

## ***SA is targeted for five nuclear dumps and high level waste processing***

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The Nuclear Royal Commission [recommended](#) SA pursue nuclear waste storage and disposal “*as soon as possible*” – requiring five waste dumps and a high level nuclear waste *encapsulation* processing facility.

The Final Report Ch.5 “[nuclear waste](#)” and the [Findings Report](#) (p.16-20) are reliant on a consultancy “[Radioactive waste storage and disposal facilities in SA](#)” by Jacobs MCM, summarised in [Appendix J](#).

[SA is targeted for above ground high level nuclear waste storage](#), without a capacity to dispose of wastes, exposing our society to the risk of profound adverse impacts, [potential terrorism](#) and [ongoing liabilities](#).

**The State government is in denial on the importance of nuclear waste dump siting** by claiming social consent could be granted *before* we know what’s involved in siting up to five nuclear dumps across SA.

Affected regions and waste transport routes are fundamental pre-requisites to transparency and to an *informed* public debate on potential consent to take *any* further steps in this nuclear waste agenda.

**First: a dedicated new deep sea [Nuclear port](#) is to receive waste ships every 24 to 30 days for decades, to store high level waste on site following each shipment, and to operate for up to 70 years.**

The coastal region south of Whyalla and north of Tumby Bay is the likely location for this Nuclear port.

South Australia is targeted for a globally unprecedented scale of high level nuclear waste shipments. Some 400 waste shipments totalling 90 000 tonnes of high level waste and requiring 9 000 transport casks are to be brought into SA in the first 30 year period of proposed Nuclear port operations.

This is in excess of the global total of 80 000 tonnes of high level nuclear waste shipped around the world in the 45 year period from 1971 to 2015, according to the World Nuclear Association report “[Transport of Radioactive Materials](#)” (Sept 2015) and the Jacobs MCM consultancy (Feb 2016, p.152).

**Second: an above ground nuclear waste Storage facility is to take on approx. 50 000 tonnes high level waste *before* a Disposal facility could first start to operate in Project Year 28** (Jacobs p.5 Fig.3).

SA is proposed to import high level waste at 3 000 tonnes a year, *twice* the claimed rate of waste disposal (Jacobs p.114), with storage to increase to 70 000 tonnes. The Store is to operate for up to 100 years.

The Nuclear Commission [budgeted](#) to locate the waste Storage facility 5 to 10 km from the Nuclear port.

The Nuclear port and above ground waste Storage facility are to be approved in Project Year 5, ahead of pre-commitment contracts for 15 500 tonnes high level waste in Year 6 and waste imports in Year 11.

**South Australia needs to know the proposed region for siting the Nuclear port AND whether the nuclear waste Store is to be adjacent to the port (likely on Eyre Peninsula) or sited in the north of SA.**

**Third: a *Low Level Waste Repository* for burial of radioactive wastes** derived from all operations including final decommissioning of all nuclear facilities is proposed to be located in north SA. This Repository has a nominal waste burial capacity of 80 000 m<sup>3</sup> of radioactive wastes (Jacobs p.144). This is some eight times the total scale of the proposed *National Radioactive Waste Repository*.

## ***South Australia faces two nuclear waste Geological Disposal dump sites:***

SA is proposed to take on perpetual liability for 138 000 tonnes of high level nuclear waste, equivalent to one third of the total global inventory of 390 000 tonnes of high level waste. These wastes are known to “require isolation from the environment for many hundreds of thousands of years” (Finding 73).

The Nuclear port and above ground Storage facility are also [to take on 390 000 m<sup>3</sup> of intermediate level nuclear wastes](#) over 70 years, importing 290 000 m<sup>3</sup> in 17 000 shipping containers in the first 30 years.

The Nuclear Commission Final Report (p.290) assumes “combined” Geological Disposal siting at one location for high level waste disposal at 500 m depth AND for intermediate level waste disposal at 200 m depth (Jacobs p.1-2). This appears to be to minimise reported waste disposal costs (Jacobs p.170-171).

Claimed “combined” disposal siting could fail in practice, not realise consent or regulatory approval and can’t be shown until at least Project Year 15. Prudent planning requires a budget for two “stand-alone” Geological Disposal facilities with a required \$9.6 billion increase on reported capital costs (Jacobs p.198).

Further, nuclear contingency costs are unfunded, including “the need to abandon a site and move to an alternative site” (Jacobs p.32), which could occur in a flawed “combined” waste disposal siting exercise.

## ***Proposed nuclear waste disposal requires unprecedented high level waste processing:***

South Australian’s are being *misled* by Nuclear Commission claims that a *start-up* State government nuclear waste corporation can somehow follow Finland and Sweden to realise “a safe long term capability” (Findings 76 and 80) for high level nuclear waste storage and disposal in our state.

Nuclear Commission claims that SA can follow Finland and Sweden are *effectively invalidated* by the globally unprecedented scale of proposed high level nuclear waste storage and disposal in SA, that is twenty times the proposed scale of waste disposal operations in Finland, which are legally limited to a 6 500 tonne high level waste Geological Disposal Construction License issued in November 2015.

The Nuclear Commission proposes a high level nuclear waste “Encapsulation plant” to prepare and process nuclear waste for disposal in South Australia (Jacob p.173-174), which is:

*“...around three times the volume of the Swedish encapsulation plant and 15 times the average annual volume of the Finnish plant (or 6.5 times the maximum design throughput of the Finnish plant).”*

Jacobs (p.180) further compares proposed waste disposal facilities in SA to the proposed practice in Finland in the 2020’s, as: “... 18.3 times larger in terms of average spent fuel throughput”.

Required processing of high level nuclear waste for proposed disposal is a highly demanding *first of a kind* capability that only exist at laboratory scale, is unproven in practice and is without a safety record.

**The Nuclear Commission unacceptably compromise’s safety in South Australia**, by proposing nuclear waste imports at a rate and at a total tonnage that are far in excess of any envisaged high level nuclear waste disposal “encapsulation” processing capability anywhere in the world.

**For further info:** see [www.foe.org.au/import-waste](http://www.foe.org.au/import-waste) and <http://www.nodumpalliance.org.au/>