



## SUMMARY OF MEETING OF 8 DECEMBER 2006

### **OPENING OF MEETING, ATTENDANCE, APOLOGIES & CONFIRMATION OF MINUTES**

Council met at ARPANSA's Miranda Office on 8 December 2006. All members were present except for Prof Richard Smart. The minutes were confirmed without amendment.

### **BUSINESS ARISING FROM THE MINUTES & CORRESPONDENCE**

The Chair noted the value to Council of the visit to ANSTO on 7 December 2006 to be briefed on current developments and see the waste management area, molybdenum production area and the OPAL reactor.

Council discussed a letter from Dr Kenneth Cooke of Sydney Outdoor Lighting Improvement Society, regarding reports claiming a possible link between artificial light at night and the increased incidence of breast cancer in developed parts of the world. Council noted that the studies mainly related to shift work, and that this was a complex topic with many variables in addition to lighting. The studies were also hypothesis-generating in nature and did not postulate a mechanism for such effects. Council agreed that it should continue to review literature on this topic and advise Dr Cooke accordingly.

The CEO informed Council that work relating to the recommendations in Council's report on 'Medical Radiation Issues' was continuing. Dosimetry methods for the ARPANSA CT Survey were being developed. ARPANSA was considering the idea of a national conference at the time of release of the Code. This idea will be discussed with medical bodies.

### **STANDARD ON OCCUPATIONAL EXPOSURE TO ULTRAVIOLET RADIATION**

Dr Peter Gies, ARPANSA Non-Ionizing Radiation Branch, reported that the draft *Radiation Protection Standard for Occupational Exposure to Ultraviolet Radiation* had now been approved by the Radiation Health Committee. The Standard included mandatory limits for artificial sources of UV radiation and a risk management approach for solar UV radiation. This approach was comparable to that taken in the European Union, where limits on exposure to artificial UV sources were mandated, but solar radiation was left to individual countries to consider. The final version of the regulatory impact statement included greater quantitative analysis and had now been cleared by the Office of Best Practice Regulation. Council recommended that the CEO adopt the Standard for publication.

### **SECURITY OF SOURCES**

Mr David Tredinnick, ARPANSA Policy and Source Security Unit, provided an overview of the background and recent changes in development of the code. The draft Code had been taken up by the augmented COAG Steering Committee, which is considering CBRN issues, including adoption of an agreed Code of Practice for incorporation in the National Directory for Radiation Protection. Council members noted that legislative change would be necessary in some jurisdictions to give regulators coverage over security in addition to radiation safety. Council recommended adoption of the Code.

Mr Tredinnick advised Council of progress on the COAG review related to security of sources. The report is to be discussed at the COAG Senior Officers meeting on 15 December 2006. Other committees involved in this area include the National Counter-Terrorism Committee, which is responsible for national coordination of implementation of security measures, and the Augmented COAG Steering Committee, which is responsible for management of policy implications.

## **THE APPROACH TO IMPLEMENTATION OF THE PROPOSED ELF STANDARD**

Professor Andrew Wood, of Swinburne University of Technology and Chair of the ELF Working Group, addressed Council by videoconference to advise of progress in the development of the ELF Standard. Prof Wood noted that there had been a change to the draft on the public limits for E-field. A regulatory impact statement (RIS) had been prepared and cleared by the Office of Best Practice Regulation. The RIS concluded that publishing the Standard without incorporating it into regulation and using educational strategies in relation to childhood leukaemia was the most cost-effective option. The draft Standard and RIS were released via the ARPANSA web site on 7 December, along with several supporting documents, and a wide range of interested parties was informed of the release. An advertisement would appear in the Weekend Australian. The period of public comment will be until 28 February 2007.

Council was also informed of an epidemiological study by Kheifets et al which concluded that “the fraction of childhood leukaemia cases possibly attributable to ELF exposure across the globe appears to be small. There remain, however, a number of uncertainties in these attributable fraction estimates, particularly in the exposure distributions.”

## **INTERNATIONAL DEVELOPMENTS IN RADIATION PROTECTION AND NUCLEAR SAFETY**

Mr Peter Burns, Director, Environmental and Radiation Health Branch, ARPANSA, provided Council with a presentation on progress in development of the new ICRP recommendations. ICRP had three aims in the review of its recommendations. These were to:

- take account of new biological and physical information and of trends in the setting of radiation safety standards;
- improve and streamline the presentation of the recommendations; and
- maintain as much stability in the recommendations as is consistent with the new scientific information.

Foundation documents had been developed by ICRP committees to provide the background and rationale for the new recommendations. A draft for comment had been placed on the ICRP web site in June 2006. Since that time workshops had been held in Japan, Europe and the USA. The new recommendations are expected to be finalised at the next meeting in Germany in March 2007.

Mr Burns also informed Council of recent developments with UNSCEAR. UNSCEAR was formed in 1955 to report to the UN on sources and effects of atomic radiation. Mr Burns is the current Chairman. UNSCEAR publishes a report with detailed Annexes about every 5 years. In 2006, five Annexes (radon, epidemiology of cancer, non-cancer effects, immune system effects and non-targeted effects) had been finished and were awaiting publication. UNSCEAR publications are available as PDF files from the web site at [www.unscear.org](http://www.unscear.org). Council noted the reports on ICRP and UNSCEAR and requested to be kept informed of international developments.

The CEO advised Council that in the early days IAEA Standards had been designed to be suitable for implementation in developing countries, but are now widely used as good practice guidance, and striving for best practice.

The CEO advised that an important document, SF-1 *Fundamental Safety Principles* had been published recently. The IAEA is also reviewing the structure of its Standards publications with the aim of having manageable number and a 'closed set' of Standards. An important Safety Requirements publication on radiation protection, the Basic Safety Standards, is also under review at present. Council will be kept informed of developments with the IAEA Standards.

### **CODE OF PRACTICE AND SAFETY GUIDE ON THE SAFE USE OF FIXED RADIATION GAUGES**

Council was informed that the Radiation Health Committee had approved the Code and the final RIS had been cleared by the Office of Best Practice Regulation. The Code replaced the 1982 NHMRC Code and now included provisions on X-ray gauges and neutron gauges, and requirements for suppliers and service technicians. Radiation Management Plans are also required in the Code. The issues raised in public comment had been considered, and the RIS had also been amended. Council recommended that the CEO adopt the Code and Safety Guide for publication.

### **DRAFT REPORT OF THE URANIUM MINING PROCESSING AND NUCLEAR ENERGY REVIEW**

Professor Peter Johnston, who was a member of the UMPNER Review team, gave a presentation on the UMPNER draft Report, which had been released for comment. The Terms of Reference for the review included economic issues, environment issues and health, safety and proliferation issues. The review included discussion of:

- The uranium market outlook and Australia's high potential for new uranium discoveries;
- Current impediments to mining, including skills, regulation, land access and transport.
- Value-adding could be achieved by developing conversion, enrichment and fuel fabrication capabilities, however fuel fabrication is not a particularly attractive industry for Australia, and reprocessing is a technically complex process which is not attractive at least in the first stage of development of a nuclear industry.
- Electricity demand, which is expected to double by 2050.
- Investment issues, as potential investors would want a stable policy environment, and a predictable licensing and regulatory regime.
- Health and safety impacts, concluding that nuclear power has fewer health and safety impacts than fossil fuel generation and hydro.
- Greenhouse issues, where nuclear power could make an important contribution to reducing greenhouse gas emissions.
- Cost compared to other technologies for power production, and concluded that from a cost perspective nuclear power is not competitive unless a price is placed on carbon emissions. The report concluded that nuclear power could be competitive with a low to moderate emissions price.

Council noted that it was proposed to finalise the report by the end of the year.

## **REPORT FROM THE CEO**

The CEO advised that commissioning of the OPAL reactor was underway. Safety systems and the core behaved as expected. There are still some utilization issues with the cold neutron source. Three instruments in the neutron beam hall have been licensed for commissioning, and others are currently being assessed. ARPANSA has agreed to commissioning of the new molybdenum production process.

HIFAR is intended to be shut down in February 2007, and move to a 'care and maintenance' condition, followed by dismantling in 10 years time. The details of licensing this process are still under discussion. The CEO had recently visited Denmark, where a similar reactor to HIFAR is being decommissioned.

The CEO also advised Council that he had attended the IAEA General Conference and Senior Regulators Meeting, and a meeting regarding assurance of supply of nuclear fuel.

ARPANSA's regulatory reform work continued and ARPANSA had agreed to have an IAEA Integrated Regulatory Review Service (IRRS) mission to examine ARPANSA's regulatory performance, which is scheduled for May 2007.

## **COMMITTEE REPORTS**

Council received reports from the Radiation Health Committee and the Nuclear Safety Committee. Council noted that the framework for control of NORM was established in the National Directory for Radiation Protection, and that a working group was being established to develop a Safety Guide on management of NORM in Australia.

Council noted that a single Code covering medical radiations had been prepared, and this was proposed to be supported by three Safety Guides. Work was progressing and there was a need to consult the chairs of the separate working groups when the draft Code is complete. The CEO advised that one of the NSC discussions concerned public comment on the Regulatory Guidelines for Radioactive Waste Management Facilities, and whether consent of the community for the siting of a facility was a regulatory issue. Council noted the report on progress with edition 2 of the National Directory.

## **OTHER BUSINESS**

Council noted the paper on low doses (Tubiana et al 2005). Council endorsed appointment of Mr Don Macnab to the Nuclear Safety Committee. The Chair had attended the Pacific Basin Nuclear Conference in Sydney. Council asked about a paper claiming an excess cancer incidence in Kakadu and was advised that monitoring showed no increased dose a few kilometres from the mine. Skills shortage in the nuclear and radiation protection industries should be included on the agenda for future discussion. Clearance and rehabilitation criteria for uranium mines were other issues requiring discussion. A member had been approached about the need for guidance for crematorium workers on handling corpses containing radioactive material, and there may be a need to review the Code.

## **CLOSURE AND NEXT MEETING**

The next meeting was scheduled for 20 April 2007 at Miranda.