

28 May 2015

NSW Planning Assessment Commission Determination Report Dubbo Zirconia Project, Dubbo LGA

Development Application

The Dubbo Zirconia Project is an application to mine and process a body of ore near Toongi, approximately 20 km from Dubbo. A variety of rare earth and metal concentrates would be produced including zirconium, niobium, hafnium, tantalum, yttrium, europium, dysprosium and neodymium. The project is seeking approval to mine 19.5 million tonnes of ore over 20 years, producing 75,000 tonnes of concentrate a year. The proposal includes:

- a small open cut mine;
- processing and refining facilities, plant and equipment, including a 90m high stack;
- chemical storage areas, including a tank farm;
- waste encapsulation cells;
- water and gas supply pipelines;
- road upgrades, and potential future reopening of the adjoining railway line.

While the project is proposed to operate for 20 years, at the proposed extraction rate, the ore deposit would not be exhausted over this period. Consequently, there would be potential for further mining to continue in the future – subject to a wide number of factors including new planning consents, licencing and demand for the materials. The application being considered is to mine and process 19.5 million tonnes of ore over 20 years, any additional mining and processing has not been assessed and would require separate consideration.

Assessment Process

The application was initially assessed by the Department of Planning and Environment, in consultation with other relevant government agencies, Dubbo Council and the community. In addition to this, in late 2014, the then Minister for Planning directed the Planning Assessment Commission to review the merits of the project, including:

- paying particular attention to the air quality, water, transport and long term land use impacts; and
- conducting public hearings.

The Department of Planning and Environment also provided its preliminary assessment for the Commission's consideration during the review.

Messrs Paul Forward (Chair), Joe Woodward PSM and Gordon Kirkby constituted the Commission to review the application. Public Hearings were held on 4 November 2014. The Commission also inspected the project site and sought clarification on a number of issues during its review of the application. The review was completed in early February 2015. The review found the project was approvable, subject to further detail on a number of matters and stringent environmental requirements. Twenty six recommendations were made, mainly relating to the management of air quality, water management, transport, long term land use and land form, hazards and risks. Potential impacts on Taronga Western Plains Zoo; a known fossil site within the proposed disturbance area; and the pink tailed worm lizard, a threatened species found to occur on the site, were also considered.

The applicant subsequently provided some additional information to the Department of Planning and Environment, in response to the Commission's review report and recommendations. The Department then finalised an addendum to its assessment report,

along with draft recommended conditions of approval and referred it to the Planning Assessment Commission for final determination, on 5 May 2015.

Ms Lynelle Briggs AO, Chair of the Planning Assessment Commission, nominated Mr Joe Woodward PSM (Chair) and Mr Gordon Kirkby to constitute the Commission to determine the application. Both Commission members had undertaken the earlier review of the application, along with Mr Forward. Mr Forward was not available to consider the application at the time it was referred to the Commission for determination.

Commission's consideration of key issues

As noted previously, key issues highlighted during the review and public hearings included concerns about the transport and traffic impacts of the project, management of water, air pollution and hazards and risks, including potential radiation risks associated with the naturally occurring radioactive material within the ore body.

Air Quality and radiation hazards and risks

The Commission's review report noted that compliance with air emissions criteria would be essential, and that based on the modelling and assessment information, the project should be able to meet the relevant air emissions limits at surrounding residential receptors. The conditions recommended by the Department of Planning and Environment include emissions criteria for the processing plant, consistent with the EPA's requirements, in its *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*. The Commission is satisfied this will ensure air emissions are contained to meet accepted air quality standards.

Low levels of naturally occurring radioactive material are contained within the ore proposed to be mined. Radiation risks associated with handling the ore were found to be small and manageable. In its existing form radiation levels are not significant enough to meet the definition of a radioactive substance – requiring regulation. Nonetheless the material will become more concentrated at certain stages in the processing and will need to be carefully managed and contained. The Commission is satisfied the conditions of consent require the project to be managed in accordance with the relevant code of practice and safety guide, with a radiation management plan covering operational control measures, waste management, blending, monitoring and compliance with the Australian Radiation Protection and Nuclear Safety Agency's public dose limit. The Commission is also satisfied with the management of the solid and liquid waste streams proposed on the site, nonetheless the Commission noted that some components in the processing facility (such as conveyor belts) had the potential to become contaminated. The Commission sought clarification from the Department of Planning and Environment that the site would be decommissioned and that contaminated equipment would be suitably disposed of. The Department provided advice (20 May 2015) confirming that disposal of any equipment that was contaminated so as to be defined as a regulated substance would be regulated by the *Radiation Control Act 1990* and that disposal of such material requires the consent of the Environment Protection Authority (EPA). The Department also updated conditions 25 and 59 to confirm this issue is to be addressed in the Radiation and Rehabilitation Management Plans for the site.

Water Resources

The water impacts of the project, including potential issues associated with the handling and management of saline wastewater streams and water coming into contact with the naturally occurring radioactive material on the site were particular concerns raised in submissions, at the public hearing and by the Commission in its review and recommendations. The Commission notes that these concerns have now been addressed, with clarification of the stormwater management and storage arrangements, and the inclusion of conditions requiring the scale of the mining operation to be reduced, and environmental management to be prioritised, in the event the mine is unable to secure sufficient water supply for the entire operation. The Commission noted that the conditions did not specifically address the need to

provide a leak detection system (to minimise risks and impacts of any spills while transferring wastewater between different areas of the site). The Commission considers that an alarm system, triggered by a change in water pressure within the pipe system, is a relatively standard requirement to ensure any leaks are quickly identified and repaired. The Commission requested that the Department amend the conditions. Accordingly, the Department provided some additional words to be included in the conditions, covering this aspect of the water management system. The Commission is now satisfied the project's water requirements and onsite management and containment systems would be able to be suitably managed through the recommended conditions of consent.

Traffic and Transport Impacts

In relation to transport impacts, the Commission is satisfied its recommendations relating to rail transport feasibility studies, traffic management and noise minimisation have been suitably resolved, minimised and/or incorporated into the Department's recommended conditions of consent. The Commission notes this includes requirements to limit truck and rail movements, both in terms of number of vehicles and the hours of arrival and/or departure, for some materials and products. The concerns of Taronga Western Plains Zoo, regarding traffic noise impacts on the rhinoceros breeding facilities adjoining the proposed truck transport route have also been resolved, as the Proponent has committed to constructing a noise bund along the road adjoining the rhinoceros enclosure.

Landuse

The Commission's review of the project highlighted concerns about the long-term maintenance of the encapsulation cells, and sought clarification on the legal and financial mechanisms to be implemented to ensure the integrity of the cells is maintained over the long term. The Department's addendum noted that the mining lease and regulation of that lease should include suitable consideration of the rehabilitation of the site and recommended conditions required the rehabilitation to be completed to the satisfaction of the Division of Resources and Energy.

The Commission considers that the Department of Planning and Environment should also have a role in considering the suitability of the final rehabilitation of the site, given it is responsible for managing planning for suitable land uses across the State. The Commission also requested some additional information from the Department on options to ensure future land owners would be aware of the existence of the encapsulation cells and requirements to ensure they were not disturbed, or damaged.

The Department's response (of 20 May 2105) provided some further information regarding Section 149 Planning Certificates and prescribed dams. In particular, the Department noted that, should it be necessary, the Dam Safety Committee would designate tailings and other waste encapsulation cells as prescribed dams, under the *Dam Safety Act 1978*. The Commission accepts this advice that the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979* and the *Dam Safety Act 1978* all include provisions to ensure that the site encapsulation cells are adequately developed and/or recorded.

Fossils

Significant fossils have previously been collected from a hill on the project site. The Commission notes that the Applicant has now agreed to try and avoid the fossil site, known as Fossil Hill. The Department has recommended conditions requiring that Fossil Hill is avoided, unless otherwise agreed by the Secretary, and setting out requirements for a management plan to be prepared in the event that avoidance of the site is not feasible. The Commission has strengthened the condition to ensure that if disturbance is to occur, the required management plan is first approved by the Secretary of the Department of Planning and Environment.

Commission's Determination

The Commission has carefully considered the development application; the submissions made to the Department of Planning and Environment and at the public hearing; the environmental, social and economic impacts; and relevant planning instruments, agreements and plans applying to the site. In particular the Commission considered the likely health and safety impacts on the community

The Commission notes that the proposal would have a number of impacts, many of which have been discussed elsewhere in this report, in the Department's Assessment Report and/or the Commission's review report. Air, noise and radiation impacts are able to be controlled within accepted limits. Impacts to the threatened pink tailed worm lizard would be offset satisfactorily. . The mine site is required to be rehabilitated, although the Commission has approved a final void to remain so as not to sterilise a future valuable mineral resource. The size of the final void will need to be minimised. In short the predicted impacts from the proposal would be acceptable.

The Commission notes that the proposal would also have significant social and economic benefits, in the form of investment and employment for the Dubbo region.

The Commission has concluded that the proposal is suitable for the proposed site and is in the public interest; and has therefore approved the application subject to additional conditions to protect the community and the environment.



Joe Woodward PSM
Member of the Commission



Gordon Kirkby
Member of the Commission