

Submission

to

Senate Employment, Workplace Relations and Education
Legislation Committee

Inquiry into the Commonwealth Radioactive Waste Management Bill 2005

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Introduction

The Federation of Australian Scientific and Technological Societies (FASTS) is the peak representative body for 60,000 Australian scientists and technologists.

FASTS was established in 1985 and has 65 member organisations. The President of FASTS is also a member of the Prime Minister's Science, Engineering and Innovation Council (PMSEIC).

Radioactive materials have been safely used in Australia for nearly 50 years for a wide range of medical, industrial and research purposes.

In that period, Australia has built up a small, by international standards, amount of waste that must be properly stored and disposed of.

The science, engineering and technology of safe storage, disposal and transportation is well understood and Australia has the scientific expertise to properly design, construct and operate a storage and disposal facility.

The need for a properly established and managed radioactive waste facility has long been recognised in the Australian scientific community. FASTS also notes that successive Commonwealth Governments have also acknowledged such a necessity since at least 1992.

FASTS believes Australia is best served by having one state-of-the-art facility. Accordingly, while we welcome the Commonwealth's current proposal to establish a facility in the Northern Territory, we urge the States and Territories to join with the Commonwealth to make this a true national facility.

FASTS do not have a view on where a facility should be situated other than any proposed site must be subject to stringent examination of seismic stability and hydrological (ground water) risk and utilise the considerable scientific expertise that exists in Australia.

If the three sites nominated by the Commonwealth in the Northern Territory - Mt Everard, Harts Range and Fishers Ridge - do not satisfy relevant scientific and engineering criteria, FASTS will strongly oppose the construction of a radioactive waste facility at those sites.

Radioactive waste in Australia

Radioactive materials have been routinely used for the last 50 years in Australia for a wide variety of industrial, medical and research purposes.

In that period, about 3700 cubic metres (4,000 – 5,000 tonnes) of low and short lived intermediate level waste and 400m³ of long-lived intermediate waste has been accumulated (there is no high level waste in Australia).

There are about 30 radioactive materials routinely used in Australia including a wide variety of industrial applications such as smoke detectors (americium²⁴¹), sterilisation (cobalt⁶⁰) or equipment to check the integrity of welding (caesium¹³⁷).

Each year more than 500,000 Australians undergo diagnosis or treatment procedures using a variety of nuclear sources. Technecium^{99m} is used in about 80% of diagnostic procedures and iodine¹³¹ for thyroid treatments.

Some of the radioactive materials used in Australia are produced at ANSTO's Lucas Heights reactor. Others, including cobalt and caesium are imported.

Responsibility for managing radioactive waste

The prime responsibility for managing radioactive waste lies with the Commonwealth as about 95% of existing and future waste is generated by Commonwealth agencies, primarily ANSTO at its Lucas Heights facility but also small amounts at CSIRO and the Department of Defence.

While the amount of waste generated under State and Territory licences is small, this waste is currently stored in over 100 locations around the country in metropolitan and regional sites.

For years the States and Territories have not had rigorous inventories of radioactive waste in their jurisdictions. While this situation is now being addressed, FASTS believes dispersed storage of radioactive waste is not a viable long-term strategy and is potentially hazardous, inefficient and impossible to completely secure.

Given the relativities of the waste covered by the different jurisdictions, FASTS believes that it makes little sense to have a facility that only caters for waste generated by Commonwealth agencies.

Accordingly, FASTS believes the States and Territories must demonstrate political leadership and join with the Commonwealth to ensure the proposed site is a comprehensive national facility that is state of the art in terms of environmental safety, efficiency and security.

The science, engineering and technology of safely storing and disposing of low and intermediate level waste is well understood and can be achieved safely and efficiently if done properly.

FASTS also notes transport of radioactive waste represents a very low risk to public health and the environment, if carried out along well established and understood procedures. We note that radio active materials are routinely and safely moved tens of thousands of times per anum in Australia.

Disposal

Much of the political debate has focused on site selection for storing radioactive waste. But storage is only one part of the equation. Australia must aim for safe and efficient disposal.

The key object of safe disposal is to sufficiently dilute radioactive materials so that its radioactivity is comparable to naturally occurring background radiation. In the case of long-lived radioactive waste (materials with a half life of more than 30 years), radioactive waste may need proper shielding from the biosphere in an appropriately stable site.

Australia has the relevant scientific and engineering expertise to design, build and manage disposal of such waste.