



SUMMARY OF 5-6 NOVEMBER 2009

OPENING OF MEETING, APOLOGIES, CONFIRMATION OF MINUTES & BUSINESS ARISING

Council met at ANSTO on 5 November 2009 and at ARPANSA's Miranda Office on 6 November 2009. All members were present, except Mr Burns did not attend the ANSTO meeting on 5 November. The Hon Mark Butler Parliamentary Secretary for the Minister for Health and Policy Adviser Mr Adam Mara attended on 6 November 2009 for Item 5. Ms Tonje Sekse and Mr Sverre Hornkjol, visitors from the Norwegian Radiation Protection Authority attended as observers. Ms Rhonda Evans, Director, Regulatory & Policy Branch, ARPANSA and Prof Peter Johnston, Director, Environmental & Radiation Health Branch, ARPANSA also attended. The minutes of the 11 – 12 June 2009 meeting were confirmed with minor editorial changes. All actions, other than those listed for inclusion on future agendas, had been completed.

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Dr Adi Paterson, CEO of ANSTO, addressed Council and discussed a range of issues. On security of sources and orphan sources, he noted that the IAEA *Code of Conduct on the Safety and Security of Radioactive Sources* had been in place for a decade and the COAG process on hazardous materials and radioactive materials since 2007. Council discussed several issues with Dr Paterson, including integrity and security of a source database, security checks, and threat of diversion of radioactive material. On radioactive waste, Dr Paterson advised Council that return of waste from UK reprocessed spent fuel had been delayed to coincide with reprocessed waste returning from France from 2015-16. ANSTO had contingency plans for temporary storage if there is no repository/store available in time. Council discussed the need for a national strategy on waste disposal, and that many countries establish a radioactive waste management organisation to develop and implement a strategy, and the progress towards decommissioning of MOATA and HIFAR. On molybdenum supply, Dr Paterson advised that TGA had approved the new process in May and ARPANSA had issued a licence in September. It was intended to carry out 2 runs/week, which would supply all of Australia, and provide a similar amount for export. Dr Paterson advised that ANSTO would also start supplying some molybdenum to USA/Canada and provide cover for South Africa. ANSTO intends to apply for a licence to increase to 4 runs/week in about April next year. Dr Paterson then left the meeting for other appointments. The Chair thanked Dr Paterson on behalf of Council for making time to have these discussions.

Mr Mark Alexander, ANSTO S-E Asia Regional Security of Radioactive Sources Project addressed Council about this project. He noted that there were poorly controlled or vulnerable radioactive sources in S-E Asia and the Pacific, a lack of border controls, detection capability and regulation. The aim of the project was to prevent acquisition of sources by unauthorised persons, and prevent serious accidents from uncontrolled sources. The four objectives were to strengthen regulatory and legislative controls, apply standards and train regulators, develop capabilities in equipment and provide training in its operation, and to identify and address situations involving vulnerable or orphan radioactive sources. Outcomes of the project so far included regulations developed and being implemented in Indonesia, Philippines and Vietnam, with progress in Malaysia and Thailand. Radiation detection equipment provided (with US NNSA) to Indonesia, Philippines, Vietnam, Thailand and Cambodia, including training. Capacity building has included running over 20 workshops for 430 participants from

11 countries. Source management activities have included identifying and managing orphan sources in Cambodia and PNG, assessing storage of disused sources in Indonesia, Philippines, Vietnam and Thailand, and giving advice on disused sources in Fiji, Vietnam and Cambodia. Mr Alexander concluded by describing a number of ongoing issues in the countries ANSTO is working with on this project. The Chair thanked Mr Alexander for his presentation.

Council then proceeded to visit the OPAL Reactor, the Bragg Institute neutron hall and the Waste Management facility, where Mr Lubi Dimitrovski was able to inform Council of ANSTO activities on radioactive waste management.

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MANAGEMENT AND DISPOSAL OF LONG-LIVED INTERMEDIATE LEVEL WASTE

Mr Patrick Davoren, Manager, Radioactive Waste Management Section, Department of Resources Energy and Tourism (RET) presented to the Council information with regard to RET's role in radioactive waste management in Australia. Mr Davoren detailed RET's responsibility for radioactive waste management under the Administrative Arrangement Order. Mr Davoren advised that the Government is considering its policy concerning radioactive waste management. Information regarding some international waste repositories and storage facilities was also presented to Council.

Dr Ron Cameron, Executive General Manager, Strategy, Government and International Relations, ANSTO, provided information to Council on how ANSTO manages its radioactive waste. Dr Cameron discussed issues including radioactive waste types, how waste is processed and conditioned, future developments in the conditioning and disposal of radioactive waste and regulatory issues. He told Council that internationally there are currently six levels of classification for radioactive waste; however ANSTO has combined some of these to create a three level system. These being low level waste (LLW), intermediate level waste (ILW) and high level waste (HLW), although Australia does not produce any HLW. Details were given on how ILW was conditioned prior to storage or disposal: these included methods ranging from cement and bitumen to borosilicate glass and ceramics (Synroc), which is an Australian invention. Dr Cameron explained that the concept of borehole disposal would be possible for some of the ILW in ANSTO's waste. Dr Cameron also highlighted that waste from reprocessing spent fuel was returning from the UK and France from July 2015, and there is a need to store this waste. Liquid waste from molybdenum-99 production was discussed with the Synroc process being identified as a suitable method to deal with this waste. Finally Dr Cameron spoke of the decommissioning activities related to the MOATA and HIFAR reactors.

Council received an update on activities in all jurisdictions on radioactive waste matters. This information was largely taken from the Australian Report to the Joint Convention 3rd Review Meeting in May 2009. In particular, South Australia is investigating options for establishment of an interim store and repository, Tasmania intends to conduct an audit of radioactive waste, and WA intends to review acceptance criteria for the Mt Walton facility prior to the next disposal campaign.

A range of documents on international developments was also tabled. The documents included a list of relevant IAEA publications and drafts, a summary of IAEA's draft Safety Requirements on Disposal of Radioactive Waste (DS354), summaries of disposal strategies

from selected overseas countries, and the findings and recommendations of the International Workshop on Intermediate Depth Disposal of Radioactive Waste (Gyeongju, South Korea, December 2008). Statements on disposal from ARPANSA's Safety Guide on Predisposal Management of Radioactive Waste (RPS 16) were also tabled. The Chair confirmed the current status of Council's draft report following working party input. It was agreed additional information was required with a further draft to be prepared out of session to enable the report to be finalised at the April 2010 meeting.

ADOPTION OF CODE OF PRACTICE FOR RADIATION PROTECTION IN THE APPLICATION OF IONIZING RADIATION BY CHIROPRACTORS

The Chair advised Council that the Code had been approved by RHC. Council was informed that there had been additional consultation with the Chiropractors' Association and the Chiropractic Boards regarding the prohibition of knowingly radiographing a pregnant woman. Council also noted the letter received from the Chiropractors Registration Board of Victoria, which sought clarification on a number of points. Council agreed that the letter was a matter for RHC. Council discussed a wide range of issues related to the Code, as well as some matters in the regulatory impact statement. Council recommended adoption and publication of the Code, and requested that RHC report to the next Council meeting on any feedback arising from its adoption.

INFORMATION ON PREGNANCY AND RADIOLOGY

The Chair advised Council that the CEO had now replied to Council's letter regarding information on radiology and pregnancy. The reply indicated that ARPANSA would approach the RANZCR and propose a collaborative project to develop the required information in a referrer and consumer friendly format. Council noted that it was important to involve general practitioners in this issue at an early stage. Public health education people may also be able to advise on strategies for communication of this information. It was agreed that a further letter be sent to the CEO to raise these matters.

BRIEFING ON MOLYBDENUM SUPPLY

Dr Ron Cameron (ANSTO) and Ms Rhonda Evans, Director, Regulatory and Policy Branch, ARPANSA presented papers on the current issues related to the national and international supply of molybdenum-99. Dr Cameron briefed the Council on the growing demand for technetium-99m, (a daughter product of molybdenum-99), both locally and internationally. Dr Cameron outlined the problems due to the disruption of molybdenum-99 supply for reasons such as a reliance on ageing research reactors, an uncoordinated worldwide maintenance schedule for the reactors and the move away from the use of highly enriched uranium (HEU). Dr Cameron highlighted Australia's situation, with the production of molybdenum-99 now being met by the OPAL reactor using low enriched uranium (LEU) fuel. He advised that ANSTO would seek a licence to increase to 4 runs/week during next year. Dr Cameron also advised of the work of the NEA High Level Group. The Group's overall aim was to strengthen the reliability of molybdenum-99 supply, and had identified a range of challenges and agreed on the need to develop and share contingency plans for disruptions, and to encourage investment. An action plan had been developed and an economic study undertaken.

Ms Evans presented an overview of the supply issues of molybdenum-99 from a regulatory view point. Since 2007 there have been a number of both planned and unplanned interruptions to the supply of molybdenum-99. These events and the conflict between nuclear

safety imperatives and health imperatives have resulted in the Netherlands Cabinet approving operation of its research reactor for an interim year, to allow time for preparation of repairs to degraded pipes, and thereby enable production of sufficient molybdenum-99 for clinical applications. Other regulators did not want to see the use of reactors in this configuration becoming the norm. Ms Evans also attended a meeting on this topic at the French Nuclear Safety Agency (ASN), and a Round Table on medical isotope supply at the IAEA General Conference. A range of issues was discussed, including how to ensure a balance between reactor safety requirements and meeting the public healthcare needs for medical radioisotopes. IAEA also has a range of draft safety guides that will assist in these regulatory issues. Council thanked Dr Cameron and Ms Evans for the reports.

REPORT ON ARPANSA ACTIVITIES

Council noted that a written report from the CEO would be circulated shortly after the meeting.

REPORT ON INTERNATIONAL ACTIVITIES

Prof Johnston informed Council of the key items discussed by the IAEA Commission on Safety Standards (CSS). These included approving a requirements document on disposal of radioactive waste, the general safety requirements GSR-1, a safety guide on seismic hazards, and a plan for a safety guide on volcanic hazards. CSS also discussed an INES level 2 incident in France. Council noted the tabled reports on several other international meetings.

COMMITTEE REPORTS

Council was informed that Radiation Health Committee (RHC) met on 15-16 July 2009. In particular, the RHC strategy document was generally agreed, and a proposal would be put to the November meeting on best practice regulation indicating the need for a longer discussion with outside experts at the March 2010 meeting. Council noted that revision of the Radiation Protection Standard (RPS1) had commenced, and that the ELF Standard would be discussed and members comment sought prior to finalising the Standard, probably in March 2010. The Chair requested that Council be briefed on the final version of the Standard. Council also requested early feedback on the outcomes of the discussion on the Waste Classification Recommendations. Council also agreed that the item proposed by RHC on how to best use Australian Radiation Incident Register data to improve safety culture would be included on the next Council agenda. Council noted that the Nuclear Safety Committee had not met since the last Council meeting.

OTHER BUSINESS

Council was informed of the media release from Tasmania indicating that laser pointers were to be regulated such that it would be an offence to possess or use a laser pointer in public places. Council noted the article, *Elements of Danger – The Case of Medical Imaging*, N Engl J Med, 361:9, Aug 27 2009. Council agreed that medical radiation issues should be discussed in more detail at the next meeting.

CLOSURE AND MEETING DATES FOR 2010

Council was informed of the proposed meeting dates for 2010 and advised that these dates would need to be confirmed within the next few weeks.