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• SUBMISSION FOR THE DUBBO ZIRCONIA PROJECT

Having looked at the Dubbo Zirconia Project Environmental Impact Statement, which is currently on public exhibition, I wish to lodge an objection to the project.

The objection is on a number of different grounds.

URANIUM AND RADIOACTIVE MATERIALS

- The Fukushima nuclear reactor failed on 11 March 2011. (See http://en.wikipedia.org/wiki/Fukushima_Daiichi_nuclear_disaster) More than 200,000 people were evacuated from a zone around the plant. Most have not been able to return to their homes. Many never will. It was Australian uranium that was powering the Fukushima nuclear reactor. The Australian uranium industry should bear a share of the responsibility for the end result of this event.
- 2. In a public meeting some time ago, representatives of Alkane stated that although there was uranium at the mine, it was not being sought for the Dubbo Zirconia Project.
- 3. I understand from the EIS that the current proposal is not to extract the uranium ore, but to leave it in the waste rock from the mine.

However,

- 4. Section 1.3.3 of the Introduction (page 1-9) says there is an expression of interest for an exploration licence for Group 11 minerals (uranium and thorium) covering the area of the DZP proposed mine and its surrounds.
- 5. From Section 1.4 (page 1- 11), the demonstration pilot plant for the Dubbo Zirconia Project was built by ANSTO (Australian Nuclear Science and Technology Organisation), at its Lucas Heights facility.
- 6. The map "Australia's Uranium Resources" from Geoscience Australia (2009) indicates that the Toongi deposit is in the order of 1000 to 10,000 tonnes of uranium oxide ore.



AUSTRALIAN URANIUM RESOURCES

SCALE 1:10 000 000

0 100 200 300 400 500 Kilometres LAMBERT CONFORMAL CONIC PROJECTION Central Meridian: 134"E Standard Parallels: 18"S, 36"S Geocentric Datum of Australia

Uranium occurrence

Mineral deposits with up to 100 tonne of U₃O₈ (10)

Mineral deposits with 100 to 1000 tonnes of U₃O₈ (24)

Mineral deposits with 1000 to 10 000 tonnes of U₃O₈ (37)

Mineral deposits with 10 000 to 100 000 tonnes of U₂O₈ (15)

Mineral deposits with 100 000 to 1 000 000 tonnes of $U_{\rm g}O_{\rm g}$ (2)

Mineral deposits with > 1 000 000 tonnes of U_0O_g (1) Number of deposits shown in brackets

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Geological regions with up to 1000 tonnes of U₃O_g Geological regions with 1000 to 10 000 tonnes of U₃O_g Geological regions with 10 000 to 1000 000 tonnes of U₃O_g Geological regions with 100 000 to 1 000 000 tonnes of U₃O_g Geological regions with > 1 000 000 tonnes of U₃O_g Gawier Channels in South Australia

Compiled by: A.D. McKay, Y. Miezitis, and S. Jaireth Cartography by V.A. Cooper, and G.A. Young

- 7. I object to the development of the Dubbo Zirconia Project because I believe it may eventually lead to uranium mining at or near the site.
- 8. When an established DZP mine and its transport links are in place, it will be much easier for any mine owner, or any eventual owner of the crushed waste rock to say "We have already mined the ore and crushed it. We should maximise our economic investment by refining out the uranium / radioactive materials and selling it".
- 9. Because of these factors, I believe that a clause should be inserted into any development approval, that meaningfully prevents uranium ore being processed at or transported from the site.
 - I would ask that the local Council (Dubbo City Council) inserts such a clause in any approval it gives for the project.
 - I would ask that the NSW Government inserts such a clause in any approval it gives for the project.
 - I would ask that the Australian Government inserts such a clause in any approval it gives for the project.
- 10. I also believe, that if the DZP project is not about mining uranium, that the proponent should support the inclusion of such clauses in their development approval.

TRAFFIC

- The traffic impact assessment study is located at Dubbo Zirconia Project EIS – SCSC – Part 11 – Traffic The traffic impact assessment study looks at existing traffic volumes, and forecasts future traffic volumes with the DZP mine being constructed and in operation. See Section 2.6, page 11-57 It also looks at current crash data.
- 2. I believe that the traffic generated by the DZP project will have some impact on the amenity of Dubbo, and the Obley Road.
- 3. For all the modelling of traffic volumes that has been done, there does not appear to be any modelling of expected traffic fatalities or serious accidents as a result of the proposed increased traffic.

I understand that this is a probabilistic assessment. But I would have expected there to be a statement "The increased traffic as a result of the DZP mine is expected to have a 50% probability of causing **X** lives or more to be lost over the proposed 20 year mine life. And it is expected to have a 50% probability of causing **Y** serious injuries over the proposed 20 year mine life."

I could not find such an analysis in the EIS.

SLOPE STABILITY OF LIQUID RESIDUE STORAGE FACILITIES

In part, the environmental management success of the project depends on keeping the mined waste materials on the site. This means keeping the salty liquid waste material contained.

- 1. The Alkane website says that the mine could process ore for 70 years or more. A long mine life increases the risk of accidents, and increases the number of extreme weather incidents that the structures are required to withstand. Therefore, a longer life calls for safer structures, that have a lower risk of failure.
- 2. The ponds are proposed with a side slope of 1:1.5
- 3. As the side slope of the containment ponds becomes shallower, the wall has a broader base and becomes more stable.
- 4. Typically, a stable slope is regarded as one of 1:3 or larger. This is inherently fairly stable.
- 5. Obviously some structures are built with larger slopes than this such as 1:2 or 1:2.5. slopes.



6. However,

- because of the high salinity of the stored liquids, and
- because of what they contain
- and because of the effect of a spill on downstream users

implementing the precautionary principle should mean that a very wide base was used, to minimse risk. It would cost some more, but would mean downstream users could have more confidence in retaining what they already have.