

6 June 2018

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Dear Mr Kitto,

**Re:** Snowy 2.0 Exploratory Works - Amendment to project description (SSI 9208)

This letter has been prepared to seek inclusion of rock placement within Talbingo Reservoir as part of the Snowy 2.0 Exploratory Works project (SSI 9208). To support inclusion of this activity, the following information is provided:

- a description of proposed subaqueous placement in Talbingo Reservoir;
- a map showing the location(s) of proposed subaqueous placement; and
- recommended changes to the project summary description in both the application and the revised Secretary's Environmental Assessment Requirements.

## 1. Background

Snowy 2.0 is declared critical State significant infrastructure under Clause 9 Schedule 5 of *State Environmental Planning Policy (State and Regional Development) 2011*. Snowy Hydro Limited (Snowy Hydro) submitted an application in accordance with Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979*, for Snowy 2.0 Exploratory Works on 15 March 2018. Secretary's Environmental Assessment Requirements (SEARs) for Exploratory Works were subsequently issued by Department of Planning and Environment and Environment (DPE) on 17 May 2018.

Snowy 2.0 Exploratory Works includes, as described in summary in the application: *the construction of an exploratory tunnel and portal, establishment of a construction compound and supporting infrastructure, excavated rock stockpile and the construction and upgrade of new and existing access infrastructure. The primary purpose of the Exploratory Works is to gain a greater understanding of the underground conditions at the proposed location of the power station cavern.*

The SEARs describe the Exploratory Works elements in a similar manner to that above.

Snowy Hydro identified excavated rock stockpiling and management as a key project component in the application for Exploratory Works. The preliminary environmental assessment (PEA) for Exploratory Works dated 15 March 2018 (EMM 2018) described the short-term and long-term options for the storage and use of excavated rock, including the location of two areas on land within Lobs Hole as shown in Figure 3.5 of the PEA.

Long term options under consideration included subaqueous placement within Tantangara and Talbingo reservoirs. However, the location and description for rock emplacement within the reservoirs was not described in the PEA. Snowy Hydro has undertaken further investigation and is now in a position to clarify the scope of subaqueous placement, and intends to include a trial for subaqueous placement of rock in Talbingo Reservoir as part of Exploratory Works.

## **2. Proposed subaqueous rock placement in Talbingo Reservoir**

### ***2.1 Description of the activity***

Subaqueous spoil placement below the Minimum Operating Level (MOL) in Talbingo Reservoir is currently the preferred placement option for excavated rock produced for Snowy 2.0. A subaqueous rock placement trial is proposed during the Exploratory Works to inform the design and environmental impact assessment of the spoil placement during Snowy 2.0.

The subaqueous rock placement trial would involve placing a proportion of excavated material during the Exploratory Works. This placement trial would be undertaken following the installation of barge access infrastructure and associated dredging of the navigation channel, and following testing of rock material for its suitability. Any rock assessed as unsuitable for subaqueous placement based on the prior geochemical and leachability testing would be separately stockpiled and not used in the trial.

Barges (a transport barge and a discharge barge) would transport the excavated material for subaqueous placement from the proposed new barge infrastructure facilities at Middle Bay. An excavator positioned on the transport barge would transfer the material to the discharge barge, and into a well/fall pipe for release below the water surface. This approach minimises surface turbidity. The discharge barge with a fall pipe would be located within a silt curtain to reduce turbidity.

In the event that monitoring of the works identifies unacceptable environmental impacts, contingency measures would be executed. These may include suspension of the trial or on land placement.

### ***2.2 Assessment approach***

Criteria for determining placement will include consideration of aquatic ecology (including ecotoxicology), available water depth, distance from load-out point, Snowy Scheme operational considerations, and other environmental and social considerations. An indicative suitable location for placement in Talbingo Reservoir is shown in Figure 1, though other locations may be identified which are more suitable through the EIS and trial program. The placement would be subject to controls such as depositing within a silt curtain, and undertaking water quality monitoring as part of an overall management and monitoring program.

The main risks from subaqueous placement are the potential for environmental impacts associated with geochemical properties of material and associated management methods for handling and placement. Potential impacts include impacts to water quality and aquatic ecology.

The EIS would characterise the existing bathymetry, hydrology, sediment type and quality, water quality and aquatic ecology of Talbingo Reservoir to inform the assessment and performance-



based outcomes for the rock placement. Consideration of hydrodynamic impacts and analysis of potential behaviour of material when placed in the reservoir will also be undertaken.

### 3. Revised Exploratory Works summary

Snowy Hydro proposes the following amendment to the summary description of the Exploratory Works in the application, described below.

*the construction of an exploratory tunnel and portal, establishment of a construction compound and supporting infrastructure, excavated rock stockpile and management including subaqueous placement in Talbingo Reservoir, and the construction and upgrade of new and existing access infrastructure. The primary purpose of the Exploratory Works is to gain a greater understanding of the underground conditions at the proposed location of the power station cavern.*

In addition, Snowy Hydro proposes the following amendment to the Exploratory Works as described in the SEARs.

Snowy 2.0 Exploratory Works includes:

- an exploratory tunnel, construction pad and portal;
- a construction compound and supporting infrastructure, including a concrete batching plant;
- excavated rock management, including subaqueous placement in Talbingo Reservoir;
- road upgrades to provide access to the site;
- construction and operation of barge infrastructure at Talbingo Reservoir; and
- an accommodation camp and associated ancillary infrastructure.

Yours sincerely,



Andrew Nolan  
Manager Water and Environment

**Figure 1 – indicative suitable location for rock placement in Talbingo Reservoir**





Source: EMM (2018); Snowy Hydro (2018); ESRI (2018); SMEC (2018); DFSI (2018); GA (2017); LPMA (2011)

- KEY**
- Indicative wharf area
  - Indicative placement area for extracted material
  - Proposed access road
  - Perennial watercourse

Indicative area required for extracted material

Snowy 2.0  
Subaqueous placement in Talbingo Reservoir  
Exploratory Works

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