



**Australian Government**

**Radiation Health and Safety Advisory Council**

## **ADVICE TO THE CEO OF ARPANSA ON NATURALLY OCCURRING RADIOACTIVE MATERIAL (NORM)**

**provided by  
Radiation Health and Safety Advisory Council  
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### **INTRODUCTION**

At the April 2003 meeting the CEO of ARPANSA requested that Council prepare a discussion paper on the management of NORM and TENORM responding to agreed terms of reference.

Council forwarded the discussion paper “NORM in Australia – Issues for Discussion” to the CEO on 30 June 2004. In developing the discussion paper, Council received presentations from the oil and gas and tantalum industries, and from regulators. A consultant, Dr Malcolm Cooper, was contracted to prepare a report on the amount of NORM waste generated in Australia, which was also used in preparation of the discussion paper.

The CEO released the Discussion Paper for a period of 3 months public comment on 7 September 2004. A wide range of organisations and individuals were advised that it had been released and were invited to comment. Eighteen submissions were received. There was further discussion at ARPANSA’s National Conference on Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing, held on 11-13 April 2005. A half day session chaired by Council’s chairperson Sylvia Kidziak specifically addressed Council’s paper. Speakers in this session included Dr Malcolm Cooper, EnviroRad Services P/L, Mr David Hamilton, Senior Industrial Hygienist, Esso Australia P/L, Mr Peter Waggitt, Waste Safety Specialist, IAEA and Mr Alan Melbourne, ARPANSA. The majority of Council members attended the conference. A panel discussion and general discussion with the conference delegates followed the presentations.

In particular, Council’s Discussion Paper sought comment on whether there is a need to:

1. Develop national guidance on exclusion, exemption and clearance for natural radioactive materials, to enable a uniform approach to establishing criteria that may be used to regulate NORM in all jurisdictions. The guidance would take the existence and variability of the natural background into consideration, and also allow for the wide range of scenarios that can lead to exposure to ionizing radiation from materials containing NORM.
2. Develop national guidance on strategies and criteria for the treatment and disposal of NORM arising from various process waste streams, including by landfill or land spreading.
3. Develop guidance for remedial action at sites contaminated by historical NORM waste generation, including reviewing the 1984 NHMRC statement “Guidelines for Remedial Action in Areas where Residues from Mineral Sand Mining and Processing have been Deposited” to ascertain whether the information is still relevant and, if necessary, re-publish up to date guidance within the Radiation Protection Series.
4. Develop a strategy for raising awareness of NORM issues, both in relevant industries and with the public generally.

## **ISSUES RAISED IN THE PUBLIC COMMENT PERIOD**

The issues raised in submissions were broad-ranging and included:

### **1. Comments specific to Council's questions**

- There was general support on the need for national guidance on NORM, particularly in relation to exemption and exclusion levels. However, some submissions indicated a concern that there would be additional regulation, and that national guidance on NORM waste management could not be undertaken until improved data was obtained and risk analysis had been carried out.
- The need for guidance on remedial action at contaminated sites was supported, but some industries advised that were not aware of any situations requiring remedial actions, and some indicated that guidance would be premature without better data and risk analysis.
- There was support for the need for increased awareness, however submissions noted that awareness-raising should be done in consultation with industry and State/Territory regulators.

### **2. Other comments**

- There is a need for more data and risk analysis before considering regulatory options.
- The criteria for regulation should not be based on activity concentration alone, but should include consideration of risk.
- There were concerns that regulatory intervention would have the potential to disadvantage some industries.
- There was a view that the existing environmental regulatory framework is sufficient, with appropriate amendment for NORM. An additional layer of regulation is not appropriate, and in some industries could affect viability.
- Several industries provided additional useful data for both the Council Discussion Paper and the Cooper Report, which Council had previously been unable to access.

It should be noted that some misconceptions regarding ARPANSA's role and intentions were also evident in submissions.

## **GENERAL COMMENT**

Council recognises the magnitude of the task of collecting national data on the wide range of industries where NORM issues/management may arise.

Council notes that there is a significant amount of work being undertaken world wide on NORM management, including the recent publishing of safety guide RS-G-1.7, and the development of draft safety guide DS352 by the IAEA, currently at a preliminary stage. Council also recognises that Australia is in a position to contribute to and influence the development of international guidance, given its experience with NORM.

Council has been informed of and acknowledges ARPANSA participation in international committees and working groups developing guidance and technical documents on NORM management.

Council acknowledges the extensive amount of work that has been done by some sectors of industry, in particular the oil and gas industry, to address NORM management.

Council acknowledges that the general approach to management of NORM should be to assess risks associated with exposure under relevant scenarios, and to consider these risks in the context of other risks in the industry.

## **RECOMMENDATIONS TO THE CEO OF ARPANSA**

Council considers it is timely to address management of NORM, and for Australia to move ahead in a structured way to achieve nationally uniform outcomes. Following consideration of various issues brought forward in submissions received on Council's Discussion Paper and through discussion at the *National Conference on Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing*, Council makes the following recommendations:

1. That ARPANSA develop national guidance on NORM management, including uniform exclusion and exemption provisions, treatment and disposal of NORM arising from various waste process streams and remediation of contaminated sites.
  - a. The guidance be developed in consultation with industry and State and Territory regulatory authorities, through the ARPANSA Radiation Health Committee, and taking account of relevant international guidance publications and approaches taken in other countries.
  - b. In developing the guidance the need for additional data in particular industries should be considered, and sought where necessary.
  - c. The industries where active NORM management is needed should be identified and guidance for those industries developed.
  - d. Where demonstrated to be necessary, the guidance could be in the form of requirements for adoption via the National Directory for Radiation Protection and subject to regulatory impact assessment.
2. That ARPANSA develop a strategy to raise public awareness of NORM, and awareness of NORM management in relevant industries. The strategy should be developed in consultation with relevant industries and State and Territory regulatory authorities.

In making the above recommendations Council recognises the magnitude of the work required to achieve practical and acceptable outcomes. Council acknowledges that the work would need to be progressed within timelines that could be integrated into ARPANSA'S current work plans.

In view of the considerable work currently in progress both domestically and internationally, it is considered appropriate that Council to maintain a watching brief on NORM.