



## Nuclear Safety Committee

### Meeting Minutes

**Date:** Thursday, 9 February 2023

**Location:** Level 3, 38-40 Urunga Parade, Miranda and via video conference

**Chair:** Dr Tamie Weaver

**Members:** Ms Fay Bellis (via video), Mr Ian Drinnan, Ms Jasmin Diab, Dr Gillian Hirth, Mr Tony Irwin, Dr John Loy (via video), Mr Cameron MacPhail, Mr Stuart Parr, Dr Peta Miller (via video), Mr Peter Wilkinson, Dr Joanna Wriedt

**Secretariat:** Mr John Ward, Ms Joy Ho

**Apologies:** There were no apologies – all members were present.

**Invitees:** ARPANSA: Mr Jim Scott, Mr Vaz Mottl, Mr Andrew McCormick

**Observers:** Nil

#### 1. Introduction

##### Item 1.1 Acknowledgement of Country Gillian Hirth

ARPANSA provided an Acknowledgement of Country to open the meeting at 10:00.

##### Item 1.2 Attendance and Apologies Chair

No apologies for this meeting, all invitees in attendance.

##### Item 1.3 Declaration of Potential Conflicts of Interests Chair

No new or updated conflicts of interest were declared.

##### Item 1.4 Minutes of the previous meeting Chair

Draft minutes of the 28 October 2022 meeting were emailed to members and member comments were addressed. The minutes are published on the [ARPANSA Website](#).

##### Item 1.5 Meeting dates Chair

The dates of upcoming NSC meetings were discussed. Due to a schedule clash, it was agreed to move the June 1 meeting to the second half of July. The secretariat was actioned to poll members for suitable meeting dates for the next two meetings. The meeting dates are:

NSC23-02      20 July 2023

NSC23-03 16 November 2023

The Committee was advised that a proposed joint meeting of all ARPANSA's advisory bodies was likely to be held on 17 May. The committee chairs will meet in-person with other members joining by video.

#### Item 1.6 Safety/Security Moment

Jasmin Diab

Ms Diab talked about a visit to Fukushima as part of the "Women in Nuclear" conference. The Fukushima disaster highlighted the need to build trust with the public through early openness and transparency. In the aftermath of the disaster, the flow of information was confusing and sometimes inconsistent. The operator, TEPCO, quickly lost public trust. Despite the lifting of many restrictions, in the most impacted areas less than a third of evacuees have returned home and attracting workers has been challenging. The lesson learnt is that clear communication with a single organisation taking the lead is helpful to build trust.

Mr MacPhail will present the safety moment at the next meeting.

#### Item 1.7 Outstanding Actions

Chair

The Committee discussed an action arising under item 2.2 from the last meeting to review and update previous advice provided in 2015 regarding the options for regulation in an expanded nuclear industry. Members discussed the scope of the action and a framework for the advice. As the Government announcement on the optimal pathway for the nuclear submarine program is expected to be delivered in March it was decided to defer detailed advice on this matter until after the announcement.

All outstanding actions were completed.

#### Item 1.8 Correspondence

Chair

The Committee noted that no correspondence was sent or received.

## 2. Main Items for Discussion

#### Item 2.1 Regulatory Guide Review – Applying for a licence for a radioactive waste storage or disposal facility

ARPANSA

The CEO introduced the guide and explained that its style had shifted from the existing guide which was written before the Waste Code (RPS C-3) was published. One objective of the new style was to provide guidance to assessors and support to applicants. This should improve the transparency and consistency of the ARPANSA assessment process and clarity of the expectations applicants need to meet.

The Committee stated that the new approach was welcome and useful for applicants particularly in setting out the interpretation of the law. There followed a discussion on application of the approach, the scope of the guide and whether the language was clear and concise. Further consideration of the following aspects was suggested:

- Improved delineation between storage and disposal facilities noting that each had different requirements, used different terminology, and may need separate applications. Consideration of separating requirements for storage and disposal facilities.

- Clarity around the title and the intended audience. Currently the guide is for both assessors and applicants, and it was thought better to focus more clearly on the assessor, in a similar manner to some other regulatory bodies such as the UK Office for Nuclear Regulation (ONR) Technical Assessment Guides (TAGs). The TAGs primarily provide guidance to ONR inspectors on the interpretation and application of safety and security assessment principles.
- Whether the readability of the document may be improved through different writing techniques and clearer and simpler language.
- Clarification of the consultation requirements and of how ARPANSA and the applicant individual consultations relate to each other.

There was a general discussion on ARPANSA framework of codes, standards, and regulatory guidance. ARPANSA has a good radiation protection series that is applicable to many aspects of nuclear installations but not an equivalent nuclear safety series. Most nuclear safety guidance is in the form of ARPANSA regulatory guidance. Changes in the national nuclear landscape within Australia suggest a nuclear safety series may be needed. The Committee considered that ARPANSA needed to be looking at what will be needed in five years' time and the resources needed to meet the challenge of building on the current framework and range of codes standards and guidance. The Committee considered it important that ARPANSA maintain its clarity of vision of where it is now and of any gaps in the Australian framework for nuclear safety.

## **Item 2.2 IAEA Integrated Regulatory Review Service (IRRS) – Update**

**Andrew McCormick**

The committee was provided an update on the forthcoming IAEA Integrated Regulatory Review Service (IRRS) mission to Australia. This is a follow-up to the IRRS Mission that occurred in 2018 and is scheduled to occur in October 2023. The IAEA will compile a team of experts who will visit Australia to review progress on the recommendations and suggestions provided during the original review.

ARPANSA had 14 recommendations to address and has been working on these since 2018. The progress is being reviewed by a team and a paper will be prepared for each finding along with supporting evidence. The advanced reference material report is being prepared to be submitted to the IAEA two months before the follow-up mission meets in October 2023. This is a challenging timeframe given other priorities within ARPANSA.

The committee asked if sufficient progress has been made in addressing the 2018 IRRS recommendations, to indicate that the public should have confidence in ARPANSA and other regulators. The committee was advised that ARPANSA expected that all recommendations addressed to of ARPANSA will be closed. However, as the 2018 IRRS was a multi-jurisdictional review there may be some challenges to closing all the multi-jurisdictional actions. It was also highlighted to the Committee that the IRRS is not a review of a regulator's competence or regulatory decisions, but it is a review of the regulatory framework for safety against the IAEA standards.

The Committee was advised that, once the advanced reference material was prepared for the IRRS follow-up mission, they would be asked to review and provide comment on the report.

## **Item 2.3 Opal Riser updates**

**Vaz Mottl**

The Committee was advised that ANSTO is following its inspection and reporting requirements for the OPAL riser issue. No new cracks or defects have been identified and no propagation of existing cracks were

reported. ANSTO is proposing to relax visual inspection frequencies and ARPANSA will engage the services of an external independent expert (on stress fractures) to support its assessment of the proposal. The Committee was advised that work on replacing the flap valves with a new design to eliminate the pressure pulse has not progressed.

The Committee suggested that ARPANSA needed to be satisfied that ANSTO was appropriately using a “multi-legged” approach that considered wider safety issues rather than over reliance on fracture mechanics. The Committee also asked if ARPANSA has a timeframe by which time it required ANSTO to show that the reactor was safe. Some stakeholders may consider the time since this defect was identified to be excessive.

ARPANSA stated that ANSTO had shown that the reactor safety objectives are met, despite the defects. ANSTO intend to replace the flap valves and the riser in the long term. In the meantime, there remains adequate conservatism in the design. The Committee stated that until the flap valves and the riser are replaced ANSTO is only treating the symptoms of the problem and not eliminating its cause. On this basis it was thought that replacement of the flap valves with a design that eliminated the pressure pulse should be a priority.

### 3. Update on major Controlled Facilities and Inspections

#### Item 3.1 Periodic Safety and Security Reviews

Vaz Mottl

The Committee was provided with an update on progress of the Periodic Safety and Security Review (PSSR) for OPAL.

The various Safety Factors (modules) of the PSSR have been assigned to subject matter experts from across ARPANSA. These will be subject of a detailed internal review, informed by a top-level review previously undertaken by a nuclear engineering consultancy. That top level review has identified and grouped issues into categories that can be used to support ARPANSA’s in-depth review.

The committee enquired whether the consultancy and ARPANSA reviews were being undertaken in parallel or if ARPANSA was relying on the consultancy review. The committee was told that at the time ARPANSA did not have the capacity to commence its own detailed review due to other priorities. It is now able to undertake its own detailed review during 2023. Other than providing the previous ARPANSA PSSR report, the consultancy review was undertaken without ARPANSA’s influence. Its findings were in-line with long term observations by ARPANSA and did not come as a surprise.

ARPANSA was asked about its observations of ANSTO’s approach to human factors. The Committee was told that there was no systematic approach but several groups in ANSTO were actively looking at human factors. ANSTO was also engaging with both ARPANSA and various consultants on human factors which was positive. ARPANSA’s influence in this area was significant and reinforced by the findings of the 2018 independent review of safety at ANSTO that ARPANSA had directed ANSTO to undertake.

#### Item 3.2 ANSTO Health Products & ANM

Vaz Mottl

The Committee was provided with an update on ANSTO Health Products & ANM.

ARPANSA has now completed its evaluation of evidence of actions addressing the outstanding recommendations of the 2018 Independent Review of Safety. A report will be produced after some other priorities are addressed.

ANSTO has requested a life extension of liquid waste storage tanks in building 54. The life requested in the facility safety case at the time of licensing was based on ANSTO's anticipated date for the operation of the SyMo waste treatment facility (that has been delayed) rather than the expected life of the twin walled stainless steel tanks. ANSTO's request is to extend the life from 12 to 30 years. The Committee asked how ANSTO was assuring itself that there were no problems of pitting corrosion in the waste tanks. The Committee was told that ANSTO undertakes sampling and chemical analysis of the waste from the tanks to look for corrosion products. There is no reported evidence of corrosion. The Committee stated that this type of analysis could be effective to identify gross corrosion and general thinning of the tank walls but is unlikely to pick up localised pitting corrosion.

During an assessment of tank condition ANSTO identified rainwater ingress originating from the combination of a leaking roof and a misplaced inspection port plug. The rainwater ingress has now been remedied but also highlighted a problem with the effectiveness of instrumentation. The Committee enquired of any similarities with the water ingress to a conduit between the SyMo and ANM facilities and if there were known problems with any other facilities. It was told that ANSTO has had some known issues with groundwater, including in the lower section of the OPAL reactor. The seepage of water at OPAL dates from the construction of the facility and is both minor and well managed. The issue with the conduit does not share any similarities with the building 54 problem although each has most likely been exacerbated by unusually wet weather on the ANSTO site.

### Item 3.3 Other facility updates

Vaz Mottl

The Committee was provided an update on other regulatory activities undertaken by ARPANSA.

The construction of the SyMo liquid waste treatment plant is continuing. ANSTO has started testing individual systems ahead of cold commission. ANSTO has decided to replace the conduit housing a pipeline running from ANM to SyMo due to rainwater entering the conduit. An alternative design would be used and ARPANSA are currently talking with ANSTO into the implications of this. Specifically, regarding the availability of the transfer system within the overall project program.

ARPANSA had been informed of a potential non-compliance at ANSTO Centre for Accelerator Science. This involved an exceedance of radiation levels and a failure to respond to an alarm but did not result in any exposure. ANSTO has conducted its own investigation, but ARPANSA will undertake an inspection that provides an independent review of the incident and general management of the facility.

## 4. Reports

### Item 4.1 ARPANSA significant Activities

Gillian Hirth

The Committee was provided an update on significant activities concerning ARPANSA. This included:

- ARPANSA's involvement in the Commonwealth response to a lost radioactive source in Western Australia. ARPANSA and ANSTO each had expert teams on the ground with vehicle mounted monitoring equipment that located and recovered the lost source. This was a good example of good communication and interdepartmental cooperation. It allowed ARPANSA to test arrangements and thereby understand better how to further enhance the framework for national cooperation and management of future nuclear or radiation incidents. The Committee pointed out that this incident may affect the public perception of transport safety.
- The upcoming 8<sup>th</sup>/9<sup>th</sup> Review meeting of the Convention on Nuclear Safety meeting in March.

- The expected AUKUS submarine announcement in March that will provide ARPANSA with a clearer picture of any role it may have in the stewardship of a fleet of nuclear submarines and onshore support facilities.
- Preparation for the IAEA Integrated Regulatory Review Service (IRRS) follow-up mission planned for October 2023. See section Item 2.2.
- A judicial review of the proposal to establish a National Radioactive Waste Management Facility in South Australia.
- The recruitment of three STEM graduates that will commence a two-year trainee program in ARPANSA later in February.

#### **Item 4.2 Radiation Health Committee**

**Fay Bellis**

The Committee was provided a summary of the recent activities of the Radiation Health Committee. Minutes of the Radiation Health Committee meetings can be downloaded from the ARPANSA website.

#### **Item 4.3 Radiation Health and Safety Advisory Council**

**Gillian Hirth**

The Committee was provided a summary of the recent activities of the Radiation Health and Safety Advisory Council. Minutes of the Radiation Health and Safety Advisory Council meetings can be downloaded from the ARPANSA website.

#### **Item 4.4 Member of Public Update**

**Joanna Wriedt**

No issues or submissions were received.

### **5. Other Business**

The Committee was briefed on a Public Seminar by the Pacific Island Forum (PIF) where their Panel of Independent Scientific Experts assisting in the Forum's engagement with Japan presented their findings. The forum was attended by ARPANSA. The meeting discussed the proposed release of tritiated wastewater from the Fukushima Daiichi site. There were environmental concerns raised by the PIF including around the reliability of data.

ARPANSA advised the Committee that the IAEA expert team that has been reviewing the proposed plans for the release has provided recommendations to improve the plans and monitoring associated with the release. There were also environmental concerns raised by the PIF. ARPANSA reported that, in addition to monitoring by the operator and Japanese regulator, there was a parallel and independent sampling program for the water to be released. The levels of tritium in the proposed release water are comparable to the levels of tritium approved for release from operational nuclear power plants.

The Committee considered that the independent sampling was important for transparency and building trust as well as an important regulatory function.

### **6. Information on Nuclear Safety Matters and Regulatory Activities**

#### **Item 6.1 International Engagement Reports**

The Committee noted the item.

## **Item 6.2 Public consultation and publications**

The Committee noted the item.

## **7. Closure and Next Meeting**

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The meeting closed at 15:45. The next meeting will be held on 20 July 2023.