

PNFA FACT SHEET

25 NUCLEAR REACTORS IN AUSTRALIA ... *WHERE WILL THEY GO?*

- The Federal Government's Review of Uranium Mining, Processing and Nuclear Energy in Australia recommended the construction of 25 nuclear power stations in Australia.
- In a report released in January 2007, The Australia Institute identified 19 geographical locations as the most likely sites for nuclear power plants, based on criteria such as proximity to seawater for cooling and access to the national electricity grid.

The selected sites are:

Queensland: Townsville, Mackay, Rockhampton, Gladstone, Bundaberg, Sunshine Coast and Bribie Island

New South Wales and the Australian Capital Territory: Port Stephens, Central Coast, Botany Bay, Port Kembla and Jervis Bay/Sussex Inlet

Victoria: South Gippsland, Western Port, Port Phillip and Portland

South Australia: Mt Gambier/Millicent, Port Adelaide and Port Augusta/Port Pirie.

(<http://www.tai.org.au/documents/downloads/WP96.pdf>)

- The Australia Institute also surveyed 1200 Australians on their attitude towards having a reactor in their local area and found that 66 per cent were opposed.
- Federal Environment minister Ian Macfarlane told the ABC's *7:30 Report* in 2006 that "nuclear reactors are safe and their locations are flexible....where those power stations are sited will be decided on the commercial proposals that are put forward and in the end by the community agreeing that they pose no real risk."
- Nuclear Power stations need to be placed near major centers and a water source.
- Nuclear power plants use one million gallons of water per minute. They cannot operate without releasing large amounts of radioactive gases and elements into the air and cooling water (nearby lake, river or ocean) every day. These releases are unregulated because the nuclear industry considers these particular radioactive elements to be biologically inconsequential. This is not so.

These emissions include the fat-soluble noble gases krypton, xenon and argon. If inhaled by people living near a nuclear reactor, they are absorbed through the lungs, and migrate to the fatty tissues of the body, including the abdominal fat pad and upper thighs, near the testicles and ovaries. Tritium or radioactive hydrogen is also released in large amounts. Tritium remains radioactive for over 200 years and is very carcinogenic.

- Spent fuel pools are typically constructed next to or on the roofs of nuclear reactors to store massive amounts of high-level radioactive waste - 10 to 30 times more radioactive material than that contained in the reactor core.

This vulnerable high-level nuclear waste includes hundreds of radioactive elements that have different biological impacts in the human body, the most important being cancer and genetic diseases.

- The Nuclear Regulatory Commission in the U.S performed a study in 1997, which calculated that a fire at spent fuel pool could produce between 54,000 to 143,000 cancer deaths and would render 2,000 to 70,000 square kilometers of agricultural land uninhabitable.
- These spent fuel or 'cooling' pools are also subject to catastrophic attacks by terrorists, which could unleash an inferno and release massive quantities of deadly radiation.
- There is a variation in sensitivity to radiation - children, old people and immuno-compromised individuals are many times more sensitive to the malignant effects of radiation than other people. The incubation time for cancer is long - cancer occurs five to 50 years after radiation exposure.

People living near nuclear power plants will be exposed to radiation in the air, in their water and in their food as tritium and other radioactive elements concentrate in vegetables and fruit. It is therefore medically unsafe to live near a nuclear power plant.