

## Responses to Council Recommendations to the CEO of ARPANSA on Radioactive Waste

**Recommendation 1:** *ARPANSA should coordinate the development of national guidance on handling and disposal of waste from Naturally Occurring Radioactive Material (NORM) and Technologically Enhanced Naturally Occurring Radioactive Material (TENORM).*

Agreed. To commence this process I propose that the Council develop a discussion paper on the issue of NORM and TENORM. The paper should not set out to solve the problem, but should include research and consultation on:

- What is it? Are both terms needed?
- How much is there?
- What industries are affected?
- What are the options for dealing with it?

The final product I am seeking would be a 10-20 page discussion paper.

In considering this matter the Council should take account of national and international activities and existing information, such as:

- ICRP 81, Radiation Protection Recommendations as Applied to the Disposal of Long-lived Solid Radioactive Waste.
- RHC has a working group developing a Code of Practice for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing. This Code is intended to be able to be applied by regulators to NORM/TENORM situations. The Code is currently at the stage of having a regulatory impact statement prepared, before being released for public comment.
- IAEA draft Safety Guide DS161, Radionuclide Content in Commodities not requiring Regulation for Purposes of Radiation Protection.
- Other IAEA publications concerning radioactive waste safety.

**Recommendation 2:** *ARPANSA should develop a guidance document on the pre-disposal management of spent fuel considering relevant international experience and recommendations.*

I propose to refer this recommendation to RHC and NSC with a request that a small/joint working group is formed to review the following information and prepare a considered report on whether Australia needs to develop a guidance document of its own or should adopt or use an existing IAEA or other international guidance document on the pre-disposal management of spent fuel.

- ARPANSA Regulatory Assessment Principles.
- The Joint convention on the Safety of Spent Fuel Management and the Safety of Radioactive waste Management.
- The scope, or if available, draft of the Code of Practice for the Pre-disposal Management of Radioactive Waste, that is currently in development by a working group of the RHC.
- The ARPANSA licence for ANSTO's Fuel Operations & the associated Regulatory Branch Safety Evaluation Report.
- IAEA publications concerning pre-disposal and other relevant overseas or international guidance.

**Recommendation 3:** *ARPANSA should develop a long-term strategy for regulation of the ultimate disposal of Australian long-lived intermediate level waste (LLILW). Considering that a disposal solution may not be required for several decades, ARPANSA should monitor overseas and international efforts to inform that strategy.*

I agree that ARPANSA needs to monitor overseas and international efforts for the disposal of LLILW, and will delegate this task to an ARPANSA staff member(s). Council will be briefed on issues and developments arising from this monitoring at appropriate intervals. I will also ask the Regulatory Branch to prepare an outline of the timelines and major steps in the regulatory process that are required prior to an LLILW disposal solution being required. Given that there is no specific proposal for consideration in Australia at present, and that internationally, there could be many developments over the likely time frame, I do not propose to take further action on this recommendation at present.

**Recommendation 4:** *ARPANSA should, through the Radiation Health Committee, comprehensively review international experience and recommendations, including publications of the IAEA's Radioactive Waste Safety Standards (RADWASS) Program, to revise/create relevant definitions/codes on radioactive waste, and develop a guidance document addressing all aspects of the pre-disposal management of low level and short and long lived intermediate level radioactive waste (not including spent fuel).*

*In reviewing the radioactive waste definitions, consideration should be given to the following issues:*

- *Defining exempt waste;*
- *Defining Low and Intermediate Level waste as a single category, with two sub-categories; short lived and long lived low and intermediate level waste consistent with the IAEA Safety Guide on Classification of Radioactive Waste;*
- *Including the consideration of the thermal power of the waste in classification system;*
- *Defining waste categories quantitatively.*

*Conditioning criteria should address the following issues:*

- *Set specific activity limits for waste packages, and clearly define how the specific activity is to be calculated;*
- *Identify and set requirements in regard to the physical stability, chemical toxicity and reactivity, and biological pathogenicity of the waste;*
- *Radioactive waste contained in individual waste packages should have similar radiological and non-radiological characteristics. In particular, it should be ensured that waste in a particular waste package is compatible, for example, to avoid chemical interactions within the package.*

Agreed. I propose that this recommendation be referred to RHC. Council should note that RHC have already had recommendations from a Radioactive Waste Scoping Group, which it formed in 2000 to review needs and plan for what documents were required. RHC have the following projects regarding radioactive waste in progress:

- Update of RHS 13 Code of Practice for Radioactive Waste Disposal by the User (1985) has commenced.
- New Code on Pre-disposal management of Radioactive Waste commenced.
- Update of Code on Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing is continuing.

Review of RHS 35, the Code of Practice for the Near-Surface Disposal of radioactive Waste in Australia, was not considered to be required.

While RHC's current projects have not concentrated on definitions particularly, there is a working group of NUIP(RC) developing definitions for uniformity purposes. RHC should consider whether this recommendation requires a separate project or can be included in the deliberations of existing groups.

The Pre-disposal Code will include conditioning and Council's recommendations will be passed on (via RHC) to the WG for consideration in the development of this Code.

***Recommendation 5:*** ARPANSA should revise the Code of Practice for the Disposal of Radioactive Waste by the User (RHS13) to ensure it is consistent with the most recent and relevant international recommendations and any new guidance prepared by ARPANSA on pre-disposal management of radioactive waste.

Agreed. RHC established a working group to review RHS 13, Code of Practice for Radioactive Waste Disposal by the User (1985) during 2001. Their first draft was presented to the March 2003 RHC meeting.

***Recommendation 6:*** ARPANSA should review its regulatory assessment criteria document in the context of the NRWR and NRWS. ARPANSA should endeavour to finalise the guidance document prior to the National Radioactive Waste Repository being constructed.

ARPANSA's Regulatory Assessment Principles (RAPs) were developed with the intention that they could be applied to all situations including reactors and the NRWR and NRWS. The RAPs underwent a significant public review in 2001, including public comment and review by the NSC. I do not propose that another major review of the RAPs be undertaken; the Regulatory Branch's current commitments would not permit such a review to be carried out at present. However, I will arrange for ARPANSA staff to examine precedents overseas and international practice and report on whether the RAPs adequately reflect best practice in the context of the NRWR and NRWS.

***Recommendation 7:*** ARPANSA should act to facilitate Australia's ratification of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

Agreed. Action is being taken to seek ratification by Australia in time to participate in the first Review Meeting under the convention in November 2003. ARPANSA is coordinating the preparation of the National Report required under the convention. This Report must be submitted by 5 May 2003 to enable full participation in the Review Meeting. Australia must also have ratified the Convention at least 90 days prior to the opening of the Review Meeting in order to participate.

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**The following recommendation relates to the transport of radioactive material in general, but is also applicable to transport of radioactive waste.**

***Recommendation 8:*** ARPANSA should promote uniformity in the implementation of requirements for transport of radioactive material, including radioactive waste, by convening regular meetings of transport competent authorities: These meetings would assist in resolving the following issues identified by competent authorities:

- *Clarification of the issue of “Commonwealth” transport of radioactive material within another competent authority jurisdiction, and clarify jurisdictional issues at airports;*
- *Development of a detailed proposal for certification of Type B(U) containers, special form material and special arrangements;*
- *Development of inter-jurisdictional arrangements for transport incident response;*
- *Development of a document outlining the roles and responsibilities of competent authorities for use by the competent authorities;*
- *Arrangements for the register of approved Australian transport packages to be made available on the ARPANSA web site.*

Agreed. ARPANSA already provides the convenor, secretariat and venue for the Transport Competent Authorities Working Group (TCAWG), which has identified these issues and will propose solutions. While this group has not met since 2000, and some of the issues they identified were dealt with by completion of the new Transport Code in 2001, now that the new Code has been adopted in most jurisdictions the remaining issues above need discussion and resolution by TCAWG. I will pass Council’s recommendation to the convenor of TCAWG for action.

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**The following recommendations, while addressing aspects of radioactive waste management that are not fully within ARPANSA responsibilities are forwarded to provide advice on areas where ARPANSA should cooperate with other agencies.**

***Recommendation 9:*** *ARPANSA should contribute to the establishment of a clear policy position on issues associated with the ongoing development of a spent fuel management strategy with other government agencies. That policy position should specifically address the relevant recommendations of the Minister for the Environment and Heritage in his assessment of the replacement reactor Environmental Impact Statement.*

***Recommendation 10:*** *ARPANSA should seek advice from relevant agencies, for example from within the Health Portfolio and from National Occupational Health & Safety Commission, to ensure that the characteristics used to preclude radioactive waste from being accepted by the NRWR and NRWS are consistent with the non-radiological requirements of other agencies.*

***Recommendation 11:*** *ARPANSA should participate in discussions addressing the issue of conditioning facilities and collection points for conditioned waste destined for the NRWR with the states/territories and the Department of Education, Science and Training.*

The three recommendations above all relate to matters that are the responsibility of other agencies, but in which ARPANSA has an interest. In response to each of these recommendations, I propose to discuss the issues raised, and how ARPANSA might be involved, with the relevant agencies. I will inform Council of developments on each of these recommendations in due course.

John Loy  
CEO of ARPANSA