

Chapter 3

Radioactive waste: a new policy framework

3.1 The committee has no doubts that the existing legislation is deeply flawed. It is not a suitable foundation on which to build Australian nuclear waste policy. It reflects a failure of negotiation and cooperation amongst governments.

3.2 Repeal of the current legislation will not, in itself, resolve the question of how Australia should manage its radioactive waste. This chapter looks at the question of what should be the preferred way forward. It looks at options for ensuring radioactive waste management is placed back on a sound scientific and technical footing. The committee also recognises the considerable experience that exists internationally in managing radioactive waste, and heard evidence that international practice on waste management is evolving.

Innovation in waste management and international practice

3.3 The committee heard a range of views about what is 'best practice' in dealing with radioactive wastes. Some submitters suggested that long-term storage and monitoring was 'world's best practice', and drew attention to the dangers of transport, and the limitations of disposal proposals.¹ Some governments favour long-term storage over disposal, at least for higher-level wastes.²

3.4 Other submitters suggested that there is extensive 'national and international experience' demonstrating 'that radioactive waste can be safely managed and stored'.³ ANSTO argued that centralised facilities were 'international best practice', though they did not suggest that this favoured disposal over storage.⁴ Some governments favour geological disposal, again usually in relation to higher-level wastes.⁵

3.5 A NSW parliamentary inquiry recommended a mixed approach. In 2004, it indicated that the original site selection process be abandoned, and that the Commonwealth should:

¹ Blue Mountains Nuclear Free Group, *Submission* 43; Public Health Association of Australia, *Submission* 100.

² CoRWM, Key Issues, http://www.corwm.org.uk/Pages/Lnk_pages/key_issues.aspx (accessed 30 November 2008).

³ Australian Nuclear Association, *Submission* 18.

⁴ ANSTO, *Submission* 5.

⁵ CoRWM, Key Issues, http://www.corwm.org.uk/Pages/Lnk_pages/key_issues.aspx (accessed 30 November 2008).

recommence the site selection process for a waste facility in a genuinely consultative way, in line with more contemporary and democratic approaches being utilised overseas (and outlined in this report) that are based on community acceptance criteria.⁶

3.6 The International Atomic Energy Agency (IAEA) has analysed the implementation of geological nuclear waste disposal programs around the world.⁷ It examined what factors helped or hindered radioactive waste disposal proposals in countries including Canada, the UK, the USA, Germany, Sweden, Finland and Japan. Although the study was looking at high level waste facilities, several conclusions drawn from this study would seem relevant to Australia's situation, particularly in relation to how the process should operate, and how governments should conduct those processes.

3.7 The IAEA suggested that site selection processes that were not 'socially acceptable' were more likely to need to be recommenced, with changed procedures based on the need for social factors to play a more significant role.⁸ It endorsed step-wise processes that allowed stakeholders to assimilate information and reassess proposals, and noted that a low and intermediate-level waste process in Switzerland that had not done this had been a negative experience.⁹ They describe evidence of a shift amongst regulators and implementers of waste sites toward being more 'open, transparent, respectful and fair'.¹⁰

3.8 Successful processes in other countries place more emphasis on community participation. They make voluntary involvement a cornerstone of their processes. McCombie and Tveiten, conducting research for Canada's Nuclear Waste Management Organisation (NWMO), reported that Sweden's waste management organisation, SKB, 'agreed to voluntarily accepting that a public veto on siting would be regarded as binding on the repository implementer'. They argued that that this might have been a reason that the Swedish site selection process has been relatively successful.¹¹

⁶ NSW Parliament, Joint Select Committee on the Transportation and Storage of Nuclear Waste, *Inquiry into the transportation and storage of nuclear waste*, February 2004, p. xiv.

⁷ IAEA, *Factors Affecting Public and Political Acceptance for the Implementation of Geological Disposal*, IAEA-TECDOC-1566, IAEA, Vienna, October 2007.

⁸ IAEA, *Factors Affecting Public and Political Acceptance for the Implementation of Geological Disposal*, IAEA-TECDOC-1566, IAEA, Vienna, October 2007, p. 44.

⁹ IAEA, *Factors Affecting Public and Political Acceptance for the Implementation of Geological Disposal*, IAEA-TECDOC-1566, IAEA, Vienna, October 2007, p. 45.

¹⁰ IAEA, *Factors Affecting Public and Political Acceptance for the Implementation of Geological Disposal*, IAEA-TECDOC-1566, IAEA, Vienna, October 2007, p. 45.

¹¹ Charles McCombie & Bengt Tveiten, *A Comparative Overview of Approaches to Management of Spent Nuclear Fuel and High Level Wastes in Different Countries*, NWMO Background Paper 7-6, 2004, p. 41, <http://www.nwmo.ca/Default.aspx?DN=ce9fc07c-44f2-49a8-8ddf-ae888b1057c2> (accessed 30 October 2008).

3.9 The UK's independent Committee on Radioactive Waste Management (CoRWM) examined the process for selecting waste disposal facility sites. Its recommendations (accepted by the UK government) dealt most extensively with the social and political aspects of the site selection process. They are worth quoting at length:

Recommendation 9: There should be continuing public and stakeholder engagement, which will be essential to build trust and confidence in the proposed long-term management approach, including siting of facilities.

Recommendation 10: Community involvement in any proposals for the siting of long-term radioactive waste facilities should be based on the principle of volunteerism, that is, an expressed willingness to participate.

Recommendation 11: Willingness to participate should be supported by the provision of community packages that are designed both to facilitate participation in the short-term and to ensure that a radioactive waste facility is acceptable to the host community in the long-term. Participation should be based on the expectation that the well-being of the community will be enhanced.

Recommendation 12: Community involvement should be achieved through the development of a partnership approach, based on an open and equal relationship between potential host communities and those responsible for implementation.

Recommendation 13: Communities should have the right to withdraw from this process up to a pre-defined point.

Recommendation 14: In order to ensure the legitimacy of the process, key decisions should be ratified by the appropriate democratically elected body/bodies.

Recommendation 15: An independent body should be appointed to oversee the implementation process without delay.¹²

3.10 The UK has also conducted a major review of low-level waste management. Its policy does not specify that disposal is a preferred option, but emphasises design of the process, and risk management. The UK's policy principles include basing the preparation of LLW management plans on:

- use of a risk-informed approach to ensure safety and protection of the environment;
- minimisation of waste arisings (both activity and mass);
- forecasting of future waste arisings, based upon fit for purpose characterisation of wastes and materials that may become wastes;
- consideration of all practicable options for the management of LLW;
- a presumption towards early solutions to waste management;

¹² Committee on Radioactive Waste Management, *Managing our radioactive waste safely*, CoRWM, London, July 2006, p. 12.

- appropriate consideration of the proximity principle and waste transport issues; and
- in the case of long term storage or disposal facilities, consideration of the potential effects of future climate change.¹³

3.11 Canadian policy processes associated with both low-level and high-level waste problems involve a high degree of community engagement and initiative. They include community-initiated solutions to existing radioactive waste problems,¹⁴ and the use of a community-focussed consultation process associated with high-level waste management, that keeps open options for both long-term storage as well as geological disposal.¹⁵

3.12 After several years of consultation the Canadians opted for adapted phased management (APM) as an approach to their nuclear fuel management.¹⁶ Adaptive Phased Management is a staged approach to dealing with nuclear wastes. The phases are:

- maintain the used nuclear fuel at the reactor sites, while preparing for centralization at a site in an informed and willing community;
- determine if an interim optional step of a shallow underground storage facility at the central site is desirable; and
- locate and prepare a site to contain the used nuclear fuel in a deep repository with ongoing monitoring and the possibility of retrieval.¹⁷

3.13 The Canadian model has included the establishment of an independent agency (the Nuclear Waste Management Organization) to facilitate waste management facility development, and has incorporated emerging ideas about the value of deliberative democratic processes to facilitate and empower communities and stakeholders in the policy process.¹⁸

¹³ Department for Environment, Food and Rural Affairs (DEFRA), Department of Trade and Industry (DTI) and the Devolved Administrations, *Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom*, 2007.

¹⁴ Low Level Radioactive Waste Management Office, *Port Hope Area Initiative*, <http://www.llrwm.org/en/porthope/porthope.html> (accessed 30 November 2008).

¹⁵ Natural Resources Canada, *Adaptive Phased Management*, Media Release Backgrounder 2007/50 (a), <http://www.nrcan-rncan.gc.ca/media/newcom/2007/200750a-eng.php> (accessed 30 November 2008).

¹⁶ Natural Resources Canada, *Adaptive Phased Management: Backgrounder*, Media statement 2007/50(a), <http://www.nrcan-rncan.gc.ca/media/newcom/2007/200750a-eng.php> (accessed 30 October 2008).

¹⁷ Natural Resources Canada, *Adaptive Phased Management: Backgrounder*, Media statement 2007/50(a), <http://www.nrcan-rncan.gc.ca/media/newcom/2007/200750a-eng.php> (accessed 30 October 2008).

¹⁸ Genevieve Johnson, 'The discourse of democracy in Canadian nuclear waste management policy', *Policy Sciences*, Vol. 40, 2007, pp 70-99.

3.14 The committee believes that the emphases internationally on waste minimisation, voluntary participation, and on storage and retrieval (particularly for materials such as the reprocessed fuel Australia will be managing from 2015), represent good practice approaches based on a longstanding literature that the Australian government can build upon.¹⁹

A new policy framework

3.15 All Australian jurisdictions face a dilemma. They currently are responsible for administering the storage of radioactive waste. For a quarter of a century, Australian governments agreed that there should be a national approach to the management of Australia's radioactive waste. Since the early 1990s, the Commonwealth has administered a process to select a site for storage or disposal of waste.

3.16 Despite the search for a national solution to radioactive waste, individual states and territories have never conceded that such an approach to selecting a site must mean that at least one of them will necessarily host a waste facility within its jurisdiction. The Northern Territory government showed some leadership in this respect, in indicating that it continues to support a national process and by not ruling out consideration of a waste facility within its borders.²⁰

3.17 The committee notes that the Northern Territory, like most other jurisdictions, has in place laws that seek to prevent the construction of any nuclear waste management facilities. These laws reflect the lack of confidence states and territories are willing to place in site selection processes to date. A lack of consultation, noted by the NSW parliamentary select inquiry, was central to this culture of a lack of trust.

3.18 Relationships built on trust are crucial to an effective radioactive waste management policy. The committee agrees with the current government, and with many witnesses, that a new policy foundation is needed for addressing nuclear waste issues. The Australian Conservation Foundation expressed this need:

A new approach is needed. Community confidence, citizen rights, procedural and regulatory integrity, transparency, inclusive, contemporary and scientifically robust methodology all need to be restored in the process

¹⁹ For example, ed. R.E. Kasperson (ed.), *Equity Issues in Radioactive Waste Management*, Cambridge, MA: Oelgeschlager, Gunn & Hain, 1983; Kristin Schrader-Frechette, *Burying Uncertainty: Risk and the Case Against Geological Disposal of Nuclear Waste*, University of California Press, Berkeley, 1993; S.L. Albrecht and R.G. Amey, 'Myth-making, Moral Communities, and Policy Failure in Solving the Radioactive Waste Problem', *Society & Natural Resources* Vol. 12, 1999, pp 741–61; M.E. Kraft, 'Policy Design and the Acceptability of Environmental Risks: Nuclear Waste Disposal in Canada and the United States', *Policy Studies Journal* Vol. 28, No. 1, 2000, pp 206–18; Genevieve Johnson, 'The discourse of democracy in Canadian nuclear waste management policy', *Policy Sciences*, Vol. 40, 2007, pp 70-99.

²⁰ Northern Territory Government, *Submission* 81.

of building a mature and effective approach to radioactive waste management in Australia.²¹

3.19 The committee agrees that all these points would be features of best practice radioactive waste management policy.

3.20 In the committee's view, the objectionable features of the existing Act include:

- The lack of consultation, and the breaching of undertakings given by the previous Commonwealth government, in the lead up to, and in the enactment of, the legislation;
- The removal of procedural rights of affected stakeholders;
- The suspension of operation of legitimate Commonwealth laws;
- The lack of transparency in the process;
- The discrimination against the Northern Territory as against all other jurisdictions, both states and territories; and
- The creation in only one jurisdiction of procedures to facilitate nominations.

3.21 The committee also believes that repealing the existing legislation, unless it is conducted simultaneously with the implementation of alternative arrangements, would be inadequate. There must be recognition that the current situation is not desirable:

The current situation in Australia whereby there are limited facilities for the disposal or long-term storage of radioactive waste forces holders of that material to store it in facilities which may be unsafe or insecure. That is not conducive to the safety and security of that material.²²

3.22 The committee believes that the existing regime must be replaced with one that addresses these concerns. It also believes there is some urgency to this: it notes the division within Indigenous communities fostered by the existing Act, as well as health concerns raised by the Public Health Association. Repeal of the existing Act will be an important step in addressing these concerns. The committee also notes the scheduled return of reprocessed fuel waste next decade, and that it is desirable for a new policy framework to be in place and operating in preparation for managing this waste upon its return.

Recommendation 2

3.23 The committee recommends that the Act be repealed and replaced with legislation founded on the principles outlined in Recommendation 3. The committee recommends that this legislation should be introduced into the Parliament in the Autumn 2009 sittings.

²¹ ACF, *Submission 85*, p. 2.

²² ANSTO, *Submission 5*.

3.24 A new policy on radioactive waste should provide a fair, transparent and scientifically sound foundation on which Australia can conduct radioactive waste management. The committee believes that the evidence it has received, and international best practice, support several key features of this new policy approach.

Recommendation 3

3.25 The committee recommends that radioactive waste policy be placed on a new footing, relying on five key founding principles:

- It should be built on a foundation of trust through engagement with governments, stakeholders and communities;
- It should place an emphasis on voluntary engagement rather than coercion;
- It should be grounded in sound science and best technological and engineering practice;
- It should look to national solutions for national waste management challenges; and
- It should have a fair, equitable and transparent Commonwealth legislative foundation.

Recommendation 4

3.26 The committee recommends that legislation to replace the existing Act should have at least the following three key differences from the existing Act:

- It should not remove procedural rights and opportunities afforded to affected parties;
- It should not suspend the operation of relevant Commonwealth laws; and
- It should not discriminate against or target one jurisdiction over others.

Senator Anne McEwen
Chair