

**From:** Dan Gilchrist  
**Sent:** Thursday, 15 October 2015 10:47 AM  
**To:** NFCRC:ECO Analyses  
**Cc:**

**Subject:** Nuclear Fuel Cycle Royal Commission: cost analysis

We welcome the opportunity to comment on the modelling assumptions to be used in analysing scenarios under consideration by the Royal Commission.

We refer to the transcript from 6 October 2015:

<http://nuclearrc.sa.gov.au/app/uploads/2015/10/151006-Topic-5-Day-1-Transcript-full.pdf>

We are broadly supportive of the assumptions being made by Jacobs Engineering et al. regarding the economic analysis for waste storage facilities. We have only three concerns:

1. We do not believe it is fair to assume that an interim storage facility would become operational far in advance of the GDF coming online (P-490 (40-44)). Although it is reasonable to model this as an option, we believe that taking high level waste before the finalisation of a permanent solution is not politically realistic. We do not believe that high level waste could be accepted until the GDF was close to completion, or actually completed.

We believe the case where interim and permanent storage facilities were made active at the same time is more realistic, and this case should be modelled.

We recognise this is not optimal from a business point of view, but we believe that public opposition to, and suspicion of, a plan to use temporary storage without certainty regarding a permanent solution would be insurmountable.

This may be very different should Australia develop nuclear power and produce its own high-level waste, and we recognise that interim storage has been fairly well accepted in those countries with a nuclear power program. However, taking waste that was not produced domestically is likely to be a very different proposition, and the possibility of acquiring a long term waste problem if the GDF encounters difficulties or is cancelled before completion will be worrying to many.

2. Although port facilities are to be modelled, shipping is not (P-493 (23-26)). Given that the analysis will start with the cost of storage in potential customer nations as a broad guide to the potential business opportunity, the shipping component must be accounted for somewhere. If Australia is not paying for it, our potential customer nations must do so, and that will necessarily affect how much they might be willing to pay for the final storage.

This could perhaps be a separate analysis, given the complexity. The Pangea proposal, for example, included plans for the construction of a fleet of specialised ships. This is both a tremendous additional cost, and also potentially a tremendous opportunity with regards to jobs and economic stimulus in South Australia.

Whether this element should be considered as part of the business case for waste storage, or whether it should be modelled separately, it is clearly an integral part of international waste storage in Australia, and cannot be neglected.

3. In assessing the potential market, and given the large up-front costs and the timeframes involved, we believe analysis of the costs and benefits should allow for a risk premium.

For example, the Gen IV International Forum estimates that Gen IV reactors will be deployed commercially in 2030-2040. If true, a geological waste storage facility could be completed just as Gen IV technology is being widely adopted. It will very likely need to compete with a class of reactors which could use that waste as fuel. Even if some nations might not be willing or able to use Gen IV technology, those who did could bid to accept that waste at a lower rate than Australia, or even be willing to pay for it.

Similarly, political considerations in either Australia or our customer nations could see the end of the business overnight. Right or wrong, many people find nuclear waste frightening, and this places a waste storage industry in a uniquely tenuous position. For example, an accident or terrorist attack affecting waste transport could see one or both nations choose to end the arrangement.

Few businesses operate with such uncertainty, and those who do require a greater return on investment than would be acceptable for safer projects. Some consideration should be given to the business risk involved in setting up an international waste storage facility.

Thank you for this opportunity to comment.

Dan Gilchrist