look into options to create flexibility in its workforce through a further strategic risk analysis.

The Council noted its role as an advisory body can support ARPANSA's efforts to deliver on its strategies in accordance with its Regulatory Activities Policy, and therefore noted its awareness of the above factors. Members also agreed that the Council could in the future consider raising and discussing regulatory issues as it deems appropriate.

Action Council to continue updates on the Regulatory Functions and Outcomes

Roles and Expectations of Advisory Bodies

This item was not discussed due to time constraints but was noted as an item to circulate out of session after the meeting.

Gunbalanya- Kakadu Cancer Cluster presentation of Final Report

The Council heard a presentation summarising the background, context and contents of the Northern Territory Gunbalanya-Kakadu Cancer Cluster final report. The report contains the findings of a long investigation into cancer incidence and stillbirths, based on concerns around the proximity of the affected communities to a nearby uranium mine and potential exposure to ionising radiation from contaminated environmental media. The report ultimately found no evidence that environmental ionising radiation was a contributing factor to the rates of cancers and stillbirths.

Laser Technology

The Council heard a summary of its March 2021 working group meetings, which acknowledged that while the mechanisms for harm from lasers are well-known, a key focus for the Council going forward needed to be on data that establishes the actual occurrence and impact of laser injuries in Australia. The working group noted that there are sufficient anecdotal cases of laser injuries to be concerned, however further data is required, such as from a university research study looking into detailed injury data.

Within this group there are three strands for which the regulatory issues are vastly different:

- the medical use of lasers for which medical training and credentialling is already in place.
- non-medical use where someone can buy a product online and perhaps do an online course and then start using a device on clients (sometimes referred to as clinicians but may not have formal medical training).
- home or industrial use where someone has bought a laser to use for other purposes.

The discussion was broadly divided into two categories of laser use: instances where people are intentionally exposed to a laser (such as in medical or cosmetic fields); and instances where people are accidentally exposed to a laser (generally in public or industrial applications of lasers).

Intentional Exposure (Medical / Cosmetic)

Although medical and cosmetic practices intentionally expose people to lasers, the Council noted there is also a risk of bystander injuries. For example, in addition to the practitioner and the patient, the safety of other people working in the immediate vicinity (such as a salon) during a procedure is also of concern.

The Council agreed that the best way to get more data on the incidence and impact of laser injuries in these fields would be through university research studies, perhaps by collaborating with post-graduate students. There is a need to understand the gaps in research to pitch collaboration proposals to universities.

The working group also raised the issue of laser regulation uniformity in Australia, which is currently split between various jurisdictional bodies, with no clarity on who has leadership in this area. Examples of these bodies include ARPANSA, Environmental Protection Agencies (EPAs), police (for weapons), the Therapeutic Goods Administration (TGA), fair trade offices, and work, health and safety bodies (for industrial uses). Similarly, although there is training and credentialling in place within the medical field there is still no single official body to assign credentials. The Council talked about ARPANSA's engagement with States and Territories via the Department of Health to identify gaps in national uniformity.

The Council raised the question of Personal Protective Equipment (PPE) and other equipment safeguards against lasers, as well as whether people using lasers had been trained to use the equipment for its intended application. Packaging and labelling of lasers were also raised as an area of concern, and the Council felt that this was an area where the TGA and Safe Work Australia could be involved.

It was noted that in April 2020 the International Commission on Non-Ionizing Radiation Protection (ICNIRP) produced a statement on all non-ionising radiation (NIR) devices (including lasers), highlighting the lack of studies on the use of such devices, and the focus of existing studies on efficacy rather than health effects.

The Council agreed that a good way forward would be to discuss the possibility of post-graduate students working with ARPANSA on relevant research projects, such as on eye and skin damage from lasers. Council members agreed to approach their own university contacts to start this process.

Action: Working group to consider the possibility of ARPANSA working with universities and engaging students to undertake research into this field and work with ARPANSA to get the data they are looking for.

Action: Draft a letter to the CEO of ARPANSA suggesting that collaborating with a university for this research would be a cost-effective solution to getting the data they are lacking.

Action: ARPANSA to contact AHPRA to discuss obtaining relevant data.

Accidental Exposure (Public / Industrial)

The working group again noted that data will be key for progress to be made in identifying the causes of accidental exposures to lasers. The Council agreed that ARPANSA could advise the appropriate parts of government that this is an area of increasing concern if substantiating evidence can be identified.

There are a host of laser technologies that are approaching everyday use (self-drive cars, consumer lasers), and there is an opportunity now to ensure that lasers usage remains safe in Australia. Examples of consumer lasers include laser light shows which would be hazardous for hundreds of metres. Consumers are largely ignorant of the risks of lasers and so rely on the product instructions and guidance.

The Council noted that recent amendments to European standards now contain separate definitions of consumer and general lasers and treat them separately, this differs from the current laser product safety standard in place in Australia (AS/NZS IEC 60825.1:2014). It was further noted that a current Council member sits on Standards Australia, whose aim is to harmonise with international standards.

The Council discussed that it would be preferable to restrict the sale of problematic lasers, rather than license (regulate) consumers. It was noted that in most States you need a licence to own a laser but that this is largely unenforced – in the main because it is so difficult to do. The current laser product safety standard (AS/NZS IEC 60825.1:2014) is that lasers must be demonstrably as low a hazard class as is only sufficient for the intended applications and this guidance is more explicit than it was previously. Less reputable suppliers are compromising on safety to bring down cost and it was proposed that this is an area where progress could be made.

The Council discussed whether it would be possible to proactively control the manufacturers and how the various jurisdictional offices of fair trading could be involved. The issue of this being a constantly evolving area was raised as there is a risk that any regulation would be reactive due to the technologically driven nature of this field. A better option might be either education or to make certain lasers unavailable, which is difficult as they can be bought on the internet very easily and cheaply.

The possibility of ARPANSA drafting a paper on this emerging issue was raised, noting that the issue is beyond the scope of ARPANSA regulation. It was suggested that the Council approaches other regulatory bodies to gauge the appetite for various ideas and seek further views from Council members' own contacts.

Action: Working group to draft a letter to ARPANSA in consultation with stakeholders, seeking their input on the appetite for regulation.

Action: ARPANSA to look into the possibility of drafting a paper on the emerging issue of lasers, considering regulation in Australia, and including the possible modification and misuse of lasers.

Other business

Letter from the Australian Society of Dermal Clinicians (ASDC)

The Council noted a letter received from the ASDC, requesting better regulation of cosmetic laser practices in Australia. It was agreed that the secretariat will draft a reply to the ASDC and circulate it to members for consideration.

Action: Draft a letter of reply to ASDC and circulate it to Council members out-of-session for consideration.

Letter from Australian Dental and Oral Health Therapists Association Ltd (ADOHTA) and Dental Hygienists Association of Australia (DHAA)

The Council noted a letter received from ADOHTA and DHAA which requested an update to ARPANSA guidance on radiation protection in dentistry. It was agreed that the appropriate action would be to pass it on to ARPANSA for referral to the Radiation Health Committee (RHC). The RHC membership includes the jurisdictional representatives from state and territory radiation regulators who are responsible for regulating civilian dentists, as well as the mandate to consider the development or amendment of national codes and standards for radiation protection that ARPANSA publishes. The Council also agreed to draft a letter to acknowledge the ADOHTA and DHAA's letter and explain its referral to RHC.

Action: Council to respond to ADOHTA and DHAA noting the letter has been passed to ARPANSA.

Action: ARPANSA to raise this letter and the attachments with the Radiation Health Committee.

Meeting close and housekeeping

It was agreed that minutes and action items will be circulated for review by all Council members. The Chair closed the meeting at 12.11pm.