FASTS Federation of Australian Scientific and Technological Societies

Federation of Australian Scientific and Technological Societies (FASTS)

Submission

Senate Standing Committee on Environment, Communications and the Arts inquiry into the *Commonwealth Radioactive Waste Management (Repeal and Consequential Amendment) Bill 2008*

Introduction

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

FASTS was established in 1985 and has about 60 member organisations. The President of FASTS is also a member of the Prime Minister's Science, Engineering and Innovation Council (PMSEIC).

Executive Summary

FASTS supports the repeal of the *Commonwealth Radioactive Waste Management Act 2005,* however we do not support its repeal until

a) a site for a Commonwealth radioactive waste facility is confirmed,
b) a construction schedule announced, and
c) suitable replacement legislation is put in place to provide for the operation of the facility including transport arrangements.

While FASTS notes the concerns over the process by which the *Act* came into operation, we believe repealing the *Act* in the absence of a firm decision on a site for a waste facility is unacceptable.

The need for a properly established and managed radioactive waste facility has long been recognised in the Australian scientific community and has been formally recognised at Government level since at least 1992.

However, FASTS submits that there is now a necessity to finalise selection and commence construction because from 2015, contractors in France and the UK are due to start returning reprocessed radioactive waste to Australia.

The use of radioactive materials is pervasive throughout our society. Such materials have been safely and routinely used in Australia for nearly 50 years for a wide range of medical, industrial and research purposes.

FASTS does not have a view on where a facility should be situated other than any

proposed site must be subject to stringent scientific examination, *inter alia*, of seismic stability, hydrological and other environmental risks, as defined by the best current world-standard in this area.

Australia has a clear responsibility to properly look after its own radioactive waste. In FASTS view, repealing the *Act* without a commitment to a viable site and construction timeline for a facility is unacceptably irresponsible.

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

In that period, about 4020 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).1

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. Technecium99 is used in about 80% of diagnostic procedures and iodine131 for thyroid treatments. Some of the radioactive materials used in Australia have been produced at ANSTO's Lucas Heights facility (when the reactor is operational). 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, 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.

It is internationally recognised that 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 Australia is best served by having one Commonwealth run state-of-the-art facility, which all States and Territories access to ensure there is an effective national facility.

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[1] For some details on where the waste is held and what volumes refer http://www.ret.gov.au/resources/radioactive_waste/radiation_radioactive/Pages/AmountsofRadioactiveWasteinAustralia.aspx

The science, engineering and technology of safely storing and disposing of low and intermediate level waste are 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.

Necessity

Australia has entered into contracts with firms in France and Scotland to reprocess some of Australia's intermediate-level spent fuel rods (other spent fuel rods have been returned to the USA for reprocessing but will not come back to Australia). These are due to be returned to Australia for long term storage from 2015.

FASTS submits such material should be placed in a permanent facility and not held indefinitely at ANSTO or a temporary site.

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 also 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.