

AUSTRALIA'S HISTORY OF MISMANAGING RADIOACTIVE WASTE

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"The disposal of radioactive waste in Australia is ill-considered and irresponsible. Whether it is short-lived waste from Commonwealth facilities, long-lived plutonium waste from an atomic bomb test site on Aboriginal land, or reactor waste from Lucas Heights. The government applies double standards to suit its own agenda; there is no consistency, and little evidence of logic." – Nuclear engineer Alan Parkinson

RADIUM HILL: A radioactive waste dump "is not engineered to a standard consistent with current internationally accepted practice" according to a 2003 SA government audit.

PORT PIRIE: The Port Pirie uranium treatment plant is still contaminated over 50 years after its closure. It took a six-year community campaign just to get the site fenced off and to carry out a partial rehabilitation. As of July 2015, the SA government's website states that "a long-term management strategy for the former site" is being developed.

ARKAROOA WILDERNESS SANCTUARY: SA regulators failed to detect Marathon Resource's illegal dumping of low level radioactive waste in the Arkaroola Wilderness Sanctuary. If not for the detective work of the managers of the Arkaroola Wilderness Sanctuary, the illegal activities would likely never have been detected. The incident represents a serious failure of SA government regulation. The dishonest 2015-16 SA Nuclear Fuel Cycle Royal Commission report dealt with this scandal in two sentences and failed to note that the SA government regulator did not detect the illegal dumping of radioactive waste.

MARALINGA: The 'clean-up' of nuclear waste at the Maralinga nuclear test site in the late 1990s was a fiasco:

- Nuclear engineer Alan Parkinson said of the 'clean-up': "What was done at Maralinga was a cheap and nasty solution that wouldn't be adopted on white-fellas land."

More information:

- Pages 11-15 in Submission to SA Joint Select Committee, www.tinyurl.com/jsc-ngo-sub
- Maralinga 'clean up': www.nuclear.foe.org.au/flawed-clean-up-of-maralinga
- Woomera: www.nuclear.foe.org.au/woomera
- Mismanagement of waste at uranium mines, section 1.11 (p.74): www.tinyurl.com/joint-ngo-RC-sub

- Scientist Dale Timmons said the government's technical report was littered with "gross misinformation".
- Dr Geoff Williams, an officer with the Commonwealth nuclear regulator ARPANSA, said that the 'clean-up' was beset by a "host of indiscretions, short-cuts and cover-ups".
- Nuclear physicist Prof. Peter Johnston noted that there were "very large expenditures and significant hazards resulting from the deficient management of the project".

WOOMERA: CSIRO faces a \$30 million clean-up bill after barrels of radioactive waste at a major facility were found to be "deteriorating rapidly" and possibly leaking. An inspection found "significant rusting" on many of the 9,725 drums.

A damning report of the Woomera facility was issued by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) after an inspection in April 2012. The mixture of water and concentrated radioactive material inside some of the drums also had the potential to produce explosive hydrogen gas, inspectors found.

If there was some honesty about the mismanagement of radioactive waste in Australia, coupled with remediation of contaminated sites, we might have some confidence that lessons have been learned and that radioactive waste will be managed more responsibly in future. But there is no such honesty from the government, and there are no plans to clean up contaminated sites.

GLOBAL MISMANAGEMENT OF RADIOACTIVE WASTE – SOME EXAMPLES

Chemical explosion in deep underground repository for intermediate-level nuclear waste

The Waste Isolation Pilot Plant (WIPP) in the US state of New Mexico is the world's only operating deep underground repository for nuclear waste. On 14 February 2014, an explosion ruptured one of the barrels stored underground at WIPP. This was followed by a failure of the filtration system meant to ensure that radiation did not reach the outside environment. Twenty-two workers were exposed to low-level radiation. WIPP was closed for three years. Direct and indirect costs associated with the accident are estimated at over US\$2 billion (A\$2.9 billion).

A troubling aspect of the WIPP problems is that complacency and cost-cutting set in within the first decade of operations of the repository.

More information: www.wiseinternational.org/nuclear-monitor/801/one-deep-underground-dump-one-dud

Tunnel collapse and fatality in France

One worker was killed and another injured in a tunnel collapse at France's planned nuclear waste repository at Bure in January 2016.

<https://apnews.com/b06af269d0b8432898c85fbf69f467c1>

Asse, Germany

In Germany, the walls of the Asse radioactive waste repository are collapsing and cracks forming due to pressure from surrounding rocks and the infiltration of brine. 126,000 of radioactive waste are being exhumed at great expense. The final cost will run into many billions. *www.newscientist.com/article/2075615-radioactive-wastedogs-germany-despite-abandoning-nuclear-power/*

Fires and radioactive waste

A smouldering underground fire came within 400 metres of a radioactive waste dump, the West Lake Landfill, in Missouri in 2015. The fire had been smouldering for about five years.

A fire broke out at a radioactive waste dump in Nevada in 2015. A video showed bursts of white smoke and dirt flying from several explosions. Associated Press reported that the operator "was troubled over the years by leaky shipments and oversight so lax that employees took

contaminated tools and building materials home, according to state and federal records."

A ship carrying intermediate-level radioactive waste from Dounreay (UK) to Belgium in 2014 caught fire and began drifting in the Moray Firth, near Scotland. The MV Parida was transporting a cargo of cemented radioactive waste when a fire broke out in a funnel.

Fires have contributed to the devastation caused by some of the world's worst nuclear accidents including Chernobyl, Fukushima and the Windscale reactor fire in the UK.

More information: www.nuclear.foe.org.au/fire

UK: Leaked Sellafield photos reveal radioactive threat

The Ecologist published a set of leaked photos showing decrepit nuclear waste storage facilities at the Sellafield nuclear plant. The images show the state of spent nuclear fuel storage ponds that were commissioned in 1952 and used until the mid-1970s to store spent fuel until it could be reprocessed. They were abandoned in the mid-1970s and have been left derelict for almost 40 years.

The ponds are now undergoing decommissioning but the process is fraught with danger. Nuclear expert John Large warned that if the ponds drain, the Magnox fuel will ignite and that would lead to a massive release of radioactive material.

www.theecologist.org/News/news_analysis/2611216/leaked_sellafield_photos_reveal_massive_radioactive_release_threat.html

Recent reports on global problems with nuclear waste management

These reports have a great deal of information about difficulties with nuclear waste management:

- Robert Alvarez et al., 2019, 'Report - The Global Crisis of Nuclear Waste', <https://www.greenpeace.fr/report-the-global-crisis-of-nuclear-waste/>
- World Nuclear Waste Report, 2019, <https://worldnuclearwastereport.org/>
- Andrew Blowers, 2019, 'Nuclear Wastelands', <https://wiseinternational.org/nuclear-monitor/874-875/nuclear-monitor-874-875-24-april-2019>