

DISSENTING REPORT TO THE DANGERS ON RADIOACTIVE WASTE INQUIRY

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At the outset, we would like to emphasise that there IS no safe method of DISPOSAL of radioactive waste, so that all community considerations still need to address the safe handling and storage of radioactive waste so that it is secure, monitored and retrievable. We thus need to concentrate our efforts on waste minimisation.

Future technological changes may either find a use for what is currently considered radioactive waste or may find a truly safe way of protecting society from its dangers in perpetuity. Such a method has not yet been developed.

There are several areas of concern about the report as it stands, but many of the Report's recommendations will be a positive step, if implemented, towards better procedures in management of radioactive waste.

There are, however, some points where we disagreed with the Committee conclusions or which we believe require qualification.

These areas include:

1. The creation and handling of radioactive waste from hospitals and research institutions (think of what you could do NOW in preventative health care with what it would cost the community to look after radioactive waste with a half life of 300 000 years!)
2. The use of 'user pays' in the pricing of radioisotopes and the rationale for the continued operation of the Lucas Heights nuclear reactor
3. The need for regulatory controls of industries which create nuclear waste to be independent of the industry's willingness to pay
4. The handling of spent fuel rods from the Lucas Heights nuclear reactor
5. The feasibility of dumping low (or intermediate?) level radioactive waste in active uranium mines
6. Whether a national radioactive waste storage facility is an acceptable proposition and the possibility of State-based facilities, where

necessary, for very limited quantities of historic radioactive sources (from institutions which NO longer produce radioactive waste)

7. The promotion and use of photo electric smoke detectors
8. The export of used medical radiotherapy sources as 'aid' requiring no waste management plan
9. The practice of dilution and dispersal of radiotoxins into the environment is not an acceptable approach.

Dealing with each of these in turn.

1. **The creation and handling of radioactive waste from hospitals and research institutions (think of what you could do NOW in preventative health care with what it would cost the community to look after radioactive waste with a half life of 300 000 years!)**

Radioactive waste from hospitals is, of course, a problematic issue.

Many radiation managers in hospitals support a centralised waste facility to handle the more long lived wastes which operations such as hospitals are claiming they are unable to look after.

Not all of this waste is historic waste. The question arises as to whether provision of such a national storage facility will only encourage the production of more radioactive waste. It has to be asked to what extent it is necessary for hospitals to continue to handle longer lived radioisotopes at all.

The Committee report cites the example of research into enterotoxigenic *Escherichia coli* at the Royal Alexandra Hospital for Children which could possibly save children's lives, as a reason why hospitals and other institutions undertaking medical research should not need to bear the brunt of the storage of the radioactive waste which their research is producing, because this could cause valuable medical research to be jeopardised.

We believe that the better approach is to consider the net benefits of any research proposal. That is, if there is a public good resulting from such research, it is as a result of the benefits to the community minus the costs, including the public health and environmental costs of the storage of long lived radioisotopes. One of the radioisotopes used in this particular research, chlorine³⁶, has a half life of 300 000 years.

It may well be that hospitals may be able to find another funding body to cover the cost of dealing with the waste they produce, but that is quite different from not having to consider such community costs when making decisions about undertaking such a research program.

Evidence to the Committee seemed to be clear that the difficulties in dealing with radioactive waste tempered many decisions as to the use of the radioisotopes. A significant number of submissions from community and environmental groups felt that lifting that responsibility from these institutions would lead to a greater use of such radioisotopes in the future, especially by those who think the current responsibilities are restricting research.

The use of radioisotopes in medicine is also used by the nuclear industry to legitimate their own subsidies. We don't think the case has been proven to exempt hospitals from user pays fees, but perhaps to pay a lower rate than other industry users. The fees could be based on both volumes and levels of radioactivity - and ensure that radioactive waste is dealt with properly at the end of its use.

As was mentioned in the main committee report, hospitals produce a small volume of radioactive waste compared to industry. What needs to be changed is the balance of who pays what, determined by a user pays rate which accurately reflects the cost of disposal.

This should occur in a context in which hospitals should have a realistic basis for assessing whether research should go ahead based on the full social and environmental costs and benefits of the chosen research methods. This should include consideration of whether it can change its procedures to ones which use alternatives to isotopes or shorter lived isotopes etc. If the public benefit exceeds the cost, then the hospital should be able to make a case for more funding, as the problem is one of hospital funding rather than the determination of costs and benefits.

Perhaps, in the future, those medical isotopes which cannot be produced by more benign technology, such as cyclotrons, will be in such small quantities that maintaining a reactor for their production is not viable.

The question is whether the storage of radioactive waste is safer in a hospital where it is under supervision than during transportation or in a national facility. This question must be addressed in the transport arrangements and the siting and design of the national storage facility.

2. The use of 'user pays' in the pricing of radioisotopes and the justification of the Lucas Heights nuclear reactor or even a future reactor

ANSTO is currently being subsidised to produce hazardous waste such as spent fuel rods. There is little 'public good' justifying this subsidy. ANSTO has admitted that its business is uneconomical, it cannot compete with imports from the United Kingdom. Industries such as ICI, BHP, Comalco and Pacific Power (which is also subsidised) which use these isotopes must be charged the full costs of the production of the isotopes, including the costs of operating and decommissioning the reactors and the management of the radioactive wastes arising from these activities.

One of the industry concerns about the purchase of radioisotopes with longer half lives from overseas is that they will have to pay the full cost of shipping them safely back to the producer after use and this is MORE expensive than the current arrangements. So be it. Further, there should be a regulatory mechanism to ensure that countries to which radioactive materials are returned are dealing with the waste in an environmentally acceptable manner and that the purchase price covers the full costs of adequate storage.

Similarly, it has been argued that communities would be less concerned about State/Territory radioactive waste storage facilities if they were well engineered and adequately monitored. Those who say this would make the cost of using radioisotopes too expensive are, in fact, advocating that the community should continue to subsidise their use.

3. The need for regulatory controls of industries which create nuclear waste to be independent of the industry's willingness to pay. That is, if waste cannot be handled safely it should not be put onto the community to subsidise that company's profit margin, either in covering the long term costs of waste management in a storage facility, or in bearing the health, social and environmental costs of having the waste left on site in an unsatisfactory manner, for example, the sand mining industry

There appears to be a substantial difference between how we expect hospital and research institutions to handle radioactive waste and much of the mining industry, which produces by far the greatest bulk of our radioactive waste.

Whilst the use of technologies which use radioactive materials has wider application in industry than in the past, it is true that most of industry's

radioactive waste is considered to be of low level, although much of it has extremely long half lives.

Many of the original mineral sands mining sites have had their thorium/uranium stored on site, either mixed with the slurry, in tailings or concentrated in pits. It has been admitted that there has been little regulation in the handling of such waste.

Rhone Poulenc argued that the proposal to bury thousands of tonnes of thorium/uranium waste in plastic bags at Mt Walton, in Western Australia may be an improvement on the current situation of releasing monazite on the Swan Coastal Plain!

That this situation has been allowed to continue in this way is perhaps less a comment on the environmental and health hazards of concentrating radioactive material through the mining process as the ability of the industry to control the regulatory environment by arguing that their margins will not allow better waste management.

It is also true that the indications are that many people in the industry do not believe that they are creating an environmental or health hazard.

We agree with those in the community who argue that if proper handling of radioactive waste means that a mining and milling operation is not viable, then there is no reason for the community to subsidise that industry any more than any other. While other regions in Western Australia such as Mt Weld-Meenaar have rare earth ores containing less radioactivity it cannot be argued that it is necessary to produce these large quantities of waste with these concentrations of radioactivity.

4. The handling of spent fuel rods from the Lucas Heights nuclear reactor

Prior to the recent shipment of spent fuel rods to Dounreay in the United Kingdom, ANSTO stored almost 1700 spent fuel rods on site at Lucas Heights. Having been responsible for creating this high level radioactive waste (although ANSTO does not classify its spent fuel rods as high level waste because it claims they are not officially classified as waste), ANSTO wants to get rid of them conveniently by exporting them.

If the Lucas Heights nuclear reactor is really not necessary, then we have lost the rationale for producing such high level waste in the first place.

Even if we send the spent fuel rods to the United Kingdom, after reprocessing they will be stored for up to 25 years for further decay cooling (now classified as high level waste although ANSTO considers them to be intermediate level waste) so that they can be sent back here! If we send spent fuel rods to the United States, we are simply dumping the waste of our industry somewhere else.

It is hardly surprising that Greenpeace is opposed to the practise of transporting such materials backwards and forwards across the world to become someone else's problem!

5. The feasibility of dumping low (or intermediate?) level radioactive waste in active uranium mines

Although the main report recommends that only very low radioactive waste, mainly soil contaminated with thorium and uranium isotopes, be considered for placing in an active uranium mine, a number of submissions suggested that this was a suitable disposal option for intermediate and all low level waste. In the absence of any full study into the health and environmental implications of uranium mining for workers or surrounding communities, we believe any 'feasibility' study of adding further waste to the mess would be irresponsible.

6. Whether a national radioactive waste storage facility is an acceptable proposition and the possibility of State-based facilities, where necessary, for very limited quantities of historic radioactive sources (from institutions which NO longer produce radioactive waste)

This debate is in many ways similar to the debate about the need for a national high temperature incinerator for toxic and intractable waste. As in the radioactive waste debate, the toxic waste debate was partly about the transportation of hazardous waste and the perceived risk of concentrated storage.

The Senate Standing Committee on The Environment, Recreation and the Arts conducted an Inquiry into Waste Disposal in 1994 and was confronted with changing definitions of 'waste' and developments in our technological capacity to use 'waste' for further processing. These factors changed the eventual answer to the question of what could be done with waste. With regard to radioactive waste, our progress with the above fundamental questions is still very limited.

Therefore it would be premature to make a commitment to a national storage facility with its associated national infrastructure, before a full debate and full development of alternatives occurs. It has not been possible for this committee to conduct that full debate, even though the committee has provided a useful forum for part of the debate. Much more time and much more information would be necessary before conclusive findings could be reached.

Until Australia is able to resolve the risks of transportation of radioactive wastes; until Australia is able to fully catalogue the existing stockpile (and thereby properly determine the nature and extent of the risk); until Australia is able to resolve the question of whether a national storage facility would encourage irresponsible production of unnecessary amounts of waste; until all Australians have had ample opportunity to make an informed contribution to the debate, any proposal for a national storage facility is premature and in fact, a potential complication rather than a resolution.

This is one point where we would challenge the assumption of the main Committee Report that we should be considering a national nuclear waste facility at all.

It is our belief that creators of nuclear waste should be responsible for its safe storage, where possible, at the place of production. Certainly the Commonwealth should retain responsibility for the radioactive waste it has created, but that still does not mean that waste must be transported across Australia to a single national storage facility.

Residents of Sutherland Shire are right to be concerned that the storage and handling of radioactive waste at Lucas Heights is not as good as it could be. However, sending such waste to another site is not solving the problem, merely shifting it.

It is possible that the Commonwealth could develop facilities in any of the States or Territories in which it is considered that Commonwealth radioactive waste is not adequately housed. At such facilities, there may also be a case for storing some categories of historical waste sources from hospitals WHO HAVE CEASED TO PRODUCE RADIOACTIVE WASTE THAT CANNOT BE MANAGED ON SITE.

The residents of the Goldfields of Western Australia are right to be concerned that the siting of any national waste storage facility appears to be more dependent on political and economic expediency than health and environmental considerations or any real concept of 'worlds best practice'.

7. The promotion and use of photo electric smoke detectors

As with the previous discussion in relation to medical radioisotopes, it would seem that there is no real argument to subsidise the purchase of ionising smoke detectors by not including the cost of safe disposal in the purchase price. Once again we are talking about public good, we should be considering NET public good.

At the very least, non ionising smoke detectors should receive a subsidy which reflects the fact that they do NOT have to be stored for a period well beyond the life of the device. There must also be real incentives for industry to develop effective smoke detectors without a huge waste problem.

8. The export of used medical radiotherapy sources as 'aid' requiring no waste management plan

The citing, in the main report of spent radiation sources such as Caesium¹³⁷ being sent over seas as 'aid' is shocking, as there appears to be no provision for final disposal either here in Australia or in the recipient country as a condition of the 'gift'. We have thus exploited the lack of medical technology in those countries as a means of dumping our radioactive problems on someone else!

If we give such 'aid', it should include the cost of safe storage after its use by date, or the ability to return the equipment to Australia or the original manufacturer for storage.

9. The practice of dilution and dispersal of radiotoxins into the environment is not an acceptable approach

Put quite simply, where radioactivity is concerned, dilution is not the solution to pollution. The fact that some witnesses have argued that it is not fair that big hospitals are not permitted to disperse radioactivity according to a per patient ratio is symbolic of the way we have dealt with radioactive waste in Australia. Perhaps much of this relates to the assumption that there is a safe level of radioactivity.

This does not accord with the linear dose hypothesis as outlined in the main report. It is NOT acceptable that ANSTO releases radiotoxins into the sewer which leads to an ocean outfall. If such bodies do this because it is TOO EXPENSIVE to handle waste safely, then they should not be given a license to handle nuclear waste.

We have suffered too long in Australia from a gung-ho attitude by the very authority which has control of much of what happens to the nuclear waste produced in this country.

It is time we planned the future, NOT just to keep the jobs of those who have a vested interest in maintaining the status quo.