Australian Government
Nuclear Safety Committee

Summary of the meeting held on 5 March 2004
ARPANSA – Miranda Campus

OPENING OF MEETING
All Members attended.

CONFIRMATION OF THE MINUTES OF THE MEETING OF 20 JUNE 2003
The minutes of the previous meeting were confirmed without amendment.

BUSINESS ARISING FROM THE MINUTES
Replacement Research Reactor (RRR) Operating Licence application - process
The construction licence for the RRR covered 'cold' commissioning (ie commissioning prior to loading nuclear fuel). ANSTO would need to be given an operating licence if it were to undertake 'hot' commissioning and normal operation of the RRR. ANSTO advised that it would apply for an operating licence in the latter part of 2004 on the basis of the expected performance of the as-built reactor, with the cold commissioning results to follow as being confirmatory of performance. Licence conditions in the construction licence dealt with the CEO approval for the commissioning of items important for safety and staffing of the RRR.

General licence conditions on the licence originally issued to ANSTO to construct the RRR required that quality assurance systems were followed however, following the problem with the construction of the liner, more specific conditions were placed on the licence. ARPANSA Officers would check the end product/result of work done. Further, there were "hold points" built in to the monitoring of the manufacture and completion of certain critical items to ensure that they could not proceed to the next stage until the previous stage had been assessed as satisfactory.

RHSAC waste Recommendation 2 – Predisposal Management of Spent Fuel – Working Group Report
The WG had met several times by teleconference and visited ANSTO on 9 December 2003. The WG was generally satisfied that ANSTO were looking in the right places for guidance on how to handle spent fuel as there was no single international document that dealt with research reactors. The WG took guidance from the Joint Convention and IAEA material relating to power reactors in preparing their response.

NATIONAL RADIOACTIVE WASTE REPOSITORY (NRWR)
NRWR Progress Report
The CEO updated the Committee on progress with the Department of Education, Science and Training (DEST) application for a licence to site, construct and operate the proposed NRWR.

The following steps were still needed to take place in the process of reviewing the application:

- Once received, the full report from the IAEA review team would be referred to DEST for their response;
- The reports from the public forum panellists would be considered;
- The reports from the Radiation Health Committee and NSC would be considered;

- The assessment of the licence application by the ARPANSA Regulatory Branch was being prepared and would be placed on the Web site when the licence decision was made; and
- There would be a further round of public submissions relating to the DEST responses to the IAEA peer review report.

All reports from the public forum, the NSC and RHC, the questions and answers from the Regulatory Branch of ARPANSA, and the DEST responses would be placed on the ARPANSA web site when available.

IAEA Peer Review Report
The draft summary report of the IAEA peer review team (http://www.arpansa.gov.au/pubs/nrwr/draft_summary.pdf) was tabled for Members information. The review was a major critique of the licence application and ARPANSA was still awaiting the final report. The Committee acknowledged that utilising an IAEA peer review team was an important part of the licence assessment process.

The CEO was queried as to why he withheld the names of the peer review team during a recent radio interview. This was simply done because at the time of the interview he had not been able to consult the review team to obtain their agreement and it would have been inappropriate to release their names without their approval.

Public Forum on Safety of the Proposed NRWR, Adelaide, 25-26 February 2004
The CEO advised that the public forum took place in Adelaide during the week before the NSC meeting. The transcript of the forum would be placed on the ARPANSA web site as soon as it was available as would the reports from the panellists.

A new issue raised at the forum related to the sourcing of radioactive waste in Australia. It was acknowledged that reduction at the source, i.e. quantities of radioactivity produced in Australia, is an important part of ultimate waste minimisation. Transport issues and the waste acceptance criteria were discussed but these had been considered in the licence application and were being considered by WGs of the Radiation Health Committee (RHC).

Briefing and draft report from the Working Group investigating the adequacy of engineered barriers in relation to the National Radioactive Waste Repository licence application
The WG made the following points regarding the application:

- It was not user friendly;
- The waste acceptance plan was not appropriately identified;
- The status of the July 2003 and December 2003 Safety Analysis Reports and their relationship to each other was unclear;
- A report identification system was needed to clarify cross-referencing;
- The competence of the repository operator could not be determined until the identity was known;
- The on-going responsibility for record-keeping was unclear; and
- The complexity of the application did not engender public confidence in the process.

The WG did however, conclude that the proposed engineered barriers should meet all functional and safety objectives if they are actually designed, constructed, managed and monitored as proposed in the application. The report would be finalised following out-of-session comment from Members, due by the end of March 2004.

Briefing and draft report from the Working Group investigating the hydrogeological aspects relating to the National Radioactive Waste Repository licence application

The WG found several deficiencies in the licence application including that:

- the position of site 40a as indicated on the map included in the application documents and the real location of the site differed by 15 kilometres;
- there was insufficient data on the variation in the water table. Only two data points over a 3-year period had been provided;
- there was no support for the argument relating to the chemistry of the ground water;
- the local area had been treated as homogenous when it was clearly a heterogenous area, for recharge, as evidenced by a cane grass swamp at the location; and
- there was more data available for the originally proposed site, 52a, than the selected site.

Despite the deficiencies, the WG concluded that the site was, in all likelihood, acceptable from a hydrogeological aspect as the quality of the groundwater was poor and the water table was over 60 metres below the surface. The report would be finalised following out-of-session comment from Members, due by mid-April 2004.

IODINE PROPHYLAXIS

Strategy for off-site iodine distribution – NSW Policy

Mr David Koop, NSW Department of Health, addressed the Committee on the NSW strategy for off-site iodine distribution. Conservative modelling was used in preparing the strategy and the final conclusions were based on worst case scenarios. The perception of risk by the community was a major issue and the prime concern in preparing the report was the health of the NSW public.

The use of 10 mGy or 30 mGy as an intervention level was subject to considerable scientific debate but the more conservative figure of 10 mGy was adopted. The study revealed that a 10 mGy dose from iodine would most likely not be reached at 3 km from HIFAR until some 12-hours of exposure. The conclusion reached was that pre-distribution of iodine was not necessary as evacuation was an advisable alternative in the unlikely event that intervention levels were going to be met.

RHC Consideration – progress report

The Committee was advised that two documents were in preparation, an RHC Code of Practice and an ARPANSA document, that would explain the methodology and rationale for reaching the intervention level figure of 30 mGy being used for production of the next draft of the Recommendations by the RHC. Further details were requested from the RHC regarding the basis for the use of the 30 mGy level, which differs from the WHO figure of 10 mGy.

Exposure to iodine was only one part of the exposure scenario from an incident and to utilise the resources available on averting thyroid dose might increase the exposure from another radionuclide. The benefit from averting the dose from iodine-131 might be very small, if any at all. Evacuation of an area also involved risks, albeit not necessarily directly related to radiation exposure.

REPORTS

General Report from the CEO

The CEO indicated that the bulk of ARPANSA's work since the last meeting involved the assessment of the licence application for the NRWR.

Other items covered included:

- The planned shutdown of HIFAR had commenced;
- ARPANSA were still involved with the investigation of noble gases emissions from ANSTO;

- As the manufacture of fuel was a major item in relation to an operating licence, ARPANSA would need to approve that item before the fuel could be supplied from Argentina.

Report on Council – Meeting of 28 November 2003
The main consideration of Council at its previous meeting was that of naturally occurring radioactive materials (NORM). Other issues considered included:

- The security of radioactive sources; and
- The IAEA development of an indicator of sustainable development (ISD) for the management of radioactive waste, which can be found at http://www-pub.iaea.org/MTCD/publications/PDF/rwmp-5/ISD-RW.pdf.

Report on RHC – Meeting of 23-24 July 2003
The issue of iodine prophylaxis was a major issue for discussion and the two issues relating to the NRWR, transport and waste acceptance criteria, would also scheduled for consideration at the March meeting.

The draft letter from the WG on pre-disposal management of spent fuel would also be considered by RHC at the next meeting.

CLOSURE AND NEXT MEETING
The next meeting was scheduled for Friday 18 June 2004.