Submission No 3

INQUIRY INTO ENVIRONMENTAL PLANNING AND ASSESSMENT AMENDMENT (SNOWY 2.0 AND TRANSMISSION PROJECT) ORDER 2018

Organisation: Snowy Hydro Limited

Name: Mr Andrew Nolan

Date received: 4 May 2018

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The Director
NSW Legislative Council - Regulation Committee
Parliament House
Macquarie St
Sydney NSW 2000

Website submission

Director,

Re: Inquiry into Environmental Planning and Assessment Amendment (Snowy 2.0 and Transmission Project) Order 2018

Thank you for the opportunity to make a submission to this Inquiry.

Background: Proposed Snowy 2.0 and Transmission Projects
Snowy 2.0 proposes to expand the generating capacity of the existing Snowy Mountains Hydro-electric Scheme (**Snowy Scheme**) by adding 2000 MW of capacity and 175 hours (or 350,000MW hours) of large-scale energy storage. This represents a doubling of the existing capacity of gas peaking plant (scheduled) in the NSW energy system, or an additional ~40% of the total peaking capacity (scheduled) in the NSW energy system.[1] It is also more than a 200% increase in existing NSW pumped hydro storage.

The project would involve linking the existing reservoirs of Tantangara and Talbingo through new tunnels and an underground power station. Water would be pumped from the lower reservoir (Talbingo) for storage in the higher reservoir (Tantangara) using excess off-peak power, and then released to generate electricity in times of peak demand. This greatly enhances the Snowy Scheme's role as the primary source of stored energy or 'battery' for the NSW energy market and the broader National Energy Market (NEM).

The project along with augmentation to the shared transmission network will underpin the reliability and stability of the NEM as we transition to a low-emissions economy. Snowy 2.0, combined with appropriate transmission augmentation will:

- add 2,000MW of dispatchable generation capacity, and pumping, to the NEM. Snowy 2.0 creates a centralised large-scale storage asset conveniently co-located with existing assets and in a unique strategic position between major load centres;

[1] [1] AEMO, Current Registration and Exemption Lists, https://www.aemo.com.au/Datasource/Archives/Archive141

Snowy Hydro Limited ABN 17 090 574 431
Monaro Highway, Cooma NSW 2630, PO Box 332, Cooma NSW 2630
Telephone: 02 6453 2888 Facsimile: 02 6452 3794, www.snowyhydro.com.au

- address intermittency issues created by variable renewable generation by storing excess energy during periods of oversupply and generating energy during periods of undersupply when it is most needed by the market;
- underpin the transition to a low emissions future by both physically and financially firming and de-risking new variable intermittent renewable generation coming online across the NEM. This firming and de-risking of renewables will provide certainty to support further investment in new renewable generation after the minimum targets in the LRET are reached (that is, investment without subsidies);
- provide stabilisation of the power grid and deeper penetration of currently poorly integrated variable intermittent renewable generation. Without Snowy 2.0, intermittency issues would need to be addressed using a combination of batteries and gas-fired peaking generators, and more aggressive ramping of existing coal-fired generators, all of which are far less economic solutions for the NEM and therefore consumers;
- also allow for planned and sensible exit of older stations from the NEM by adding energy capacity to the market at times of peak demand, which will reduce the amount of aggressive ramping existing coal-fired generation has to endure and provide a source of demand that will avoid coal-fired generation being crowded out by renewables during periods of low demand.

Response to Terms of Reference

The *Environmental Planning and Assessment Amendment (Snowy 2.0 and Transmission Project) Order 2018* (**Order**) is critical to enabling the Snowy 2.0 and Transmission Projects to proceed as it establishes a well known, transparent and robust NSW planning assessment pathway for the projects.

The need for the Snowy 2.0 and Transmission Projects is clear. The NSW energy system (and broader NEM) is facing major and unprecedented challenges through rising energy costs, deterioration in energy system security and reliability, and a transition in the generation mix away from coal-fired, dispatchable, baseload power to renewable wind and solar power characterised by intermittency. The principal drivers of these challenges are:

- a requirement for replacement capacity due to the retirement of baseload thermal power stations eg. the proposed retirement of Liddell power station in 2022[2];
- reducing costs of intermittent variable renewable generation; and
- carbon emission reduction policies, including the NSW Climate Change Policy Framework and NSW Renewable Energy Action Plan.

As submitted to the Hon. Planning Minister Roberts on 26 October 2017, Snowy Hydro considers that these projects are essential for NSW for economic, social and environmental reasons as follows:

[2] AEMO (2017), Advice to Commonwealth Government on Dispatchable Capability

- the projects can provide the required replacement capacity and new large scale storage for the NSW energy system (and the NEM more broadly), within approximately 5 - 7 years;
- consistent with NSW policies, Snowy 2.0 is a less carbon intensive energy source and complements and therefore supports the development of more intermittent renewable generation across NSW;
- the Transmission Projects will enable efficient, reliable, high capacity transmission between generation sources and load centres;
- the projects are likely to result in substantial economic and social benefits for NSW through the:
    - injection of large capital expenditure, being at least $3.8 billion for Snowy 2.0 and separate expenditure for the Transmission Projects (value subject to scoping studies);
    - creation of thousands of jobs during the construction period of the projects;
    - stimulus to the Snowy Mountains region economy where growth has been below the NSW average;
    - increase in economic benefits to NSW energy participants because of the increased capacity of the north-south transmission backbone through NSW; and
    - enabling the connection of additional intermittent renewable energy generators into the NEM, thereby further facilitating investment in NSW and NSW's transition to a low-emissions future.

The impact and implementation of the Order will be to enable these State-essential projects to proceed through the NSW planning assessment system and, subject to obtaining the necessary approvals, ultimately to ensure an orderly transition to a decarbonised and secure energy system for NSW.

Lastly, while the Order does not grant the Snowy 2.0 project approval to proceed, it certainly outlines a transparent process for Snowy Hydro to meet all environmental assessment requirements and provides regulatory certainty for all stakeholders.

This submission has been authorised by the CEO of Snowy Hydro - Paul Broad.

Should you require any further information or a confidential copy of the submission made to the Planning Minister, please do not hesitate to contact me

Yours sincerely,

Manager Water and Environment