



**SUBMISSION TO THE INQUIRY BY THE  
SENATE EMPLOYMENT, WORKPLACE RELATIONS AND  
EDUCATION COMMITTEE  
INTO THE  
AUSTRALIAN NUCLEAR SCIENCE AND TECHNOLOGY  
ORGANISATION ACT  
AMENDMENT BILL 2006**

**AUSTRALIAN NUCLEAR SCIENCE AND TECHNOLOGY ORGANISATION  
LUCAS HEIGHTS, NSW  
APRIL 2006**

## **Introduction**

The Australian Nuclear Science and Technology Organisation (ANSTO) welcomes the proposed amendments to the ANSTO Act. These amendments will enable ANSTO to make a more effective contribution to the benefits that Australia receives from nuclear science and technology, as outlined below.

## **ANSTO and its Capabilities**

The Australian Nuclear Science and Technology Organisation (ANSTO) is Australia's national nuclear research and development organisation and the centre of Australian nuclear expertise. ANSTO is located at the Lucas Heights Science and Technology Centre (LHSTC), south of Sydney.

ANSTO operates national science facilities which include the HIFAR nuclear research reactor, particle accelerators, radiopharmaceutical production facilities, and laboratories. A new reactor - OPAL - is under construction. ANSTO's website contains detailed information about the Organisation – [www.ansto.gov.au](http://www.ansto.gov.au).

ANSTO uses its nuclear expertise to undertake research and development in areas such as medical science, environmental science, new materials, and industry. ANSTO also uses its nuclear expertise to supply specialised goods and services throughout Australia, and overseas. In particular, ANSTO produces, uses and supplies radioisotopes for a wide range of activities in medicine (where, on average, every Australian will require one of ANSTO's radioisotopes for medical reasons during his or her lifetime), in environmental management, in industry and in research.

In the course of its operational, research and production activities, ANSTO necessarily generates small quantities of solid, liquid and gaseous radioactive wastes on a daily basis. ANSTO has the specialised skills, equipment and facilities that enable it to condition, manage and store these wastes safely. No other organisation in Australia has comparable capabilities.

Three Commonwealth agencies have regulatory responsibilities in respect of ANSTO's management of radioactive waste. These agencies are the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), the Department of Environment and Heritage (DEH) and the Australian Safeguards and Non-proliferation Office (ASNO – in respect of waste containing nuclear material only). ANSTO meets the requirements of all three agencies.

Over many years, ANSTO has assisted other government and commercial entities in Australia with the management of their radioactive wastes. ANSTO has contributed to the work of the International Atomic Energy Agency (IAEA) on the establishment of standards for the management of radioactive wastes, and to other IAEA waste-related activities. ANSTO has provided training in the detection and management of radioactive materials. Trainees have included staff from the ADF, police forces, fire brigades and other emergency management agencies.

## **Proposed Amendments to the ANSTO Act 1987**

### ***Proposed paragraph 5(1)(bb) and proposed subsection 5(1C) – Management of Commonwealth Radioactive Waste***

The Commonwealth has announced that it will establish a new facility in the Northern Territory for the management of all Commonwealth radioactive wastes, and has legislated to that effect. Radioactive waste accepted into the Commonwealth Radioactive Waste Management Facility

(CRWMF) will need to meet the CRWMF's special requirements for packaging, once these are determined. When ANSTO's own wastes are despatched to the CRWMF, ANSTO will have used its expertise and facilities to package them to meet these requirements.

ANSTO is aware that, at present, not all the existing non-ANSTO wastes are likely to meet the CRWMF packaging requirements. Non-complying wastes will, therefore, need to be processed to meet these requirements. The owners of such wastes do not have the expertise and the facilities to undertake such processing. However, the ANSTO Act, as it currently stands, impedes ANSTO from making its expertise and facilities available to assist those other Commonwealth entities that hold and produce radioactive waste, because of the administrative burden that would arise from the large number of regulations that would need to be made pursuant to subparagraph 5(1)(ba)(iv) of the Act.

The transport of Commonwealth waste to the CRWMF will necessarily involve the use of contractors. As has been done in the *Commonwealth Radioactive Waste Management Act 2005*, proposed subsection 5(1C) would make it clear that the fact that waste was being carried by such contractors did not mean that it was no longer Commonwealth waste for the purposes of the ANSTO Act.

The proposed amendments would enhance ANSTO's effectiveness in assisting other Commonwealth entities to manage their radioactive wastes and to ensure those wastes are suitably packaged for storage at the CRWMF. The amendments would also allow ANSTO to manage and operate the CRWMF under the regulatory oversight of ARPANSA, ASNO and DEH should the Government decide to hand overall responsibility for the CRWMF to ANSTO in the future.

***Proposed paragraphs 5(1)(bc) and 5(5)(g) – Management of Radioactive Waste at the request of Law Enforcement or Emergency Management Authorities***

In 2005, the Chair of the NSW State Emergency Management Committee wrote to ANSTO to seek advice and assistance on the handling, storage and disposal of radioactive material that the Committee could well need to manage in the event of an emergency, particularly one caused by the use of a "dirty" bomb. The letter noted that the NSW Police Forensic Services may need to take custody of radioactive material as part of investigations, but that they have no facilities to hold such material. Both the Australian Federal Police and the Victoria Police have raised similar issues with ANSTO.

That ANSTO might need to assist law enforcement authorities by storing material for evidentiary purposes was something that was not envisaged when the ANSTO Act was amended in 1992. Such a need could arise as a result of materials that come into the possession of the authorities in the course of investigations, or that are collected or seized during investigations following a terrorist or other malicious radiological incident. Nor was it envisaged that there might be a need for ANSTO to provide federal or state emergency management authorities with assistance in response to a radiological incident (whether or not of malicious origin). In its current form, however, the ANSTO Act has the effect of limiting the initial assistance that ANSTO, with its highly qualified staff and excellent facilities, could provide in an emergency to little more than the provision of advice.

The proposed amendments would ensure that ANSTO has the legal power to assist law enforcement and emergency management agencies, as their needs arise.

ANSTO notes that the proposed amendments would align Australia with the standards set out in the United Nations Convention for the Suppression of Acts of Nuclear Terrorism. Australia has signed but not yet ratified this Convention.

This proposed amendment is supported by the proposed addition of a paragraph (g) to subsection 5(5). During the drafting of the amendments, it was not clear that the proposed paragraph 5(1)(bc) was actually supported by any of the existing powers enumerated in subsection 5(5) – at least prior to Australia’s ratification of the Convention for the Suppression of Acts of Nuclear Terrorism. A reference to the defence power was therefore added.

***Proposed paragraph 5(1)(bd) – Management of Waste arising from Reprocessing of Spent Nuclear Fuel***

During the last 10 years, spent nuclear fuel from ANSTO’s HIFAR research reactor has been shipped overseas to the United Kingdom and to France for reprocessing, to extract unused uranium and to convert the waste products into a stable matrix. During the reprocessing operation, ANSTO spent fuel is mixed with spent fuel from other customers into a single batch. The wastes arising from the reprocessing operation are then allocated to customers in proportion to their input to the mixed batch. It is therefore probable that the wastes to be returned to Australia under the contracts that ANSTO has with the fuel reprocessors will contain wastes not generated in HIFAR’s operation, although it will have an equivalent amount of radioactivity to that produced by the spent fuel prior to reprocessing. It is not clear that a court would regard such wastes as wastes arising from ANSTO’s activities (ANSTO Act, paragraph 5(1)(ba)). It is important that ANSTO’s power to receive and manage these residues is put beyond question, given the possibility of legal actions by groups opposed to nuclear activities. If such legal actions were to be successful, that would effectively place Australia in breach of commitments given to the governments of the United Kingdom and of France. The proposed amendments would ensure that ANSTO has the necessary powers to manage and store such wastes.