

Big Island Mining Pty Ltd: Dargues Gold Mine – Modification 4

The proposed Modification 4 would relocate the approved heavy vehicle crossing of Spring Creek approximately 400m upstream.

The proposed Modification 4, and other decisions taken in relation to the Dargues Reef Gold Mine, do not address risks associated with climate change. An assessment of risk from climate change is a requirement for significant developments. A reliance on historical climate conditions as a basis is no longer considered appropriate for current and future developments. Both physical risks and transition risks are relevant to decisions in Modification 4 and previous decisions made by the decision maker in relation to the Dargues Reef Mine.

Infrastructure may be directly affected by the physical effects of climate change (e.g. people and assets such as roads, buildings and equipment may be vulnerable to extreme weather events) as well as by transition risks that occur in the process of adjusting towards climate change environments. There is no consideration of climate change, flooding impacts, compensatory water and risks to water supply for farmers and other users in the region. The original application, subsequent modifications and this Modification 4 application have not considered climate change impacts. Company directors are also required to consider climate risk as a reasonably foreseeable risk.

The Modification 4 Statement of Environmental Effects¹ refers to four principles of ecologically sustainable development (ESD). The *Environment Protection and Biodiversity Conservation Act 1999*² (EPBC Act) at Section 3A provides the following are the principles of ecologically sustainable development:

3A Principles of ecologically sustainable development

The following principles are *principles of ecologically sustainable development*:

- (a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;
- (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- (c) the principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
- (d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;
- (e) improved valuation, pricing and incentive mechanisms should be promoted.

The assessment of a development's merits requires consideration of the public interest under section 4.15 (previously 79C) of the *Environmental Planning and Assessment Act 1979* (EPA Act).³ The decision maker is required to consider the

¹ Paragraph 5.1.2 of the Modification 4 Statement of Environmental Effects.

² <https://www.legislation.gov.au/Details/C2018C00440>

³ <https://www.legislation.nsw.gov.au/#/view/act/1979/203/part4/div4.3/sec4.15> previously section 79C *Environmental Planning and Assessment Act 1979*.

likely impacts of that development, including environmental impacts on both the natural and built environments, the social and economic impacts in the locality, and the public interest. Considering the public interest for projects such as a gold mine, and subsequent infrastructure development related to the mine, mandates the consideration of principles of ESD, particularly intergenerational equity and the precautionary principle. Weighing up the private good against the public good is part of that consideration.

The precautionary principle requires that where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.⁴ If there are uncertainties about potential environmental damage that may be caused by development activities, it is necessary to take precautions to prevent damage occurring.

The Proposed Modification, says "the Proponent and its consultants have, by undertaking an appropriate level of research and baseline investigations and environmental evaluation, adopted an anticipatory approach to potential impacts. The controls, safeguards and/or mitigation measures have therefore been planned with a comprehensive knowledge of the existing environment and the potential risk of environmental degradation posed by the Proposed Modification."⁵ That no consideration of the risks from climate change are assessed as a part of this anticipatory approach to potential impacts is inconsistent with the statutory requirement to take precautions to prevent damage occurring.

The principle of intergenerational equity⁶ requires the current generation make sure that the health, diversity and productivity of the environment continues for the benefit of future generations. The EPBC Act⁷ also requires decision-making processes effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

In the application of the precautionary principle, public and private decisions are to be guided by careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and an assessment of the risk- weighted consequences of various options.

Water Supply and Water Access Licence

In relation to water licences for the Dargues Mine, all water supply licences come under the *Water Sharing Plan for the South Coast Groundwater Sources 2016*⁸ and the water source for all licences is the Lachlan Fold Belt Coast Ground Water Source. The water access licences (WAL) provide that water can be taken at any time or rate. Dargues Gold Mine Pty Ltd has the single largest WAL at 320 units (WAL3928), this is approximately four times the share of the next largest water allocation at 75 units.

⁴ *Environment Protection and Biodiversity Conservation Act 1999* section 3A(b)

⁵ Paragraph 5.1.2 of the Modification 4 Statement of Environmental Effects.

⁶ *Environment Protection and Biodiversity Conservation Act 1999* section 3A(c)

⁷ *Environment Protection and Biodiversity Conservation Act 1999* section 3A(a)

⁸ available at <https://legislation.nsw.gov.au/#/view/regulation/2016/380/full>

The combined size of WAL for Dargues Gold Mine Pty Ltd (WAL39281 at 320 units; WAL39282 at 39 units; WAL39292 at 24 units; and WAL39287 at 16 units) is 399 units. Dargues Gold Mine Pty Ltd has approximately 33 per cent of the total water allocation for the whole of the Lachlan Fold Belt Coast Ground Water Source.

The *Water Sharing Plan for the South Coast Groundwater Sources 2016*,⁹ at Clause 13, provides for Climatic variability and states: “This Plan recognises the effects of climatic variability on groundwater levels in these groundwater sources by having provisions that manage the sharing of water in these groundwater sources within the limits of water availability on a long-term average annual basis and the priorities according to which water allocations are to be adjusted as a consequence of any reduction in the availability of water due to an increase in the average annual extraction against the long-term average annual extraction limit, contained in Division 1 of Part 6 of this Plan. Note. Other statutory tools are available to manage for climatic variability within a water source, for example, temporary water restrictions under section 324 of the Act.”

Climate change is projected to impact the hydrological system through changes in groundwater recharge and surface runoff. The NSW Office of Environment and Heritage has used the projections from the NSW and ACT Regional Climate Modelling (NARCLiM) Project¹⁰ to provide updated information on the projected impacts of climate change on groundwater recharge and surface runoff in the near future (2030) and far future (2070). NARCLiM shows less recharge for groundwater is projected across much of NSW, especially in the south-east of the state,¹¹ and the State of NSW is declared in drought. There is no evidence of climate variability and projected reduced groundwater recharge having been considered in the assessment for the water licences for the Dargues Mine.

Changes in recharge can influence the availability of groundwater resources and the volumes of base flow in streams. Secondary impacts on water quality with subsequent impacts on aquatic biodiversity can also occur. NARCLiM shows that in the near future, (2020–2039) less recharge is predicted across much of NSW, especially in the south-east of the state. Large changes are projected to occur in groundwater recharge and surface runoff by 2070.

The Dargues Mine and planning considerations has failed to consider the risks of ground water recharge, the flood impacts and the potential loss of water, and water quality occasioned by the mining project. There is no assessment of management of projected restricted water availability.

Big Island Pty Limited (Dargues Reef Mine) has previously dealt with criminal offences when it polluted waters in breach of s120 of the *Protection of the Environment Operations Act 1997*. It was identified that Big Island Mining Pty Ltd could have avoided the pollution if “adequate controls had been adopted to capture

⁹ <https://legislation.nsw.gov.au/#/view/regulation/2016/380>

¹⁰ <https://climatechange.environment.nsw.gov.au/Climate-projections-for-NSW/About-NARCLiM>

¹¹ Research results and modelling of ground water recharge and surface runoff is available here: <https://climatechange.environment.nsw.gov.au/Impacts-of-climate-change/Water-resources/Groundwater-recharge-and-surface-runoff>

and treat runoff onsite”¹² during heavy rainfall events. Climate risk modelling and projections shows that heavy rainfall events and changes to surface runoff are reasonably foreseeable.

Climate Risk Assessment and Climate Change Adaptation

In March 2018 Diversified Minerals was asked if climate risk had been taken into account in relation to the mine planning and meteorological projections. Diversified Minerals responded that baseline data has been generated from the previous 5-10 years, the projections incorporate this change as well as severity classification.¹³ This response does not deal with assessment of climate risk – this is an assessment of local meteorological data and projections off a small base, not climate risk and projections. There is no evidence that climate risk assessment methodology required for infrastructure planning, mining and other significant developments, has been used as a part of risk assessment for this Modification 4, for previous modifications and the original determination.

In relation to the Tailings Storage Facility and the incorporation of climate risk, Diversified Minerals has advised that “Given the short life of the facility, approximately five (5) years, no specific risks with regards to climate change have been assessed or are considered to be warranted to be assessed. Notwithstanding this, the water balance model for the TSF uses a data set of 74 years and includes an assessment of both Majors Creek and Braidwood sourced data.”¹⁴

The EPBC Act requires decision-making processes effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

Consideration of the public interest under section 4.15 of the EPA Act requires the decision maker to consider the likely impacts of the mine development, including environmental impacts on both the natural and built environments, and social and economic impacts in the surrounding locality and the public interest. The Minister, or decision maker, must consider the public interest in fulfilling functions under the *Environmental Planning and Assessment Act 1979*.¹⁵

Further “in respect of a consent authority making a decision in accordance with s 79C of the EPA Act.....consideration of the public interest embraces ESD”¹⁶ The NSW Court of Appeal has held “that the principles of ESD are likely to come to be seen as so plainly an element of the public interest, in relation to most if not all decisions, that failure to consider them will become strong evidence of failure to consider the public interest and/or to act *bona fide* in the exercise of powers granted to the Minister, and thus become capable of avoiding decisions.”¹⁷

¹² *Environment Protection Authority v Big Island Mining Pty Ltd* [2014] NSWLEC 131 [95] [99]

¹³ http://www.divminerals.com.au/wp-content/uploads/2018/06/27-DRCCC-Meeting-minutes-March-2018_final.pdf pg.3.

¹⁴ DRCC Minutes 18 September 2018, Pg.13. <https://www.divminerals.com.au/dargues-gold-mine/community/community-consultative-committee/>

¹⁵ *Minister for Planning v Walker* (2008) 161 LGERA 423 at 450[39].

¹⁶ *Minister for Planning v Walker* (2008) 161 LGERA 423 at 451[42].

¹⁷ *Minister for Planning v Walker* (2008) 161 LGERA 423 at 454[56].

Consideration of the precautionary principle and inter-generational equity requires consideration of long-term threats of serious or irreversible environmental damage, this almost inevitably involves consideration of the effect of climate change.¹⁸

In approving the Dargues Project, the project documentation, assessment process and decision maker has not considered the risk associated with climate change.

Addressing the risk from climate change

The proponent has failed to take account of ESD principles by failing to provide for the risk of climate change. Adaptation requires making adjustments to decisions and activities, in consideration of climate change, in order to manage risks and capture potential opportunities.

The Dargues Mining operations can avoid or limit risks and impacts of climate change by:

- Modifying existing risk identification processes to incorporate combinations of daily, seasonal and less frequent weather events to ensure that the cumulative impact does not exceed the specifications of key infrastructure or modify existing infrastructure to accommodate these risks;
- Developing and or using existing climate models to evaluate potential risks based on local and regional data and projections based on long-term trends;
- Implement measures that will address the risks identified; and
- Monitor and review the risks, relevant data, and identified measures, on an ongoing basis, to ensure that the measures are as appropriate as they can be.

Until climate risks are assessed and addressed in the planning and management of the mine, or an undertaking is made on behalf of Big Island Mining Pty Ltd and Dargues Mine Pty Ltd to complete these assessments within the next six months, the proposed Dargues Reef Gold Mine Modification 4 is opposed.

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¹⁸ *Minister for Planning v Walker* (2008) 161 LGERA 423 at 454[60].