



Radiation Health and Safety Advisory Council ('Council')

Final Meeting Minutes

- Date:** 1-2 August 2019
- Time:** 12.00 pm – 5.00 pm (Day 1), 9.00 am – 3.00 pm (Day 2)
- Location:** 38-40 Urunga Parade, Miranda (Sydney)
- Chair:** Dr Roger Allison
- Members:** Dr Carl-Magnus Larsson, Dr Hugh Heggie, Mr Keith Baldry, Dr Stephen Newbery, Prof Pam Sykes, Ms Melissa Holzberger, Prof Adele Green, Dr Jane Canestra (via videoconference), Dr Peter Karamoskos, Dr Melanie Taylor (via teleconference on Day 2), Mr Frank Harris.
- Apologies:** Prof Adele Green (Day 1 only).
- Secretariat:** Mr James Wheaton, Mr Ben Paritsky.
- Observers:** Mr Jim Scott, Mr Ryan Hemsley, Ms Jenni Stiffe, Dr Rick Tinker, Ms Gemma Larkins, Ms Julia Carpenter, Mr John Ward, Dr Peter Thomas, Dr Marcus Grzechnik, Mr Nathan Wahl, Mr Alan Mason, Dr Ken Karipidis, Dr Samir Sarkar, Dr Robert Godfrey (all from ARPANSA).

1. Standing items

Item 1.1 Meeting open and welcome

The Chair opened the meeting and welcomed all Council members as well as ARPANSA staff, including those participating or observing via video-link from ARPANSA's Melbourne Office, or elsewhere. The Chair congratulated ARPANSA's Deputy CEO, Dr Gillian Hirth, on her appointment as Chair of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

Item 1.2 Declarations of interests

One member declared an interest in Silex Systems Limited, as required under the *Australian Radiation Protection and Nuclear Safety Act 1998* and the Australian Radiation Protection and Nuclear Safety Regulations 2018 (ARPANS Regulations). The declaration was noted and did not warrant further action for the purpose of the meeting.

Item 1.3 Review of previous Minutes and Actions

The Chair noted the Minutes and the Actions from March 2019, which had been made available on GovTeams.

Action: The Minutes and actions from March 2019 were accepted as final.

Item 1.4 Updates from the Radiation Health Committee (RHC) and Nuclear Safety Committee (NSC)

The CEO of ARPANSA noted a number of recent updates for the RHC and NSC. In particular, there is steady progress towards nationally consistent radiological protection and nuclear safety outcomes through appropriate Commonwealth of Australian Governments (COAG) committee structures. The RHC will continue its focus on standards that provide input to the COAG structure for endorsement.

The NSC has considered the recent safety events at the Australian Nuclear Safety and Technology Organisation (ANSTO). The NSC has also noted that ARPANSA is paying close attention to recent reviews of other regulators, such as through the Banking Royal Commission, which have provided insights into the ineffectiveness of enforcement strategies.

Council discussed the significantly greater scrutiny that regulators face, and encouraged ARPANSA to be seen as an independent and an effective regulator, agreeing that the public would want the regulator to be seen to be independent and taking regulatory actions that are commensurate with hazards and risks. Council further noted that maintaining a public perception of appropriate and effective enforcement is the critical element.

It was further agreed that a regulator's transparency (such as through the disclosure of statistics) and the associated reputational risk are potent drivers for performance improvement. Council discussed ARPANSA's ability to measure behavioural change in licensees, noting there is also only so much benefit to the public-pillorying of a licensee before trust in an industry is undermined.

Item 1.5 CEO update on the activities of ARPANSA

The CEO of ARPANSA provided updates on two other regulatory issues that ARPANSA had recently considered. Firstly, the South Australian Independent Commissioner Against Corruption (ICAC) review of Safe Work SA, which found that the culture of the regulatory area of Safe Work SA did not encourage interaction with other parts of the organisation. Secondly, it was noted that ARPANSA's internal safety culture maturity assessment of its regulatory services branch has now been published on ARPANSA's website.

Item 1.5.1 International engagement update

ARPANSA presented a report of international engagement undertaken recently and a summary of upcoming international meetings and events was also tabled. In particular, the recent passing of IAEA Director General Yukiya Amano (Japan) was noted.

Also noted was the ARPANSA Deputy CEO's appointment as Chair of UNSCEAR, and preparations for Convention on Nuclear Safety (CNS) with the CEO appointed as one of two vice-presidents for the 8th Review Meeting under the terms of the CNS review meeting. ARPANSA has already submitted the CNS national report for Australia, prepared in consultation with ANSTO.

ARPANSA's input on non-ionising radiation to the World Health Organization (WHO) demonstrating Australia's influence in developing international standards and strategies for risk reduction. Council also noted the upcoming International Commission on Radiation Protection (ICRP) Symposium in Adelaide, South Australia, scheduled for 17-21 November 2019.

Item 1.6 Member representing the interests of the general public

The member reported on their enquiries into the perceptions of risk for medical radiation workers. The starting premise had been that medical radiation workers somehow over-estimated their risk or dose. Researching the literature shows that, in fact, medical workers apparently underestimate radiation dose.

Recent anecdotal experience revealed that sonographers did not want to scan nuclear medicine patients, who had been injected with isotopes, for fear of being exposed to radiation. After the sonographers had their likely occupational radiation dose explained, along with the minimal risks and strong safety measures, and despite being tertiary-trained 'radiation professionals' who could clearly perceive and separate safety risks, they still objected to being exposed to radiation mainly due to the absence of choice – that is, the lack of freedom they had to avoid exposure, due to occupational requirements, and regardless of dose. In summary, people's perception of risk was significantly influenced by their freedom of choice and sense of trust, rather than a narrow quantitative risk assessment.

Finally, the member noted receiving an enquiry about 5G technology.

Item 1.7 ARPANSA public and media enquiries dashboards

ARPANSA provided an update on public and media enquiries received. It was noted that concerns about emerging 5G technology was a key area of both public and media enquiries, including a number of enquiries that presented a need to address misinformation. Council noted the statement about misinformation around 5G technology published on ARPANSA's website. ARPANSA also shared positive news about the installation of a new UV sensor in Emerald, QLD. It was noted that incidents at ANSTO had also resulted in a significant number of media enquiries, and an increased number of downloads of ARPANSA's radon map of Australia might be attributable to popular media (such as the Chernobyl series).

2. Briefs for Council

Item 2.1 ANSTO events update

ARPANSA provided an overview of the radiation-exposure accident at ANSTO Health's facility at Lucas Heights in New South Wales on 21 June 2019. It was noted that there were assumptions made in new procedures that certain areas were non-contaminable although they were in-fact possible to contaminate. It was noted that this has since resulted in processes being updated and the three staff that were exposed are being monitored medically, although no symptoms of radiation injury are expected.

It was also noted that the ANSTO media release made a comparison of workers' over-exposure to a typical radiation therapy procedure. Members were concerned that 'normalising' accidental exposures through comparisons to sanctioned exposures inappropriately belittled the nature of the event.

Council also discussed the pressures on nuclear medicine production for the new ANM Facility, as well as ARPANSA's regulatory reaction to the accident, given that a complete shutdown of production would have been a drastic decision considering the need for a proportionate regulatory response. Council noted ARPANSA's assessment that ANSTO maintains a capacity to comply with regulations.

Action: Council will seek another update at its next meeting, in order to consider this issue further after the understanding of the matter has developed.

3. Deep dive

Item 3.1 Naturally Occurring Radioactive Material (NORM)

Council was provided a high-level background of NORM discussions at previous meetings and a summary of working group discussions and paper tabled. A paper erratum was noted, being that Mr Stuart Parr was a member of the Nuclear Safety Committee (NSC) rather than 'RSC'.

The NORM working group proposed providing the CEO of ARPANSA with a position statement, drawing on the expertise now in the working group, that would include discussion points and recommended ways forwards along with 'best case' actions for Australia to be associated with any recommended actions.

Given that NORM is a state and territory regulatory issue, it was discussed that the way forward for ARPANSA to contribute may be to look at how future international guidance may apply in Australia, and shape ARPANSA's contribution to that international guidance as an important avenue for input to this issue.

It was further noted that as NORM is a complex issue, the 'perfect' solution can get in the way of the 'good' solution, however it may be possible to identify where the greatest harm may occur and develop a graded approach over time.

Action: Council agreed for the NORM working group to proceed as proposed, providing a revised position statement on NORM to the CEO, with the working group to provide an update at the next meeting.

4. Quick reviews

Item 4.1 New Council Action List and GovTEAMS

Council was introduced to the new GovTeams platform, for collaboration across Commonwealth Government, including a revised action list which will be used for Council matters going forward.

5. Deep dive

Item 5.1 Ultraviolet Radiation (UVR) Protection

Council was provided with an update, following on from previous UV discussions at Council, and noting the significance of the major health consequence from poor UV radiation protection being skin cancers. There are five times as many skin cancers in Australia as all other forms of cancer combined. Council also noted ARPANSA's leadership, both domestically through coordinating Australian stakeholders, and internationally through contributions to the science as well as international standards, via global bodies such as the WHO.

A variety of statistics on the scale of the cost to Australia's health system were summarised, including clinical statistics, such as a third of all hospitalisations for sunburn being for children under the age of 10. Council noted it is never too late for intervention actions, because even adult protection later in life has been shown to reduce the incidences of skin cancers, particularly squamous cell carcinoma and melanoma.

Item 5.2 UVR Protection and Skin Cancer Prevention

Council discussed a national approach to skin cancer prevention through UV radiation protection and other measures, taking into account updates since previous Council discussions on UVR, and the key elements that may form the basis for Council advice on implementing such a national approach. Particular issues to address as part of a national approach included public concerns around vitamin D deficiency, acknowledged as an issue that needs to be faced and confronted due to misinformation with vested interests. Council heard that scientific trials have shown that there is no change in vitamin D levels for those who use sunscreen, with skin being extremely efficient in producing vitamin D from UVB even in winter conditions.

Acknowledging the evidence that skin cancer is increasing, the Council discussed particular gaps in behaviour protection currently. While there is good public knowledge about skin cancer generally, and checking for brown spots, there is a key mismatch between the broad understanding and actual public behaviour change. This was acknowledged as a key target for any possible campaigns to build upon, which would require involvement of behavioural scientists.

The importance of public investment to reduce the costs to the health system were discussed – with skin cancers being the highest cost to the system of all cancers – and realising the costs to treat melanoma alone reached \$201 million in 2014 and in 2015 the treatment of other skin cancers were estimated to have increased to \$703 million, with substantial increases anticipated in future.

Comparisons were drawn with the campaigns against smoking, started in 1960's and sustained over decades targeting a range of approaches, which showed a staggered and lagging but clear effect on lung cancer rates. Council noted there are new opportunities for skin cancer prevention, including the effectiveness of sun protection in older adults which has probably not been widely understood publicly. However it is noted that there is a lag, so a sustained message and multi-layered is required and would like to see ARPANSA support such an approach to be best of its ability within its mandate. Nor should any campaign shy away from targeting teenagers, with such an approach just requiring innovation. It was noted that when the Commonwealth did previously invest in campaigns, it was very agile at changing the messaging every few years. And policy does work, for example, providing shade structures in playgrounds can change behaviour which has been shown to work in high schools.

In summary, Council agreed that there should be a national approach to skin cancer prevention, with priority areas for action being: a Commonwealth 'call to action' to implement appropriate national policies and initiatives; the funding of 'healthy choice' programs that help change behaviour; an effort to build, conduct and sustain surveillance programs that collect better data on skin cancer incidence currently not captured; stronger grant funding for skin cancer prevention research; and funding for social marketing campaigns that use tailored messaging to achieve high risk behavioural change in sub-populations.

Action: Council agreed to proceed with the working group to draft a letter to the CEO of ARPANSA, in accordance with the proposal in the August 2019 meeting paper tabled.

6. ARPANSA staff session – Occupational UV radiation awareness

The Council participated in a session for ARPANSA staff which highlighted the importance of awareness in relation to skin cancer, particularly while at work. Council member Professor Adele Green presented information on the types of skin cancer, the scientific evidence for UVR as the main cause for skin cancer, an overview of Australian statistics and the economic impact of skin cancer, and the efficacy of prevention.

A representative from Cancer Council Victoria provided staff with further information about how to prevent over-exposure to UVR and how to perform self-checks of skin, along with an overview of the SunSmart® program, noting ARPANSA's commitment to meeting the SunSmart® workplace requirements.

7. Deep dive

Item 7.1 ARPANSA UVR Activities

Council heard an overview of ARPANSA's strengths, weaknesses, opportunities and threat with regard to the agency's current UVR activities. The intention was to seek Council's view on how current UVR-related corporate and other activities align with ARPANSA's existing overall priorities and resources, and separately, as part of a possible whole-of-government approach with any additional resources.

It was noted that ARPANSA's proposed in-vitro sunscreen testing method should be developed further, to influence current sunscreen testing methods that are currently carried out on humans. It was suggested that the aim of in-vitro testing research may be to establish a new national standard as an initial step, rather than offering a new method as a service.

Council also discussed the future applications of ARPANSA's real-time UV detector network, noting that although there are considerations for co-location of detectors and relevance against real-time modelling that need to be resolved with Bureau of Meteorology, there remain opportunities with how detector networks may extend to human behaviour change. For example, ARPANSA could consider introducing a regular program that measures behavioural change using sunburn as a marker, in conjunction with smaller and cheaper detectors deployed via community-partners such as surf-life saving clubs.

8. New items to consider

Item 8.1 Members' suggestions

Members noted the particular requests for further updates already made throughout the meeting. In addition, it was suggested that outcomes from the Medicare Benefits Scheme review report of the Diagnostic Imaging Clinical Committee could be considered.

Item 8.2 Items in collaboration with the NSC and RHC

It was noted that the NORM working group would continue to collaborate with NSC and RHC.

Item 8.3 Items flagged for next meeting

Members noted certain requests for further updates already recorded as actions under earlier agenda items. These were agreed for inclusion at the next meeting.

Item 8.4 Future topics ARPANSA may bring to Council

No further new items (in addition to those already recorded above) were noted for future discussion.

9. Other business

Item 9.1 Review action items from this meeting

The action items from this meeting were reviewed and agreed.

Item 9.2 Review schedule items for next meeting

Items for the next meeting were also reviewed, noting the actions provided for updates on key topics.

Item 9.3 Upcoming meetings – locations and dates

The dates for the next meeting were agreed as 11-12 December 2019.