Appendix 5

Australia's radioactive waste inventory[1]

Table 1: Current inventory and estimated annual arisings of low level and short-lived intermediate level waste

Waste Producer	Typical Waste	Estimated Current Volume (m^3)	Estimated Future Annual Waste Arisings (m^3)
ANSTO	Laboratory equipment - clothing, paper and glassware	1320	30
States & territories	Industrial gauges, exit signs, smoke detectors, medical sources, hospital waste which includes clothing, paper and glassware	160	5 - 10
CSIRO	Contaminated soil from research into radioactive ores in the 1950s and 1960s	2010	-
Defence	Electron tubes, radium painted watches, compasses, sealed sources	210	<5

In addition to the information listed in the table above, low level and short-lived intermediate level waste will be generated by the decommissioning of the High Flux Australian Reactor (HIFAR) and the replacement research reactor. Depending on the

1 From DEST website:

http://www.radioactivewaste.gov.au/australia_and_radiation/amounts_of_radioactive_waste_in_australia.htm

decommissioning options chosen, between 500 and 2,500 cubic metres of waste will be generated by the decommissioning of each reactor.

Long-lived intermediate level waste

Australia holds approximately 500 cubic metres of long-lived intermediate level radioactive waste. This includes waste from the production of radiopharmaceuticals wastes from mineral sands processing, and used sources from medical, research and industrial equipment.

Table 2: Current inventory of long-lived intermediate level waste

Waste Producer	Typical Waste	Estimated Current Volume (m^3)
ANSTO	Target cans, alumina columns, used control arms, aluminium end pieces, solidified liquid waste – from reactor operation and research, and radioisotope production	205
Industry – historical waste	Thorium and uranium residues from mineral sands processing	165
States & territories	Used sources from medical, industrial and research equipment	100
Other Australian Government agencies	Used sources from medical and research equipment	35

Table 3: Estimated future annual arisings of long-lived intermediate level waste

Waste Producer	Typical Waste	Estimated Future Annual Waste Arisings (m^3)
ANSTO – 2000-2005	Target cans, alumina columns, used control arms, aluminium end pieces, solidified liquid waste	1.53
ANSTO – post-2005	Target cans, alumina columns, used control arms, aluminium end pieces, solidified liquid waste	1.62
States & territories – 2000 onwards	Sealed sources from medical and research equipment	2
Other Australian Government agencies – 2000 onwards	Sealed sources from medical and research equipment	1

Table 4: Estimated future arisings of long-lived intermediate level waste generated by the decommissioning of HIFAR and the replacement research reactor

Waste Producer	Typical Waste	Estimated Future Waste Arisings (m^3)
ANSTO – HIFAR, estimated date 2035	Core support structure	5
ANSTO – HIFAR, by 2020	Packaged reprocessed waste in cement Vitrified residues and compacted waste	20 6
ANSTO – replacement research reactor, estimated date 2075	Core support structure	<5
ANSTO – replacement research reactor, after 2025	Vitrified residues and compacted waste	20