



Nuclear Safety Committee

Meeting Minutes

- Date:** 16 November 2023
- Location:** Derwent room, 619 Lower Plenty Rd, Yallambie VIC 3085
- Chair:** Dr Tamie Weaver
- Members:** Ms Fay Bellis, Mr Ian Drinnan (via video), Ms Jasmin Diab (via video), Dr Gillian Hirth, Mr Tony Irwin, Dr John Loy (via video from item 4.2), Mr Stuart Parr, Dr Peta Miller (via video), Mr Peter Wilkinson, Dr Joanna Wriedt
- Secretariat:** Mr John Ward, Mr Chris Nickel, Ms Joy Ho
- Apologies:** Mr Cameron MacPhail
- Invitees:** ARPANSA: Mr Jim Scott, Mr Vaz Mottl, Mr Grant Beamish, Mr Ryan Hemsley, Ms Fran Wigney
- Observers:** None

1. Introduction

Item 1.1 Opening, Attendance and Apologies

The Chair opened the meeting, respectfully acknowledging the Wurundjeri People of the Kulin Nation as the Traditional Owners and Custodians of the land, paying respects to their Elders, past and present. Some members attended online.

Item 1.2 Declaration of Potential Conflicts of Interests

No additional potential conflicts were declared at this meeting. Previously declared potential conflicts of interest are maintained by the Secretariat.

Item 1.3 Minutes of the previous meeting

Draft Minutes of the previous meeting had been circulated to members. Member comments were addressed, and the minutes have been agreed and published online.

Item 1.4 Meeting dates

The future meeting date will be confirmed out of session as the membership of the new triennium has not yet been finalised.

Item 1.5 Safety/Security Moment

A Committee member presented their experience with heat stress, and the importance of not only preventive measures but also reactive controls such as 'the buddy system' which in this instance helped to identify signs of heat stroke including initial changes in behaviour and judgement from the effected person. The Committee noted importance of good communication and teamwork to identify these signs early and acknowledged the challenges of working in many parts of Australia and in confined spaces.

2. Business Arising

Item 2.1 Outstanding Actions

The Committee noted that all outstanding actions were completed.

3. Correspondence

Item 3.1 Incoming Correspondence

none

Item 3.2 Outgoing Correspondence

none

4. Main Items for Discussion

Item 4.1 Process overview

ARPANSA provided an overview of its regulatory approach to issues arising in licenced facilities, with a focus on issues that arise and require monitoring over an extended period. Identified defects in the in-pool riser of the OPAL reactor cooling system (PCS), were used as an example. This overview included:

- Objectives of the act and role of the regulator, including the focus on protection of workers, the public and environment from radiation.
- The fundamental principles including that primary responsibility for safety, rests with the person/organisation that holds the licence and a risk informed, evidence-based approach to intervention ensures that responsibility is appropriately addressed.
- An explanation of the regulatory questions used to determine safety (Regulations s53)
- A description of the OPAL PCS and associated safety functions concentrating on the beyond design basis events that may be impacted by the defects.
- A timeline of actions taken by ANSTO and their associated oversight, and reviews and approvals undertaken by ARPANSA.
- A summary of available Information and future safety impacts against the Regulation s53 questions and against a multi-legged approach to safety.

ARPANSA's assessment of all current information had concluded that the defects were stable and no cliff edge effects leading to a sudden escalation of the defects were likely. Even if this did occur, its safety implications were limited to the subsequent repair of the riser. Only one safety function was potentially compromised, and this was associated with a 1/10,000 year, severe, earthquake. In this scenario there was defence in depth remaining within the reactor design to further reduce the likelihood of core damage and to mitigate its consequences.

The Committee noted the robust approach to the OPAL riser defects and commented on the benefit of providing an overview with a focus on the radiological protection implications and the nuclear safety implications when problems were brought to the Committee's attention. Regarding the OPAL riser defects, the Committee noted that the primary risks are associated with reactor availability, the production of neutrons and commercial production rather than safety risks.

Item 4.2 Opal Riser

Discussed as part of the previous item.

5. Update on major Controlled Facilities and Inspections

Item 5.1 Periodic Safety and Security Review (PSSR)

Committee noted an update on the progress of the ARPANSA review of the OPAL PSSR. The Committee noted that an initial contractor review did not pick up any major issues and this has informed the risk/priority profile of ARPANSA's review. However, it has now been a significant time since this documentation has been submitted and the Committee were advised that ARPANSA intends to finalise its review by late 2024. ARPANSA anticipates that results of the review will be presented to NSC after the mid 2024 meeting.

Item 5.2 Other facility updates

The Committee was provided with a summary of other regulatory activities including submissions on the SyMo facility transfer conduit, HIFAR first decommissioning phase which underwent public consultation, and a submission for replacement of the Cold Neutron Source and the First Reactor Protection System. No significant regulatory issues or concerns were raised among Committee members.

6. Reports

Item 6.1 ARPANSA significant Activities

The CEO provided an update on significant ARPANSA activities, which included, working with Defence in preparation for the tabling of the Naval Nuclear Power Safety Bill 2023, the recent IAEA Integrated Regulatory Review Service Mission, and attendance at the IAEA general conference. Associated with the general conference were several bilateral meetings, an event on denial of shipments, an event on building stakeholder trust with indigenous parties, and sessions on regulatory effectiveness in a rapidly changing environment, including the implications of artificial intelligence and climate change.

Item 6.2 Radiation Health Committee

The Committee was provided with a summary of the 27-28 July 2023 meeting of the Radiation Health Committee, with the next meeting scheduled for 12-13 December 2023. This included a summary of the recent WA (Western Australia) incident involving a lost source and its regulatory implications, and work on codes and guides such as updates to the RPS G-3 (Guide for Radiation Protection in Emergency Exposure Situations). Minutes of the Radiation Health Committee meetings can be downloaded from the [ARPANSA website](#).

Item 6.3 Radiation Health and Safety Advisory Council

The CEO of ARPANSA presented a summary of the recent activities of the Radiation Health and Safety Advisory Council (RHSAC) held in Canberra 10-11 August 2023. This was the first meeting of the 2023-2026 triennium. The meeting included discussion of the varying regulatory requirements across jurisdictions and its impact on radiation protection professionals and other workers, particularly on the medical sector. Challenges on workforces and pipelines for future radiation protection specialists were also recognised by the RHSAC. Minutes of the Radiation Health and Safety Advisory Council meetings can be downloaded from the [ARPANSA website](#).

Item 6.4 Member of Public update

No new correspondence has been received. It was noted that traditional forum such as mail, and website submission may not be effective. The Committee noted alternate methods of communication and engagement strategies may be desirable.

7. Other Business

Item 7.1 Nuclear-powered submarine program

ARPANSA provided an update on work being undertaken as part of ARPANSA's contribution to the nuclear-powered submarine program, this included work being undertaken to support development of legislation and regulations for the proposed Australian Naval Nuclear Power Safety Regulator (ANNPSR). The two bills (primary and transitional provisions) were introduced to Parliament on the day of this meeting. The Committee noted potential licencing activities that ARPANSA might need to oversee prior to the establishment of the new nuclear submarine regulator.

Item 7.2 Draft Code for Safety of Reactor Facilities

The Committee was provided a brief overview of the intention for the new Draft Code for Safety of Reactor Facilities. This Code has been developed from the IAEA Specific Safety Requirements Safety of Research Reactors (SSR-3) and IAEA Specific Safety Requirements Safety of Nuclear Power Plants – Design (IAEA SSR2/1) and IAEA Specific Safety Requirements - Safety of Nuclear Power Plants Commissioning and Operation (IAEA SSR-2/2).

The Committee noted the draft Code is intended to be published as part of the [Radiation Protection Series](#) and is for adoption across Australia for new and existing facilities and to be the first in several new proposed Radiation Protection Series (RPS) documents to meet the changing nuclear environment in Australia.

The committee agreed to review the code out of session, in accordance with any request by the CEO.

Item 7.3 IAEA Integrated Regulatory Review Service Mission

At Australia's request the International Atomic Energy Agency (IAEA) conducted an [Integrated Regulatory Review Service \(IRRS\) Mission in October 2023](#), which followed up on the findings of the 2018 mission. The Committee had previously provided comment on ARPANSA's advanced reference material as prepared for the 2023 mission. The Committee was informed that the Mission found that progress had been made on many areas including consistency in the State and Territories radiation safety programs. Out of 23 recommendations and 12 suggestions, the 2023 IRRS Mission recognised 16 recommendations and 10 suggestions as successfully addressed and closed. The [IAEA press release](#) issued at the conclusion of the Mission noted this, and highlighted areas for further improvement. The final report of the IRRS follow-up Mission is expected to be published online in 2024.

The Committee noted that the report was a potential resource as it will be placed online along with the advance reference material which may help to inform future actions.

8. Information on Nuclear Safety Matters and Regulatory Activities

Item 8.1 Travel Reports

The Committee noted the item.

Item 8.2 Public Consultations and publications

The Committee noted the item.

9. Closure and Next Meeting

The meeting closed at 15:45. The date of the next meeting will be confirmed out of session.

The Committee acknowledged the contributions of Mr Ian Drinnan who has served on the Committee as a member representing a local council for approximately 20 years. Ian did not seek re-nomination due to his changed roles within Council.