

South Australian Nuclear Fuel Cycle Royal Commission Tentative Findings

February 2016

The South Australian Nuclear Fuel Cycle Royal Commission has released its Tentative Findings into the opportunities and risks represented by increasing South Australia's participation in nuclear fuel cycle activities.

Commissioner Kevin Scarce released the Tentative Findings document on the 15 of February. The 42-page document includes 155 individual findings.

The Commission has begun a five-week feedback period, commencing with a week of public presentations to be held across the state. The closing date for responses is 5pm, Friday 18, March, 2015.

The Tentative Findings document is available [here](#).

Key Observations

The observations that frame the Commission's Tentative Findings include that:

- South Australia can safely increase its participation in nuclear activities and, by doing so, significantly improve the economic welfare of the South Australian community.
- The management of the social, environmental, safety and financial risks of participation in these activities is not beyond South Australians, and;
- Long-term political decision-making, with bipartisan support at both state and federal levels, would be a prerequisite to achieving progress.

Key Tentative Findings

Exploration, extraction and milling

An expansion of uranium mining has the potential to be economically beneficial. However, it is not the most significant opportunity.

Further processing and manufacture

In an already oversupplied and uncertain market, there would be no opportunity for the commercial development of further uranium processing capabilities in South Australia in the next decade.

However, fuel leasing, which links uranium processing with its eventual return for disposal, is more likely to be commercially attractive, creating additional employment and technology transfer opportunities.

Electricity generation

Taking account of future demand and anticipated costs of nuclear power under the existing electricity market structure, it would not be commercially viable to generate electricity from a nuclear power plant in South Australia in the foreseeable future.

However, Australia's electricity system will require low-carbon generation sources to meet future global emissions reduction targets. Nuclear power may be necessary, along with other low carbon generation technologies. It would be wise to plan now to ensure that nuclear power would be available should it be required.

Management, storage and disposal of waste

The storage and disposal of used nuclear fuel in South Australia would meet a global need and is likely to deliver substantial economic benefits to the community. An integrated storage and disposal facility would be commercially viable and the storage component could be operational in the late 2020s.

By way of example, financial assessments and economic modelling provided to the Commission by external expert consultants indicate that a storage and disposal facility could:

- Generate total revenue of more than \$257 billion, with total costs of \$145 billion over 120 years;
- Expressed in annual terms, generate State revenue of more than \$5 billion per year over the facility's first 30 years of operation and \$2 billion per year over the following 40+ years at which point waste receipts nominally conclude;
- and Generate approximately 1500 full time jobs – peaking at between 4000-5000 – during the 25-year construction process and 600 full time jobs once operational.

The scenario is based on a storage capacity of 138,000 tonnes (~13%) of the projected global used fuel inventory and is based on a very conservative waste assumption that assumes no new (currently unplanned light water) reactors become operational after 2030.

The Commission's view is the facility would need to be further supported with construction of a dedicated port facility, airport and rail freight line. This infrastructure spend has been included in the scenario cost base.

To deliver long-term benefits to future generations of South Australians, a special arrangement such as a State Wealth Fund should be established to accumulate and equitably share the profits from the storage and disposal of waste.