



AUSTRALIAN  
CONSERVATION  
FOUNDATION

***Contested Territory – the push for a federal  
radioactive waste dump in the Northern  
Territory***

**A submission to the Senate  
Employment, Workplace Relations and  
Education Committee Inquiry into the**

***Commonwealth Radioactive Waste  
Management Bill 2005 and the  
Commonwealth Radioactive Waste  
management (Related Amendment) Bill  
2005***

**Australian Conservation Foundation  
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## **Context to the current federal government nuclear dump plan:**

The management of Australia's radioactive waste remains a highly contentious issue with a previously proposed national store for reactor wastes having been rejected in all Australian jurisdictions. In 2000 the then SA Liberal government legislated to prohibit the store whilst in May 2002 Premier Beattie described Queensland as *"..off limits for such a facility"*.

In Dec 2002 the Australian Local Government Association opposed an increase in nuclear waste production in Australia without a satisfactory resolution of waste issues with the States. Clearly there is currently no such agreement and in this context ACF reaffirms the fundamental importance of reduction at source in relation to the prudent management of radioactive waste.

In early 2004 WA Gallop government legislated against the national store and committed to make the next federal election a referendum on nuclear dumping if there was an attempt to impose any such facility in WA. In 2004 the Martin Labor government in the NT legislated to prohibit nuclear waste transport and dumping.

It is clear that there is a strong bi-partisan and nationwide rejection by state and territory governments of the federal governments approach to the management of this vexed issue.

Extensive opposition forced the federal government in July 2004 to change their long term plans and exclude South Australia from further consideration as a site for a national nuclear waste dump.

*The Government has decided to abandon the establishment of a national low level waste repository at site 40a near Woomera in South Australia. ....The Australian Government is committed to taking responsibility for the safe and secure disposal of its low level waste. The states and territories now have a responsibility to do the same in relation to their waste and as a matter of priority."*

(Prime Minister Howard, media release 14 July 2004)

The Kupa Piti Kungka Tjuta, the senior Aboriginal women's council of northern SA, played a key role in the effective community campaign against the imposition of any such dump on their traditional lands.

Despite having targeted SA since late 1997 the federal government ultimately had to recognise the electoral and political difficulty in imposing the dump facility against strong community will. This lesson has not been lost for Territorians facing nuclear dumping or on those communities across Australia concerned over the proposed transport of reactor waste through their region.

ACF maintains that any socially and politically acceptable outcome to nuclear waste management can only be realised when the threat of the new Sydney reactor and its subsequent radioactive waste production, transport and dumping has removed as a key policy driver.

There is a significant and unnecessary risk to the health, safety and rights of communities across Australia from ANSTO's current and proposed reactor operations and waste production at Lucas Heights and the proposed nuclear waste transport and to, and imposition of, a nuclear waste dump in the NT.

## **Radioactive waste - a serious and continuing concern:**

Radioactive waste is a serious issue that requires responsible and prudent management. Nuclear waste and nuclear waste management has been described by the UN's International Atomic Energy Agency as "the most perplexing topic in nuclear technology today". Despite massive effort and resources no country on Earth has yet developed an operational final disposal facility for high level, spent nuclear fuel or reprocessed nuclear waste. Radioactive waste management remains a major international issue and a key pre-occupation for the nuclear industry and its regulators.

There are extensive national and international codes of practice, industry standards, requirements and guidelines which all attempt to reduce the risk of people being exposed to radiation. These risks have been powerfully expressed in the United Nations Environment Programs (UNEP) position statement on nuclear risks:

*"Radiation, by its very nature, is harmful to life. At low doses it can set off only partially understood chains of events which lead to cancer or genetic damage. At high doses it can kill cells, damage organs and cause rapid death. Radiation doses have to reach a certain level to produce acute injury – but not to cause cancer or genetic damage. In theory, at least, just the smallest dose can be sufficient. So, no level of exposure to radiation can be described as safe."*

(‘Radiation-doses, effects, risks’. United Nations Environment Program)

### **More than a low-level hazard:**

The planned NT radioactive waste dump would house the highest level radioactive wastes in Australia. This is not a benign facility and an examination of government data on the dump shows that there are at least twelve categories of radioactive material that are almost certain to end up at any NT dump, including:

1. Approx. 50 cubic metres of highly radioactive waste produced from reprocessing more than a thousand existing and future spent reactor fuel rods (Lucas Heights) – arriving over the next 40 years in containers, probably via Darwin Harbour;
2. Approx. 130 drums per year of radioactive 'compactable low level solid waste', e.g. vials, gloves etc (Lucas Heights);
3. Approx 20 drums per year of drums of solidified radioactive 'sludge' produced in the treatment of reactor wastewaters (Lucas Heights);
4. Hundreds of tonnes of radioactive 'non-compactable contaminated items', inc. materials from the decommissioned old Lucas Heights reactor, pipes, machinery
5. A stockpile of over 5,000 drums of 'low level radioactive waste' (Lucas Heights);
6. A stockpile of over 200 cubic metres of 'intermediate level solid waste' some with 'unknown radioactive inventory' (Lucas Heights);
7. Over 800 drums of 'historical wastes' including radioactive thorium, beryllium and uranium (Lucas Heights);
8. Over 2000 litres of radioactive contaminated charcoal (Lucas Heights);
9. Hundreds of used air filters containing radioactive contamination (Lucas Heights);
10. Around ten cubic metres of highly dangerous solidified molybdenum 'long lived intermediate level waste' (Lucas Heights);
11. Over 2000 cubic metres of radioactive contaminated soil currently stored at Woomera;

12. Other Commonwealth Defence Department and CSIRO 'historic' radioactive waste.

It has also been confirmed by ANSTO and DEST that the reprocessed spent nuclear fuel destined to be stored at this dump will also contain plutonium – an extremely long lived toxic substance that poses serious management issues.

ACF believes that it is imperative to manage Australia's radioactive waste in a responsible, scientifically robust and transparent manner. The current rush to fast track draconian legislation to facilitate the NT dump is not consistent with this.

### **Proposed transport of reactor wastes across Australia:**

The development of any federal radioactive waste dump in the NT would mean the imposition of 40-50 years of waste transport across Australia from the proposed new Sydney reactor.

Initially communities across Australia face 132 truckloads of existing radioactive wastes being sourced from the Lucas Heights reactor. Most of the radioactivity in this waste is classed as short-lived intermediate level, hazardous for 2-300 years and requiring shielding. In addition an un-stated number of truckloads of existing long lived intermediate level wastes would also be transported from Lucas Heights to the proposed NT nuclear dump site.

This is a significant, hazardous and unnecessary transport of wastes against the rights, interests and safety of local communities across Australia. Such action does not enjoy local, territory or state government, or wider community support.

Former NSW Premier Bob Carr made this opposition clear, stating: *"I have also informed the Federal Government of our clear opposition to the trucking of nuclear waste through western NSW."* (Letter to the Prime Minister, 20<sup>th</sup> June 2003)

The Commonwealth has previously stated a preference for use of the Blue Mountains to Broken Hill route for transport of material through NSW however the Minister for Science has reserved a 'right' to also use the Goulburn – Hay- Mildura route and to make a decision through a non-public process. Currently road, rail and sea options are all possible and the question remains - what other potential Australian transport routes are under consideration?

The Federal Government are attempting to play communities off against each other and to then take the path of least resistance. In following this approach, a potential rail option presents many of the same hazards and targets the same set of unwilling local communities across NSW and SA.

With the eventual decommissioning of the Lucas Heights reactor up to 250 further truckloads of radioactive waste material would be imposed along the chosen route across Australia and into the NT.

### **NSW Parliamentary Inquiry into Transport and Storage of Nuclear Waste**

In response to deep community concern over the impacts and implications of the federal government's earlier plan to open a radioactive waste dump in SA, the NSW Parliament held a detailed Inquiry – the Joint Select Committee on the Transportation and Storage of Nuclear Waste – which reported in February 2004.

The unanimous recommendations of this cross party Inquiry are most valuable in the context of the current proposal and ACF commends this report to the Committee's attention.

The Inquiry examined many of the key issues concerning the transportation and storage of nuclear waste – in considerably more detail and depth than has been afforded the current Senate Inquiry process – and its report is a valuable addition to the discourse on this important issue.

The NSW Government has formally endorsed the key recommendations of the Inquiry - calling federal plans to transport of reactor wastes across NSW unjustified, for Lucas Heights to continue to act as a waste facility, for a public inquiry into the need for and alternatives to the proposed new reactor and for the deferral of the reactor operating licence.

In relation to the reactor project – the single largest generator of radioactive waste in Australia - no such proper Inquiry has ever been held by the federal government. In a similar way to what is being proposed in relation to the NT waste plan, the federal government picked a site for the reactor first and then started an assessment process.

It is ACF's contention that recent federal decisions concerning the generation and management of radioactive waste have been characterised by a profound lack of rigour, independence and due process.

#### **NSW Inquiry – key recommendations:**

**Recommendation 1:** The current Federal Government proposals for the Repository and the Store cannot be justified and should be abandoned.

**Recommendation 2:** The current transport proposals to the Repository (and the Store) should, therefore, also be abandoned.

**Recommendation 3:** In the interim, Lucas Heights should continue to act as a waste facility, subject to a public inquiry into the storage facilities on site to identify operating conditions which will ensure world's best practice.

**Recommendation 4:** Consequently, during the interim period of storage at Lucas Heights:

- a. a new site selection process based on contemporary overseas models should be undertaken as a priority, incorporating community acceptance criteria.
- b. a public inquiry should be instigated by the Federal Government to consider the viability and practicality of alternative technologies and sources for radioisotope provision in Australia. Issues for consideration would include:
  - i. whether or not medical and industrial isotopes can be produced from alternative sources and whether this can be achieved before the current facility has expired;
  - ii. the economic and industry impact of importing medical isotopes; and
  - iii. whether or not it is necessary for research funding to be allocated to the development of alternative sources for radiopharmaceutical production.
- c. the operating licence for the Replacement Research Reactor (RRR) should be deferred. An inquiry should be undertaken by the Federal Government into the need for and possible uses of the RRR. Issues for consideration would include:
  - i. a review of the licensing processes and conditions applied to the reactor;
  - ii. security issues relating to the reactor site;
  - iii. the impact on jobs and Australian nuclear research of not proceeding with the replacement reactor;

- iv. whether an effective solution to the problem of the final management of nuclear waste has been identified;
- v. emergency management and response implications of the new facility; and
- vi. whether there has been adequate consultation with the community, local government and the NSW Government.

(Parliament of NSW, Joint Select Committee on the Transportation and Storage of Nuclear Waste, Report No. 53/01, February 2004.)

The Inquiry noted widespread local government and community concern and opposition to proposed transport of Lucas Heights reactor wastes across NSW. The current transport proposal carries a higher risk factor, as it also includes Long Lived Intermediate Level wastes, and can be expected to be at least as opposed as the federal government's earlier SA dump plan.

The NSW Government remains categorically opposed to any such transport. *"The NSW Government is categorically opposed to the construction of a new nuclear waste storage facility in NSW, and to the transportation of nuclear waste through NSW."* (NSW Environment Minister, Bob Debus, Nov 2004)

Of further key relevance, Inquiry Recommendation 19 identified the importance of "community acceptance criteria" on in relation to any proposals to store and transport nuclear waste. Such an approach is completely missing in relation to the current federal plan and this greatly undermines credibility and confidence in the federal approach.

#### **Safety critique of waste transport - NSW Fire Brigade Employees Union:**

The NSW Fire Brigade Employees Union (FBEU) have set on the record their concerns over proposed transport of reactor wastes across Australia:

*"It follows that the FBEU believes that any proposal from the Commonwealth Government involving the transportation of nuclear waste represents an unnecessary and avoidable danger imposed on our membership.*

...

*The FBEU contends that the storage of nuclear wastes on one site, being the site where the majority of that waste is generated and a site where the resources are best placed to deal with a hazardous materials emergency provides the most effective level of risk minimisation.*

*The proposed National Repository near Woomera SA will be opposed by this Union in an effort to ensure that no transportation of low level or short lived intermediate level nuclear waste takes place.*

*If the safety of firefighters and the public were at all given prominence by the Commonwealth Government the only logical solution would be to cease producing waste.*

*It is of significant concern to professional fire fighters that the Commonwealth Government indicates there are no plans to inform emergency services of shipments of nuclear waste. ... The Commonwealth Government's attitude of keeping professional fire fighters and other ESO's (Emergency Services Organisations) 'in the dark' is entirely unacceptable from the perspective of Occupational Health and*

*Safety and represents a serious and inexplicable threat to fire fighters, local communities and the environment.*

*The FBEU and the UFU (United Fire fighters Union of Australia) foreshadows nationwide industrial action directed against the Commonwealth Government unless the current position is reviewed and the Commonwealth undertakes to ensure emergency services are notified of each and every shipment of nuclear materials*

*The concerns of the public about the level of service provided by the fire fighters in regional areas should be acute. Staffing, resources and long response times over large distances in regional NSW render any notion of an effective response in these areas to the realms of fantasy.*

**Summary: 2.** *That the professional fire fighters of NSW supported by the entire membership of the UFU will actively oppose the construction of a nuclear dump within Australia's borders."*

(Extract from FBEU submission to the NSW Parliamentary Inquiry, July 2003)

### **Safety Critique of Waste Facility Design and Siting by the SA Government:**

The Committee should be aware of serious shortcomings in previous federal government proposed siting, design and studies for the burial of radioactive waste. The concerns expressed earlier by the SA government have an importance resonance in relation to the federal proposal for an NT dump and the current draft legislation.

*"I reiterate this Government's strong opposition to the establishment of this facility in South Australia and reaffirm that we can not, and will not, provide support to the establishment or operation of the facility, particularly when the Commonwealth has failed to adequately prescribe the design of a facility which could result in detrimental environmental outcomes."*

(Letter from John Hill, SA Environment Minister to Dr David Kemp, then federal Environment and Heritage Minister, October 2002.)

A summary of technical comments by South Australian agencies on the Repository project was attached to the above letter as the SA Government submission to the Draft EIS. This set out fundamental shortcomings which were still not addressed at the post EIS stage in the Licensing Application to ARPANSA - issues that again have great currency in relation to the current federal plan.

#### *"Design Criteria:*

- *The design philosophy adopted by the proponent which creates the potential for environmental harm to occur as a result of leachate migration to the water table as defined by the SA Environment Protection Act. The facility is "designed to leach" rather than each storage cell being totally sealed.*
- *There is no assessment of the impacts on site hydrology which may occur as a result of accelerated climate change resulting from global warming and the associated implications for site design criteria.*

#### *Ground Water:*

- *The assumptions made on the nature and characteristics of the geological units (including soils) are questionable. The site is more likely to be characterised as a fractured rock or double porosity medium, rather than a porous medium as assumed in the EIS. There are implications on the fate of any potential leachate*

*at the site due to the complex nature and different behaviours of fractured rock aquifers.*

- *The schedule of groundwater monitoring lacks an adequate groundwater monitoring network and does not adequately define what constitutes a contamination event of uncontaminated groundwater, or an excursion of contaminated groundwater. It does not adequately develop risk management strategies to ensure zero/minimal impacts on groundwater, and contingency plans to be implemented in the event of a contamination event or excursion, and explore expected effectiveness.*
- *The EIS has not determined or established a groundwater exclusion zone*

(Extract from “Summary of SA Government Agencies Technical comments on the Draft EIS for the proposed Repository near Woomera” 22/10/02.)

### **Widespread opposition to the federal government’s NT plan:**

ACF believes that the current federal government approach to radioactive waste management in general – and this legislation in particular – is clearly inconsistent with best industry practise and standards.

There is a growing international consensus that is reflected in many of the publications and positions of the UN’s International Atomic Energy Agency (IAEA) and other bodies over the importance of non-radiological factors and issues and transparent and inclusive community consultation processes.

An effective and credible national radioactive waste management framework requires a high degree of community confidence and license, as the IAEA states:

*Recent experience suggests that broad public acceptance will enhance the likelihood of project approval. An important element in creating public acceptance is the perceived trust and credibility of the responsible organisation and the reviewing agency or agencies.*

*Establishing trust can be enhanced when an inclusive approach to public involvement is adopted from the beginning of the planning process to help ensure that all those who wish to take part in the process have an opportunity to express their views, and have access to information on how public comments have been considered and addressed.*

*Experience further suggests that trust is promoted by providing open access to accurate and understandable information about the development programme, conceptual design and the siting process at different levels of detail suitable for a broad range of interested parties.*

*In addition to the perceived credibility of the responsible organisation, other aspects of public acceptability can be location-specific, based on local requirements and cultural context.*

(Socio-economic and other non-radiological impacts of the near surface disposal of radioactive waste, IAEA technical document, September 2002)

The current federal government approach to radioactive waste management is profoundly deficient in this area and the proposed legislation is in direct conflict with the approach recommended by the IAEA.



## **SA and NSW Government opposition to reactor waste transport:**

The South Australian government played a key role in rejecting the earlier federal plan for a national radioactive waste dump in that state. The SA government has recently expressed serious concerns over the proposed transport of large volumes of waste from ANSTO's Lucas Heights facility through SA to any imposed NT dump site. Such transport is unlawful under SA law.

The NSW government has also made clear its unequivocal opposition to the transport of any nuclear waste through that state. This lack of consent and inter agency cooperation is a profound failure of the federal governments current approach to radioactive waste management.

In this context ACF calls on the federal government to demonstrate to the Committee and the wider community:

- that there is the capacity and the institutional arrangements in place with the NSW and SA state governments and emergency services agencies concerning the safety of any proposed transport of reactor and other Commonwealth waste prior to further consideration of the *Commonwealth Radioactive Waste Management Bill*.
- a proven means to address the failure of federal Department of Science to provide any contingency plan to imposing road or rail transport against the advice, aspirations and law of the SA and NSW governments and local government authorities and the wider community along the proposed transport route.

The onus should be on the relevant federal agencies to demonstrate an agreed and existing capacity with NSW and SA for the management of radioactive waste transport and for emergency response. The proponents approach to date of merely citing a transport Code of Practice does not demonstrate either safety or the capacity for emergency response. The current failure to address the lack of consent over the potential transport of radioactive waste is not best industry practise.

The federal Science department must publicly answer the South Australian government which has legislated to prohibit the import to and transport of reactor wastes across SA under the amended "*Nuclear Waste Storage Facility (Prohibition) Act 2000*" in relation to the rationale and implications of overriding this existing law.

The federal Science department must also publicly answer the detailed safety critique and deep opposition of the NSW Government. NSW Environment Minister Debus has confirmed that the NSW Emergency Service advice available to him highlighted the lack of reality in claims by DEST that transport of reactor wastes across NSW could proceed safely. He also restated his Governments' opposition to a reactor waste transport plan:

*"The Fire Brigades management points out that it is inconceivable, in effect, that any transportation of waste could possibly take place without very specific changes to the present disposition of resources of the Fire Brigades and, indeed, without very substantial expenditure on equipment.*

*All of which adds weight to the proposition that there is an absolute necessity for the community of this State and especially the community along any possible transportation route to be given proper and full information or an opportunity for transparent discussion and the opportunity for political response to such proposals.*

*We absolutely need to understand how waste would be transported, if it were to be transported at all, and the Government's decision remains one of opposition to those matters."*

(Bob Debus, evidence to NSW Parliamentary Inquiry, Katoomba, September 2002).

**Indigenous opposition:**

The earlier federal plan to impose a waste dump facility in South Australia was actively and effectively opposed by many indigenous people and organizations. At the forefront of this resistance was the Kupa Piti Kungka Tjuta, a senior Aboriginal women's Council with custodial responsibilities for the proposed dump region. Their opposition generated significant national and international attention and helped ensure increased profile to, and criticism of, the federal dump plan.

It is clear that there is already a corresponding degree of indigenous concern and opposition in the NT to the current federal dump proposal. Traditional Aboriginal landowners of the two proposed dump sites in central Australia have made an absolute statement of opposition to the dump plan and have vowed to actively resist this proposal.

*"We do not want your nuclear waste dumped on our country.*

*You and others in Canberra might think that our country is an empty place, that no people live here.*

*We are telling you that there are communities and outstations close to the proposed sites – this is our home and unlike you we cannot move to another place.*

*Our country is alive – there are sacred sites and our law and ceremonies are strong.*

*We don't believe that this poisonous waste can be kept safely for thousands of years. You will be gone but our grandchildren will be left to worry.*

*We will not let you turn our country into a waste land."*

(Extract from statement by traditional Aboriginal landowners – October 2005)

In the northern part of the NT indigenous people have also expressed deep concerns over discussion over the possible siting of a waste dump facility in Arnhem Land. In a recent media statement the senior traditional owner of the Djapu clan, one of the largest of the 13 Yolngu clans of East Arnhem Land, stated:

*"The Yolgnu clans of this region have not been consulted at all about these proposals by the Commonwealth, nor have we been properly informed about the recent resolution by the Northern Land Council to seek amendments to the Radioactive Waste Management Bill.*

*As the senior traditional owner of the Djapu Clan, I say I do not want such a facility anywhere that might affect our land, rivers or sea country. We are very concerned about the safety and environmental impacts of such a facility and the transport of wastes. We are also concerned how the security and surveillance that must accompany such a facility may impact on our lives and region."*

(Extract from media statement by Mr David Wirilma Mununggur, Djapu senior traditional owner, November 2, 2005)

The IAEA has identified that nuclear waste facilities can adversely impact on indigenous communities if the 'development restricts, prevents or otherwise impairs the traditional use or ownership of certain lands by indigenous people for cultural, religious or economic purposes' or 'if indigenous people are not consulted in a culturally appropriate and timely fashion' (IAEA technical document 1308, 2002). The current federal proposal and legislation is clearly deficient in this regard.

ACF believes that the imposition, or threat of imposition, of a radioactive waste facility on indigenous communities is completely reprehensible. This is arguably the greatest flaw in the government's proposed waste management strategy and the current legislation and cannot be justified.

ACF further maintains that the promotion of perceived development and economic benefits for Aboriginal communities as an inducement to consider hosting such a facility on their land is both exaggerated and improper. If the best option Australia can develop to address our systemic and shameful Aboriginal economic disadvantage is a bidding war for the right to host a controversial and contaminating industrial waste facility then we have fundamentally failed.

**Environmental opposition:** Leading regional, national and international environment organizations including the Arid Lands Environment Centre, the Environment Centre of the Northern Territory, ACF, Friends of the Earth Australia and Greenpeace Australia-Pacific are opposed to the federal governments approach to the management of radioactive waste and the passage of the *Commonwealth Radioactive Waste Management Bill*.

**Medical experts:** The Medical Association for the Prevention of War is deeply opposed to the current government approach on public health grounds. MAPW is an affiliate of the Nobel Prize winning International Physicians for the Prevention of Nuclear War and has made a compelling case that neither the new Sydney reactor nor the planned NT waste dump are necessary in order to ensure that Australians continue to enjoy secure access to high class nuclear medicine options for both diagnostic and therapeutic use. ACF commends MAPW's 2004 report *A New Clear Direction: Securing Nuclear Medicine for the next Generation* to the Committee's attention.

MAPW has also condemned the claims by Federal MP David Tollner and Senator Scullion that the health of Australians would be in jeopardy if a nuclear waste dump was not imposed on the Northern Territory by the Federal Government.

"We are appalled by the dishonest claims by members of the Country Liberal Party linking the nuclear waste dump to the health of Australians," said Dr Sue Wareham, immediate past president for MAPW. "While it is a health issue, this is more about endangering the health of Australians than protecting it." (MAPW media release, 13 October, 2005)

There are significant issues associated with the siting and operation of any proposed radioactive waste dump and the transport of waste to any such dump. The IAEA further notes that that nature of the facility 'may cause anxieties and fears in some individuals and groups that may result in potential human health impacts, especially during the early phases of the repository development process'. Such impacts primarily arise at the local level and this is a further reason for a measured approach to this issue – not the current intemperate and unnecessary haste to pass legislation.

**Local government:** Local government authorities in Alice Springs, Katherine and Darwin have all formally expressed concerns over the federal governments plan and the Local Government Association of the Northern Territory (LGANT) has called on the Commonwealth Government to re-think before any taking further action on the three proposed NT dump sites. In a media statement the President of LGANT Kerry Moir stated:

*"From the available evidence the three sites have been chosen because they are easy sites for the Commonwealth Government to implement, not because they are the best sites technically, environmentally or from a transport and security standpoint.*

*LGANT supports a national approach to minimise risks associated with the production, storage, transport and disposal of scheduled wastes, but I believe the decision to select the three sites have been made in a rush for political convenience".*

(Extract from LGANT media release, July 21, 2005)

**NT Pastoralists/ Territory Cattlemen's Association:**

The pastoral industry is an important part of the central Australian economy and there are serious concerns that the planned transport and dumping of radioactive waste could damage community perceptions of the quality of NT beef. Aboriginal pastoral operators have spoken publicly of their opposition to the current dump plan and the following piece on wider industry concerns is illustrative of the disquiet that exists in relation to both the detail and process of the federal government's current approach.

*The Territory Cattlemen's Association is being more forthcoming about its concern over a planned nuclear dump site in the Territory following a protest by Aboriginal cattlemen in Canberra yesterday. Alcoota Aboriginal Corporation Chairman William Tilmouth said the proposed dump sites at Harts Range and Mt Everard in Central Australia were both connected with vast river systems and could cause environmental disaster.*

*Alice Springs reporter Genny O'Loughlin spoke to long term Territory pastoralist Dick Cadzow, whose Mt Riddock Station is adjacent to Alcoota Station and the proposed Harts Range dump site 140km north east of Alice Springs. "Yeah, what he says is probably right in regard to water flow, it covers a long long way if anything happened. I don't know enough about the nuclear dump to know how safe or otherwise it's going to be. We don't want to see it more than anyone else."*

*NT Cattlemen's Association CEO Stuart Kenny said he wished the aboriginal cattlemen luck. "It's very important. We are also very concerned about protecting our industry. One of our concerns certainly was the type of sites that the Federal Government chose and the reason why they were coming to the Territory. Around our table we discussed what would be the perfect site if they were to chose one in the Territory and certainly we believe, and what they described, certainly wasn't the three that they'd named.*

*We would like to see what the independent people believe, some independent scientists around the world. I don't think there's anything in it for the industry. Our industry is about the sustainability and the production of cattle, and I can't see there being anything in it for us."*  
(ABC radio report, November 9, 2005)

**Agricultural producers:** The IAEA notes that concerns over radioactive waste facilities can 'affect local image, in turn potentially affecting the sale of certain agricultural products'. This concern is one of a series that the Northern Territory Agricultural Association has expressed over any federal moves to locate a radioactive waste facility near Katherine. NTAA CEO Dan Halloran has described the current dump plan as 'insensitive to local needs and devoid of accountability'.

In a media statement Mr Halloran strongly criticized the proposed dump stating:

*"Placement of the facility in close proximity to the region's Tindal, Ooloo and Jinduckin aquifer system is fraught with danger. This system supports the Northern Territory's premier agricultural and horticultural production sites that generate crop commodities in excess of \$80 million per year.*

*Association members and corporate entities situated near the proposed waste facility seriously doubt that there will never be a radio active leakage into the vast underground water storage.*

*Contamination of the water resource will emasculate the region's agricultural economic output; pose a serious risk to the population's health; and undermine the Daly River catchment's pristine ecosystem. A radioactive waste facility in the region will inhibit the Territory's capacity to preserve existing markets and access new market opportunities, either nationally or globally.*

*The region has a superb reputation for producing 'clean & safe' farm products that are destined for human consumption. This reputation will be sullied in the eyes of customers and consumers.*

*The Territory has untold capacity to develop and prosper and is eager to attract commercial investment to the agriculture sector. However, the presence of harmful substances near arable lands and bountiful water assets, notwithstanding population centres, will curtail investor inquiry and confidence.*

*The Association urges the Australian Government to consider other sites that are more appropriate in Australia".*  
(NT Agricultural Association media statement, November 1, 2005)

**Trade union opposition:** Australian trade unions have consistently supported wider community opposition any imposed nuclear waste transport and dumping.

ACTU Executive Motion July 2003

*"That the ACTU Executive supports the position of the UTLC in South Australia to oppose the establishment of a national nuclear waste dumping facility in SA, and calls on all affiliated unions to support the SA union ban on construction of and provision of services to such a dump.*

*In addition, the ACTU Executive support the Kupa Piti Kungka Tjuta in opposing the building of a nuclear waste dump on their land."*

SA United Trades and Labor Council Motion March 2003

*"That the UTLC support the CFMEU in its opposition to the establishment of any Nuclear Waste Dumping Facility in South Australia, and calls on all SA unions to ban the construction of and provision of services to any dump. In addition the UTLC supports the Kupa Piti Kungka Tjuta in opposing the building of a nuclear dump on their land."*

Significant union movement opposition to the current nuclear waste transport and dumping plans can be expected if the Federal Government attempts to proceed with its NT nuclear dump plan.

### **Depth of opposition means this legislation should not be passed:**

There is broad ranging and considered opposition and concern over the federal government's radioactive waste dump plans for the Northern Territory. Failing to genuinely address these unresolved issues undermines the projects credibility, alienates key and continuing stakeholders and is in direct conflict with best industry practice and standards.

ACF maintains that there is no justification and will be no long term beneficial outcomes should the federal government use a slender political majority to fast-track such a contested and divisive project. Any such action would be a coercive political act that lacks both scientific credibility and procedural integrity.

### **Option of long term waste management at Lucas Heights – ARPANSA:**

A key argument advanced by proponents of the NT dump plan is that such a facility is required to ensure that the new reactor at ANSTO's Lucas Heights facility is granted an operating license. It appears that this view is not shared by ARPANSA, the federal nuclear regulator.

John Loy the CEO of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) has accepted that existing and proposed new reactor wastes could continue to be managed in Sydney, in the face of SA state government opposition to the Repository:

#### *"4.4 Low Level Waste Repository:*

*I note that ANSTO's application is predicated on low level wastes finally being sent for disposal to the national low level waste (LLW) repository. ....*

*I understand that the Premier of South Australia has now written to the Prime Minister stating that the SA Government 'is opposed to any national radioactive or nuclear waste dumps being established in this State'. ....*

*Should it come about that the national approach to a waste repository not proceed, it will be necessary for the Commonwealth to devise an approach to final disposal of LLW from Lucas Heights, including LLW generated by operation of the RRR.*

*In the meantime, this waste will have to be continued to be handled properly on the Lucas Heights site. I am satisfied, on the basis of my assessment of the present waste management plan, including the license and conditions applying to the waste operations on site, that it can be."*

("Decision by the CEO of ARPANSA on Application to construct the Replacement Research Reactor at Lucas Heights. Reasons for Decision", April 2002. )

The proposed NT nuclear dump is unnecessary in light of the CEO of ARPANSA's clear satisfaction that existing and proposed new reactor wastes can be managed on site at Lucas Heights in Sydney.

### **Lack of an Australian management option for Spent Nuclear Fuel Wastes:**

ANSTO have failed to act on clear recommendations from both an earlier Senate Inquiry (Select Committee for an Inquiry into the Contract for a New Reactor at Lucas Heights) and ARPANSA's Nuclear Safety Committee to provide a comprehensive plan for management of spent fuel wholly within Australia. This effectively leaves Australia without any contingency plans to manage new reactor spent nuclear fuel wastes.

#### **The 2001 Senate Select Committee recommendation**

*"The Committee recommends that, in the light of growing opposition overseas, ANSTO prepare and fully cost a contingency management plan for spent fuel conditioning and disposal within Australia. This plan should fully describe the technologies to be used should Australia have to manage its spent fuel wholly within Australia."*

("A New Research Reactor? Report of the Select Committee for an Inquiry into the Contract for a New Reactor at Lucas Heights", Executive Summary p.xxxv)

#### **The 2002 Nuclear Safety Committee recommendation**

**Recommendation No.2:** *"A contingency plan for additional spent fuel storage arrangements and/or spent fuel conditioning in Australia should be submitted to ARPANSA as part of its conditions of license to construct the RRR. The Applicant should demonstrate a 'fall-back' position which is feasible, practical and socially and politically acceptable in case the international options are not available."*

("Report on the ANSTO application for a license to construct a replacement research reactor", Recommendations, Spent Fuel Management and Reprocessing /Conditioning p.99-100, Nuclear Safety Committee, ARPANSA February 2002)

The Nuclear Safety Committee (NSC) is an advisory body to the CEO of ARPANSA, established under the ARPANSA Act 1999. Their formal recommendations were effectively ignored in the reactor construction license decision and are now ever more urgent as pre-requisite conditions for the proposed new reactor operating license in 2006 and to inform the potential long term consequences of this Bill for proposed imposition of a nuclear dump onto NT.

The earlier Senate Inquiry into the new Sydney reactor indicated that it is likely that claimed arrangements for overseas reprocessing of spent fuel with periodic removal from Lucas Heights will either not occur or will expire well within the life period of new reactor operations. Any such development would leave new reactor spent fuel to either remain at Lucas Heights in the long term or to be directly transferred to the proposed Store in the NT.

Direct transfer of spent nuclear fuel from the new reactor to a National Store has in fact been envisaged by ANSTO during the EIS public consultation during 1998:

*"In the unlikely event that the overseas option should become unavailable, it would be possible at short notice to take advantage of off-the-shelf dry storage casks for extended interim storage at the national storage facility, pending renewed arrangements being negotiated for the reprocessing / conditioning of the fuel. Such*

*dry storage casks systems are being adopted in Germany for interim storage of research reactor fuel, and are available commercially from a number of companies including INVAP in Argentina and AECL in Canada.”*

(“Replacement Nuclear Research Reactor, draft EIS, Vol 1 / Main Report”, p.10-18  
“Other Technologies”, July 1998, ANSTO)

ACF notes the proposed legislation would preclude the direct transfer and dry storage of spent nuclear fuel at any federal nuclear waste facility imposed in the NT and notes the clear operational implications of this, including that should Australia’s reprocessing options change – and it is likely they will – then spent nuclear fuel will remain at Lucas Heights.

ACF believes the artificially urgent and rushed nature of the current legislation is not consistent with the development of comprehensive national policy and further seeks to understand what, if any, input or advice ARPANSA and ANSTO provided on this legislation and the related amendments on spent nuclear fuel.

ACF welcomes the NSC recommendation that any plan “...is feasible, practical and socially and politically acceptable” and urges the Committee to require that standard and apply this test to this Bill. In its present form ACF believes this Bill and the wider government approach to radioactive waste management would fail this key test.

**Lucas Heights spent nuclear fuel is a high level nuclear risk:**

Existing reactor spent nuclear fuel and that proposed to be produced in Sydney for decades to come by the new reactor can only be considered as high level nuclear wastes. This view has been expressed by repeated industry and Parliamentary reviews of ANSTO’s operations.

*“The spent fuel rods at Lucas Heights can only sensibly be treated as high level waste. ... The pretence that spent fuel rods constitute an asset must stop.”*

( McKinnon Review: “Future Reaction: Report of the Research Reactor Review”, August 1993, Principal Conclusions p.xxiii )

*“From its radioactivity, heat production, and other physical characteristics, it is the view of NSW Department of Environment and Conservation that spent fuel should be considered high level radioactive waste.”*

( Parliament of NSW, Joint Select Committee on the Transportation and Storage of Nuclear Waste, Report No. 53/01, February 2004, Appendix Six – EPA Correspondence on Spent Fuel )

Federal government claims that spent nuclear fuel is not radioactive waste as it may be intended to be reprocessed and claims that it is not high level hazard were also not accepted by the Senate Inquiry “A New Research Reactor?” (May 2001) finding:

*“The fact is that spent fuel rods from Lucas Heights have, for many years, been regarded as waste” (p.203); and*

That claimed differences in technical definitions: “...were more concerned with the decision of a controlling party about how to ‘deem’ spent fuel that the nature of the radioactive hazard posed by the material itself.” (p.204).



ACF has long maintained that such semantics and definitions of convenience have only served to undermine community confidence in ANSTO's operations and the wider radioactive waste management regime.

Further, the reprocessed spent nuclear fuel wastes intended to be returned to Australia to a proposed NT site require the same level of all of handling, isolation and hazard management as the original spent nuclear fuel high level wastes.

ANSTO refers to reprocessed wastes as "long lived intermediate level wastes". However the radioactive composition and hazard remains the same as that of the original spent nuclear fuel and the only effective difference is mixing with another material as a matrix to lower the heat output per unit volume of the wastes.

**Note:** A single spent nuclear fuel rod contains more radioactivity than the sum total of radioactivity in the 132 truck loads of lower level wastes proposed to be transported from Lucas Heights to the proposed nuclear dump in NT.

If an operating license for the new reactor is issued by ARPANSA in 2006 some 40 spent fuel rods would be produced and stored on-site a year for the following 8 years before the first intended removal of only 5 years of spent fuel in 2013-14. Such an approach would mean leaving a minimum 3 years worth of spent fuel, or some 120 spent fuel rods, 'cooling' in storage in Sydney. The amount of waste would increase from 120 to 320 spent fuel rods before the next planned removal of a 5 yearly accrual in 2018-2019.

This cycle of high level waste production and storage would continue against the health and safety interests of generations of community in Sydney over the proposed 40-50 year period of the new reactors operation. Compared to existing reactor operations the new reactor would produce twice the rate of spent nuclear fuel waste and up to four times the rate of wastes in other categories from expanded isotope production facilities. This increased waste burden would also mean an increased discharge of liquid wastes from the reactors waste stream to the sea at Cronulla.

### **A new Sydney reactor – unnecessary for medical isotope provision:**

Despite some recent extraordinary claims that without a radioactive waste dump in the NT Australian nuclear medicine will have "third-world" status the reality is that neither the reactor nor the dump are required in order to secure access to high quality nuclear medicine.

National environment groups, medical experts and the Federal ALP, Democrats and Greens have long understood that the future direction of nuclear medicine lies with cyclotron produced products and accelerators and that Australia can have a secure supply of medical isotopes for cancer treatment, medical research and other applications without a nuclear reactor at Lucas Heights.

*"Australia will have a secure supply of medical isotopes for cancer treatment, medical research and other applications under Labor's policy of not building a nuclear reactor at Lucas Heights.*

*Other countries, including the United States and Japan do not produce their own medical Molybdenum. In fact, the great bulk of this material is currently produced in Canada and shipped around the world.*

*Australia imports this material on a regular basis when the existing reactor is shut down for maintenance.*

*The Senate Inquiry into Lucas Heights examined this issue in detail and was not convinced that logistical difficulties constitute a serious obstacle to the successful importation of radioisotopes.*

*In addition, other nuclear materials are already produced in Australia using the National Medical Cyclotron. The future direction of nuclear medicine lies with cyclotron produced products and accelerators.*

*Labor remains unconvinced of the arguments for the need for a new nuclear reactor and believes it is completely inappropriate for a reactor in suburban Sydney at Lucas Heights.”*

(Nov 2001 Joint Media Release by Jenny Macklin MP Shadow Minister for Health, and the Shadow Ministers for the Environment and for Science and Resources.)

**“NO NUCLEAR REACTOR:**

*Labor opposes a new reactor in suburban Sydney at Lucas Heights.*

Despite public concern about the environmental and health impacts of the reactor and questions within the scientific community about the relative priority of this project, the Howard Government has arbitrarily decided to proceed with the construction of a replacement reactor. This is in spite of the legitimate concerns of local residents and without any real consideration of possible alternatives to a new reactor. Labor remains unconvinced that there is a need for a new reactor. Labor will therefore

- *promote and assist the development of the remaining facilities at Lucas Heights into a centre for medical, scientific and technological research; and*
- *review the purpose, functions and aims of reprocessing of Australian generated nuclear waste; “*

(“Kim Beazley’s Plan for the Environment and Heritage”, ALP policy statement 2001)

### **Lack of siting criteria or regulatory guidance for proposed NT dump sites:**

This Bill to impose a proposed store for long lived intermediate level wastes including reprocessed nuclear wastes lacks any regulatory guidance or Australian siting criteria. The Minister for Science made an arbitrary decision in nominating these three sites based off a Department of Defence desk top ‘study’.

The CEO of ARPANSA confirmed in Estimates in November 2005 that he is yet to prepare the regulatory guidance for the stages of licensing in Siting, Construction and Operation of any federal radioactive waste store.

**Senator CROSSIN**—*Do you have any guidelines that will assist you in what you will be looking for to grant the first licence? Is there a framework, or are there any indicators?*

**Dr Loy**- *Yes. There is a significant amount of guidance, both Australian and international, about low-level waste repositories. There is a lesser amount about ongoing stores, though that is being developed. What I am proposing to do is to bring that together in a regulatory guidance document that will describe the international guidance and indicate the areas in which I would want to be satisfied at each stage of the licence. I hope to bring that regulatory guidance material together in a draft in the next little while—before the end of the year—and to put it out for a period of public submission early into the new year.*

**Senator CROSSIN**—*With a view to finalising that by when, do you think?*

**Dr Loy**—*I would hope it would be finalised in the first half of 2006.*  
(Senate Community Affairs Legislation Committee, 2<sup>nd</sup> Nov 2005)

This fundamental regulatory guidance is not intended to be made public until after the period of this Senate Inquiry and will not be finalised for use until mid 2006. This gap is long after the federal government's July 2005 announcement of three possible nuclear dump sites in the NT and half way through the 12 month consultancy study into the suitability of the three sites proposed by Department of Science in the "Request for Tender". The absence of such a key project framework is clearly inconsistent with best practise.

The siting criteria for the store - a 100 year facility - should exist and take precedence in informing the siting of the co-located facility. The nuclear waste management risk factors and suitability of siting for the store are the key determinant and the availability of criteria for management of lower level wastes is a secondary consideration and cannot be used to justify siting the facility in the absence of clear store siting criteria.

### **Unfinished Business: The need for a detailed Net Benefit Analysis:**

There are numerous questions and issues that require clarification, attention and resolution before the passage of any legislation to facilitate a federal radioactive waste dump in the NT. These deserve more than a one day Committee hearing and a rushed reporting timeframe as they are key to the development of a credible and effective radioactive waste management framework in Australia.

ACF calls on the Committee to consider the "Net Benefit Analysis" requirement in the ARPANS Act sec.41(c) and to require relevant evidence from the proponent prior to the Senate's further consideration of this legislation, including in relation to the following important and unresolved matters:

- The impacts and rationale of overriding of the democratic rights of Territorians and the will of the NT Parliament and law prohibiting proposed nuclear dumping and associated waste transport;
- Overriding of rights and interests of local communities and local government authorities along proposed transport routes across Australia including the SA prohibition on the transport of reactor wastes into and across SA;
- The rights and interests, including human and cultural rights, health and Native Title of traditional owners of the proposed dump site areas;
- Comparative and quantified community risk analysis of continued onsite storage verses risks and overridden rights in transport of wastes to a centralised facility;
- Quantified analysis of the claimed reduction in number of Commonwealth waste storage sites if the proposed NT dump facility were to go ahead. Given that all continuing users of radioactive materials would need to maintain on site storage facilities suitable to manage at least 5 years worth of wastes in any case, ACF believes this 'project benefit' has been greatly overstated.
- Comparative costings for enhancing onsite storage facilities for Commonwealth organisations generating radioactive wastes verses the NT nuclear dump plan with the continuation of onsite storage facilities for existing users in any case;

- Studies of siting and design for above ground storage be equally carried out along with the proposed shallow burial model and a comparative analysis of above ground and burial options be conducted and released.

ACF calls on this Senate Inquiry to seek answers from the federal government to fundamental questions on the siting process to date. This is particularly important given that a decision has been taken on three sites without any regulatory guidance, primary siting criteria or any apparent scientific basis. These questions include:

Why does the Federal Government no longer use nor acknowledge the Siting Criteria set down by their National Store Advisory Committee (NSAC) for a Store for long lived intermediate level wastes including the reprocessed nuclear wastes?

On what basis and on what advice did the Minister of Science choose to put aside these Siting Criteria and the proposed short list of Store sites provided by the NSAC?

ACF refer the Committee to: *"Safe Storage of Radioactive Waste. The National Store Project: Methods of choosing the right site"*. (Public Discussion Paper, July 2001, National Store Advisory Committee.)

What, if any, siting criteria did the Minister and the Department of Science use in selecting the three proposed sites in the NT?

Why does the Department of Science "Request for Tender" for a consultancy to study the three nominated sites only provide generic IAEA siting advice and Australian siting criteria for a low level waste facility?

Why at this late stage, with the Bill before the Senate for a decision on the legislation, has the Federal Government not formally set siting criteria for the proposed Store for long lived intermediate level nuclear waste?

In the absence of any publicly available regulatory guidance and any Siting Criteria for the Store, what informed appraisal or confidence can the public have in this Bill to impose a nuclear dump onto the NT?

In proposing to collect socio-economic information for a consultancy study of the three proposed sites, why does the "Request for Tender" fail to include or refer to indigenous rights and interests, including cultural association with land, as matters for consideration in the Guidelines and Terms of Reference of the study?

### **Radioactive Waste Management Bill – override of rights and due process:**

Why does the Federal Government seek to remove any rights to procedural fairness concerning decisions/declarations under this Radioactive Waste Management Bill? What is the rationale to justify this urgency?

Why is the Federal Government seeking to override the established rights and accepted legislative due process in the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) concerning decisions/declarations for nuclear dump siting under this Radioactive Waste Management Bill ?

Why does the Federal Government seek to compromise the EPBC Act by arbitrary decree that the regulatory processes under the Act will only apply after a decision is taken under this Bill on selection of a nuclear dump site?

What remaining validity does the EPBC Act have, the application of the Objects of the Act, environmental assessment under the nuclear trigger of matters of national significance, and the required Environmental Impact Statement, when the Act and its processes have been excluded from the site selection decision?

How can the Federal Environment Minister claim to conduct any credible assessment of the construction and operations of a nuclear waste dump, based on an arbitrarily imposed site? This is a particular difficulty for the Environment Minister as he previously gave an "absolute categorical assurance" to the NT community that no radioactive waste dump would be imposed on the NT (ABC radio, 30 September, 2004)

To what degree is the remaining EPBC Act environmental assessment and Environment Impact Statement process likely to be compromised by being constrained to assess these three arbitrarily chosen sites?