



SUMMARY OF MEETING OF 11-12 JUNE 2009

OPENING OF MEETING, ATTENDANCE, & APOLOGIES

Council met at ARPANSA's Yallambie Office on 11-12 June 2009. All members were present except for Em Prof Ian Lowe and Prof John Kaldor. Dr Glazebrook did not attend the Synchrotron tour.

11 JUNE 2009

Council met at ARPANSA's Yallambie offices at 12:30pm.

ARPANSA Linac

Council received a briefing from Mr Duncan Butler, Megavoltage Dosimetry Group Leader, followed by a tour and discussion of the new ARPANSA Linac. Initial Linac projects were to develop a direct megavoltage calibration service and to extend remote TLD audits to electron beams. Future projects included treatment plan tests, small beam dosimetry, neutron and electron contamination in the beam, and anthropomorphic phantom studies.

UV Laboratories

Dr Peter Gies, Manager, UV Radiation Section and Dr John Javorniczky, UV Radiation Section, provided briefings on the work of the UV Laboratory and demonstrations of the UV Protection Factor (UPF) testing equipment for fabrics. Dr Gies described the work undertaken by the Section, including solar UV measurement, occupational UV exposure studies, public exposure including protection provided by shade structures, and a number of collaborative projects being undertaken with other organisations. Dr Javorniczky discussed and demonstrated the UPF fabric testing system.

Council then travelled to the Australian Synchrotron at Clayton.

Australian Synchrotron

Dr David Cookson, Head of Scientific Operations provided an overview of the synchrotron and its applications within the Australian scientific community. Mr Sergio Costantin, Radiation Safety Officer, highlighted the radiation safety issues at the synchrotron and the procedures that have been put in place to keep the radiation dose to staff as low as reasonably achievable. A representative from the Victorian State Government Radiation Safety Section, Mr Morrie Facci, explained the regulatory processes that the synchrotron has undergone to meet its licence conditions. Finally Mr Jonathan De Booy, Outreach Officer for the synchrotron conducted a tour of the synchrotron explaining the various 'hutches', their associated beam lines and applications. The Chair thanked the presenters for the opportunity to discuss technical aspects of the synchrotron operation and the interesting tour that followed.

12 JUNE 2009

Ms Kidziak opened the meeting at 9:30am, welcomed all members and advised of Prof Kaldor's recent appointment to Council.

CONFIRMATION OF MINUTES & BUSINESS ARISING

The minutes of the 27 February 2009 meeting were confirmed with one amendment. Council also noted that all actions had been completed, except for an update on non-human species, which would be held over until the next meeting. There was no business arising from last meeting and no correspondence.

ADOPTION OF CODE OF PRACTICE AND SAFETY GUIDE FOR RADIATION PROTECTION IN VETERINARY MEDICINE

The Chair informed Council that this Code and Safety Guide had taken quite some time to complete and described the process undertaken. She noted that a public consultation had been undertaken, the Regulatory Impact Statement had been cleared by the Office of Best Practice Regulation and that the Radiation Health Committee had unanimously approved the draft. With clarifications to the Scope regarding lasers and a sample radiation management plan to be placed on the ARPANSA web site, Council unanimously agreed to recommend to the CEO that the Code and Safety Guide be adopted and published.

ADOPTION OF SAFETY GUIDE FOR USE OF RADIATION IN SCHOOLS, Part 1: Ionizing Radiation

The Chair informed Council that a Safety Guide had been prepared to cover the use of radiation in schools, and that Part 1 on ionizing radiation had been completed. Council noted that the regulatory provisions and exemption levels were included in the National Directory for Radiation Protection. As schools generally used sources that were below the exemption levels, a regulatory Code was not required and a Safety Guide outlining good practice was sufficient. A public consultation process had been undertaken, and the final draft had now been unanimously approved by the Radiation Health Committee. With one editorial correction, Council unanimously agreed to recommend to the CEO that the Safety Guide be adopted and published.

PRESENTATION TO ARPANSA STAFF AND COUNCIL – Dr Ziggy Switkowski, ‘Climate Change and the Role of Nuclear Power’

Council attended a presentation from Dr Ziggy Switkowski, who talked to ARPANSA staff on ‘Climate Change and the Role of Nuclear Power’. Dr Switkowski noted that energy demand was increasing around the world, but the challenge was to meet this demand in an environmentally responsible way. Dr Switkowski said that the Government’s current policy for Australia’s energy mix does not include nuclear power. He believes that Australia needs to:

- Continue a public debate based upon facts and current information;
- Agree on a national strategy with regard to greenhouse gas reduction, energy mix and carbon costs;
- Create a regulatory regime to oversee a nuclear power industry; and
- Have bipartisan agreement for this endeavour to go forward.

BRIEFING ON REGULATION OF LASER POINTERS

Council was advised of the various jurisdictional instruments and methods that are currently in place in Australia to control misuse of laser pointers. Most jurisdictions control laser pointers via a variety of criminal acts and codes. Tasmania regulates laser pointers in their radiation legislation and Western Australia deals with them in both their radiation and weapons regulations. Even though the control of the sale and use laser pointers varies across the country, the Commonwealth Government does have in place controls to deal with the

importation of these devices through the Australian Customs Service. A 'permission to import' must first be obtained from the relevant state or territory police firearm registry. Council noted the report.

MANAGEMENT AND DISPOSAL OF LONG-LIVED INTERMEDIATE LEVEL RADIOACTIVE WASTE

Discussion and Decision on Council Workplan

The Chair guided discussion with regard to the issue of radioactive waste in Australia and the draft workplan that has been developed for the scoping review which Council had agreed to undertake. She pointed out the importance of an appropriate limited time frame so that the work by Council is both relevant and timely. A working group was established to finalise the workplan and to develop a 'first draft' document. A Council meeting is planned for late August or early September 2009 in Sydney to discuss the draft in preparation for the November meeting where Council will consult with other parties. It was agreed that members may attend the earlier meeting via teleconference. Council also received presentations on classification of radioactive waste, Australia's inventory of intermediate level radioactive waste and radium legacy waste.

Classification of Radioactive Waste

Mr Dessent informed the Council of the development of the document covering the classification and operational management of radioactive waste. An Australian version of IAEA draft DS390 *Classification of Radioactive Waste* had been prepared and was proposed to be a 'Recommendations' document within ARPANSA RP Series. The draft will be considered by RHC at its July 2009 meeting. A preliminary cost-benefit assessment would be carried out and forwarded to Office of Best Practice Regulation for endorsement although little or no cost was expected to be imposed on industry by its implementation. Subject to RHC agreement, the draft would be released for public comment from late July through August. Once public comment had been considered, a final draft would be presented to RHC in November 2009. It was expected that Council would then be requested to endorse the final document out-of-session during December 2009.

Work on the operational management of radioactive waste would commence during the latter half of the year with a view to presenting a draft to RHC in November 2009 for approval to proceed to public comment.

Australia's Inventory of Intermediate Level Radioactive Waste

Council was provided with a brief summary of the history of attempts to establish a national radioactive waste repository in Australia, and a summary of the types and quantities of radioactive material that could be placed in an intermediate level waste facility. These included reprocessed spent fuel from the MOATA and HIFAR reactors, material associated with radiopharmaceutical production from ARI, various industrial sources (Am-241, Am-241/Be, Ra-226/Be, Cs-137, Co-60) used in gauges, radium-226 needles and tubes previously used in medicine. The estimated total activities of material currently held by the Commonwealth and the States and Territories ranged from approximately 10GBq to 4TBq for the radionuclides above. The future projected amounts of radioactive waste in Australia included some 32m³ of reprocessed spent fuel returning from overseas from approximately 2015, and additional reprocessed waste into the future. The decommissioning of the MOATA and HIFAR reactors will generate further waste and it is envisaged that there will be ~3m³ of

intermediate level waste generated each year from all sources from the Commonwealth and States and Territories.

Radium Legacy Waste

Council was informed of Australia's radium-226 legacy waste and its former uses. The estimated activity that was in storage around Australia was approximately 800GBq. The issues associated with long term storage of radium-226 were discussed. The advantages and disadvantages of several conditioning and disposal options were discussed, including encapsulation in stainless steel containers, shallow ground burial and borehole disposal. Council noted that an unrealistic amount of conditioning would be necessary to enable most radium waste to meet the criteria for shallow ground burial. Council was informed that the IAEA generic safety assessment for the borehole design proposed in draft DS335 allows unlimited activity of radium to be disposed of in a borehole, and even adopting the more conservative 1TBq maximum activity per borehole proposed for radionuclides with extremely long half-lives, Australia could potentially dispose of all its radium-226 legacy waste in a single borehole.

MEDICAL RADIATION – PROTECTION OF PREGNANT PATIENTS

Council noted that the UK Health Protection Agency had released a press statement and information booklet dealing with pregnant patients and exposure to diagnostic ionising radiation. Mr Anthony Wallace, Manager, Medical Physics Section, advised Council on the approach taken on this issue in the *Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation* (RPS 14) and associated Safety Guides for radiology, nuclear medicine and radiotherapy, which is similar to those of the UK and Europe.

The Royal Australian and New Zealand College of Radiologists (RANZCR) has also just released some information for consumers on a new website (<http://www.insideradiology.com.au/>). However this has only limited information for patients on pregnancy. ARPANSA has written to RANZCR to offer some assistance in expanding the online material. Council felt it was import for information to be made available both to General Practitioners, who may be requesting procedures that involve ionizing radiation, and to their patients. Council identified this as a gap and agreed to write to the CEO of ARPANSA seeking his view on how this matter can best be addressed and who should be responsible to produce such material.

REPORT ON ARPANSA ACTIVITIES

The Acting CEO reported on the ongoing issues with regard to the OPAL reactor, which was still going through a hot commissioning process. A small leak allowing light water to leak into the heavy water in the reflector vessel still exists. This leak is not a safety issue, but is lowering the efficiency of the reactor. Currently, a batch of heavy water has been purchased, with a plan to install a treatment plant to purify the heavy water. A long term solution is still under consideration. In regard to molybdenum-99 production, ANSTO had applied for a licence. ARPANSA had raised a number of questions on the application and answers were expected soon. The Acting CEO also discussed the world wide problems with the production and supply of molybdenum-99 for nuclear medicine procedures.

REPORT ON INTERNATIONAL ACTIVITIES

Prof Peter Johnston, Director, Environmental and Radiation Health Branch, ARPANSA, provided Council with a report on the outcomes of the 3rd Review Meeting of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste

Management, held in Vienna from 11-22 May 2009. Prof Johnston highlighted the main observations from the meeting for Council's information.

COMMITTEE REPORTS

Report from the Radiation Health Committee (RHC)

Council was advised of progress in drafting the Committee's strategic direction policy paper. Council also discussed the development, in conjunction with Government Skills Australia, of a series of competencies for those workers involved in radiation practices in industrial sectors. Council noted the report and the relationship between Council and the Committees.

Report from the Nuclear Safety Committee (NSC)

Council noted the report of the last meeting of the Nuclear Safety Committee.

OTHER BUSINESS

Media Article on Irradiated Cat Food

Council noted an article from the Sydney Morning Herald from 30 May 2009, regarding irradiation of certain cat food, which was linked to the death of some 30 cats and sickness of about 90 cats in Sydney last year.

Media Article on Sydney University Radiation Therapy Course

Council noted an article that appeared in the Sydney Morning Herald 22 May 2009 regarding the intention of the University of Sydney to change from an undergraduate course for radiation therapists to a postgraduate level course from next year. Concerns have been raised that the number of trained radiation therapists will decrease under this model and subsequently lead to a decline in clinical services.

Nuclear veterans

Council was informed of recent press releases from the United Kingdom about British atomic test veterans being given the right to sue for compensation. Council was informed that Australian studies had shown that there was no significant health effect from the tests to personnel involved in the weapon testing program. Council agreed that it should keep this issue under review.

CLOSURE AND MEETING DATES FOR 2009

The Chair advised members that the proposed date for the next regular meeting was 5-6 November and it was now likely that the meeting would be held in Sydney. A meeting/teleconference would be held in either August or September to progress discussions on radioactive waste. The details of this meeting would be confirmed out of session.