

INDEPENDENT PEER REVIEW REPORT

SNOWY 2.0 BIOSECURITY RISK MANAGEMENT PLAN

MARCH 2024

Authorisation

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1. INTRODUCTION

1.1 Project background

The Snowy 2.0 Project was declared designated Critical State Significant Infrastructure (CSSI 9687) and assessed under Part 5 Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The project was approved by the NSW Minister for Planning and Public Spaces under Section 5.19 of the EP&A Act on the 20th of May 2020 (the NSW Approval).

A referral (EPBC 2018/8322) was also prepared and lodged with the Commonwealth, Minister for the Environment (via the former Department of Agriculture, Water and the Environment (DAWE), now Department of Climate Change, Energy, the Environment and Water (DCCEEW)) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the proposal was subsequently determined to be a controlled action under that Act. The project was approved by the Commonwealth's Minister for the Environment under section 130(1) and 133(1) of the EPBC Act on the 29th of June 2020 (the EPBC Approval).

A key requirement of the NSW Approval is the preparation of a Biosecurity Risk Management Plan (BRMP), a Threatened Fish Management Plan (TFMP), and a Recreational Fishing Management Plan (RFMP), to underpin the NSW Department of Primary Industries (DPI) consideration of necessary instruments under the *Biosecurity Act 2015*. Approvals of the BRMP, TFMP and RFMP by the Director-General of NSW DPI are required under Schedule 3 Conditions 22, 24 and 26 respectively of the NSW Approval.

Prior to approval of the BRMP and the TFMP by the Director-General of the NSW DPI, Condition 14 of the EPBC Approval, requires that the BRMP and TFMP be peer reviewed by an independent, suitably qualified expert/s approved by DCCEEW.

On 9 May 2023, the DCCEEW approved Steve Fermio, Will Steggall and Leonie Stevenson from WolfPeak to undertake the peer review of the TFMP. WolfPeak were further approved by DCCEEW on 21 September 2023 to undertake a peer review of the BRMP as required under Condition 14 of the EPBC Approval (Appendix A).

As indicated, Conditions that relate to biosecurity were included within the NSW Approval in Schedule 3, Conditions 20, 22 and 23 and in the EPBC Approval in Annexure A, Part A, Conditions 12-16.

Section 2 of this report details WolfPeak's approved experts' assessment undertaken in accordance with Condition 14 of the EPBC Approval as to whether the BRMP (Revision A dated 1 March 2024) satisfies the specific requirements of Condition 22 (a)-(d) of the NSW Approval.

Conclusions relevant to this review are provided in Section 3.

1.2 About the review team

WolfPeak is a specialist environmental and sustainability consultancy based in NSW with its main offices in Sydney and Port Macquarie. We provide specialist and high quality environmental, ecological, sustainability, compliance assurance, auditing and strategic advisory services to

government and communities, proponents and design and construction contractors in the private and public infrastructure sectors, including but not limited to:

- Inland Rail Project (Australian Rail Track Corporation)
- Central Land Council (Northern Territory)
- Sydney Metro (Transport for NSW (TfNSW))
- TfNSW (roads and maritime)
- NSW Department of Education
- NSW Department of Health
- Coffs Harbour Bypass (Gamuda Ferrovial Joint Venture)
- NSW Northern Rivers Reconstruction Corporation
- Port Authority of NSW
- Local councils in the Mid North Coast region of NSW
- NSW National Parks and Wildlife Service

We are regularly appointed as independent Environmental Representatives and Auditors by the NSW Department of Planning and Environment (DPE) on major development (SSD) and infrastructure (CSSI/SSI) projects including Sydney Metro, Inland Rail, NSW National Parks and Wildlife Service, major TfNSW's motorways, NSW Department of Education school infrastructure projects, NSW Health infrastructure projects and Port Botany operations to name a few.

In these roles we are trusted to act and advise in an independent capacity and our reports are made publicly available and relied on for assurance purposes by government agencies, proponents and the community.

Steve Fermio (Peer Review Lead Author) is an independent environmental expert appointed by the NSW DPE to the Wollongong City and Lane Cove Council's Independent Local Planning Panels. These Panels determine development applications within those two local government areas that are of a contentious nature or where significant departures from planning controls are proposed.

The Biosecurity Risk Management Plan was also reviewed by our experienced ecologists Will Steggall (Practice Lead, Biodiversity) and Leonie Stevenson (Senior Aquatic Ecologist).

WolfPeak has previously been engaged by Snowy Hydro Limited (SHL) to undertake the Peer Review of the TFMP prepared for the Project. WolfPeak has had no involvement whatsoever in the preparation of the BRMP.

2. PEER REVIEW

Our assessment as to whether the BRMP (Revision A, 1 March 2024) satisfies the requirements of Schedule 3 Condition 22 (a) – (d) of the NSW Approval is detailed in Table 1 below.

It is noted that due to the complexity of design associated with the planned fish screens at the southern end of Tantangara Reservoir, the BRMP has been staged and the version subject to this review is known as Stage 1. The BRMP will be updated into Stage 2 once the fish screens have been subject to detailed design and confirmation that they can be safely and reliably operated. At that point, and prior to the commencement of construction of the fish screens at Tantangara Dam, the BRMP Stage 2 will require further peer review under Condition 14 of the EPBC Approval and subsequent approval by the Director-General of NSW DPI under Condition 22 of the NSW Approval. The BRMP Stage 2 will involve a revision of Section 8 of the BRMP to update the screen design information provided in the BRMP Stage 1.

The BRMP Stage 1 (Rev A, 1 March 2024, referred to in the rest of the document as the BRMP) is a comprehensive document that has been prepared based on expert advice and best-practise monitoring methods. The document has been prepared by SHL and a suitably qualified expert (Dr Lachlan Barnes from SLR Consulting Australia Pty Ltd), informed by close consultation with NSW DPI fisheries and biosecurity experts and input from other nationally recognised fisheries scientists including Mark Lintermans and Tarmo Raadik. The BRMP also references ecological monitoring and surveys undertaken on site to date and a significant suite of published scientific literature in the field of aquatic ecology.

The BRMP has been prepared in consultation with the relevant government agency scientific specialists, and includes a comprehensive suite of surveillance, monitoring, management and preventative measures.

The BRMP commits to publishing an annual report detailing the monitoring data (excluding sensitive ecological data) and outcomes from surveillance and management activities undertaken as part of the BRMP.

The BRMP includes document review provisions including specific events that will trigger a review and update (if necessary). The BRMP provides scope for improvements to the BRMP's pest fish surveillance program over time, with any relevant advances in technology or increase in knowledge based on the results from implementation of the BRMP, and consideration of guidance provided by fisheries scientists and advice provided by NSW DPI.

The BRMP is to be implemented until the end date of the EPBC Approval (December 2040) unless otherwise agreed by the Australian Government Minister administering the EPBC Act.

Table 1 – Compliance with Condition 22 - NSW Approval

Condition	Requirement	Where addressed in the BRMP	Requirement satisfied (Yes/No)	Comment / recommendation
Schedule 3, Condition 22	<p>Biosecurity Risk Management Plan</p> <p>Within two years of the commencement of construction, the Proponent must prepare a Biosecurity Risk Management Plan for the development to the satisfaction of the Director-General of NSW DPI.</p>	The BRMP, Certificate of Approval and Section 1.5	No	<p>Construction of Main Works commenced in October 2020 and therefore the BRMP is outside the timing requirements of Condition 22.</p> <p>Note that this requirement cannot be satisfied until the BRMP is approved by the Director-General of NSW DPI.</p> <p>Notwithstanding, its pre-requisites have been satisfied as set out in this table and via the completion of this Peer Review Report.</p>
	<p>This plan must:</p> <p>(a) be prepared by a suitably qualified and experienced person in consultation with DPIE, National Parks and Wildlife Service (NPWS) and DAWE;</p>	The BRMP, Certificate of Approval and Section 1.5	Yes	<p>The BRMP has been prepared by Elizabeth Pope, a Senior Environmental Scientist (BSC(Hons)) for SHL and Dr Lachlan Barnes, Technical Director - Aquatic Environmental Sciences (PhD) at SLR Consulting. Dr Barnes has extensive experience in this field with a Bachelor degree in Science Marine Biology and a PhD in Fish Ecology.</p> <p>A Working Group overseeing the development of the BRMP - comprising representatives of SHL and NSW DPI (formerly part of DPIE) - have met generally on a monthly basis since July</p>

Condition	Requirement	Where addressed in the BRMP	Requirement satisfied (Yes/No)	Comment / recommendation
				<p>2020. A Steering Committee has also been formed, including representatives of SHL and NSW DPI, and met on an approximately quarterly basis from December 2020.</p> <p>The BRMP references consultation with the NSW DPI, NPWS, DCEEW (formerly DAWE) and DPE regarding the preparation of the plan.</p> <p>On 30 November 2022 a meeting was held with NPWS to present the Tantangara Creek weir design.</p> <p>On 31 January 2023 a meeting was held with DCCEEW (formerly DAWE) to provide an update of the management plans.</p> <p>On the 30 June 2023 a presentation was provided to NPWS on the BRMP. On 7 March 2023 a presentation was provided to DCCEEW on the BRMP.</p> <p>And on the 17 August 2023 a meeting was held with NPWS to discuss consultation on road works.</p>
	(b) include a detailed biosecurity risk management framework for minimising the ongoing biosecurity risks of	BRMP, Part 1, Sections 4, 5 and 6,	Yes	The BRMP includes a detailed biosecurity risk management framework for minimising the ongoing biosecurity risks of the

Condition	Requirement	Where addressed in the BRMP	Requirement satisfied (Yes/No)	Comment / recommendation
	<p>the development required in condition 20(a) above, including:</p> <ul style="list-style-type: none"> Developing systems to prevent spills from the Tantangara Reservoir so far as is reasonably practicable; and Pest fish and disease surveillance and eradication/management measures to protect the Macquarie Perch and Stocky Galaxias in the Mid to Upper Murrumbidgee catchment and the salmonid fishery in Lake Eucumbene. 	Appendices D and E		<p>development. It includes details of the following key measures, among others:</p> <ul style="list-style-type: none"> Tantangara Reservoir Spill Management (Section 6), with design measures that combine the generation diversion capacity of the Snowy 2.0 infrastructure with the M-E Tunnel and Tantangara Dam, to ensure capacity is higher than expected peak inflows. Surveillance program (Sections 4 and 5) to determine potential pest fish and disease incursions and to confirm any presence of pest fish and diseases; along with identification of relevant information in order to determine the likely incursion pathway. Management measures to be implemented following any pest fish/disease incursions, with scope for specific details to be determined based on the status of the incursion (Sections 4 and 5).
	(c) include detailed plans for the installation and use of the fish screens and barriers required in condition 21 above, including:	BRMP, Part 2, Sections 8 and 9	Yes	<p>The BRMP includes details of the following:</p> <ul style="list-style-type: none"> Tantangara fish screens (Section 8), including details of the screens

Condition	Requirement	Where addressed in the BRMP	Requirement satisfied (Yes/No)	Comment / recommendation
	<ul style="list-style-type: none"> Minimising the environmental impacts associated with installing the screens; Testing the effectiveness of the screens before they are used; and Maintaining and improving the effectiveness of the screens and barriers over time. 			<p>functional and operational requirements, preliminary screen design, testing screen effectiveness, secondary (behavioural) controls, minimising environmental impacts and maintaining and improving effectiveness over time. Potential environmental impacts will be managed via compliance with a Construction Environmental Management Plan (CEMP) that will be prepared to minimise environmental risks associated with construction. Charles Sturt University (CSU) has been commissioned to undertake testing of the efficiency of various screens in excluding Redfin eggs and larvae. An international expert, Richard Horsfield has been commissioned to evaluate secondary controls. Fully automated screen alarms and protections will be established to ensure performance testing is performed.</p> <p><i>Note: Due to the complexity of design associated with the planned fish screens at the southern end of Tantangara Reservoir, the BRMP</i></p>

Condition	Requirement	Where addressed in the BRMP	Requirement satisfied (Yes/No)	Comment / recommendation
				<p><i>has been staged. The version subject to this peer review is known as Stage 1. The BRMP will be updated into Stage 2 once the fish screens have been subject to detailed design and confirmation that they can be safely and reliably operated. At that point, and prior to the commencement of construction of the fish screens at Tantangara Dam, the BRMP Stage 2 will require further peer review under Condition 14 of the EPBC Approval and subsequent approval by the Director-General of NSW DPI under Condition 22 of the NSW Approval. In particular, the BRMP Stage 2 will involve a revision of Section 8 of the BRMP to update the screen design information provided in the BRMP Stage 1.</i></p> <ul style="list-style-type: none"> • Tantangara Creek Weir (Section 9) including design considerations, barrier design, minimising environmental impacts (via a CEMP), and maintaining and improving effectiveness over time. If additional barriers are deemed necessary as investigated as part of

Condition	Requirement	Where addressed in the BRMP	Requirement satisfied (Yes/No)	Comment / recommendation
				<p>the Habitat Surveys, these will be reported in the BRMP Annual Report and the BRMP will be revised.</p> <p>Recommendation:</p> <p><i>It is recommended that Stage 2 of the BRMP, which will be subject to approval by the Director-General of NSW DPI under Condition 22 of the NSW Approval, include details of the specific requirements to be included in the CEMP(s) to be prepared for the installation of the fish screens to provide further detail on how environmental impacts associated with installation of the fish screens at southern end of Tantangara Reservoir will be minimised.</i></p>
	<p>(d) include a program to monitor, evaluate and publicly report on these plans, including;</p> <ul style="list-style-type: none"> • Carrying out monitoring using epidemiologically designed surveys; and • Conducting fish, disease and eDNA surveys. 	BRMP, Part 1. Sections 4, 5 and 7	Yes	<p>An Annual Report (prepared by SHL) on the results of the implementation of the BRMP, including monitoring and survey results, along with any planned amendments and deviations to the monitoring activities, is proposed to be published and made publicly available on SHL's website (www.snowyhydro.com.au).</p>

3. CONCLUSIONS

We consider that the BRMP Stage 1 (Rev A, 1 March 2024), is fit for purpose and satisfies the requirements of NSW Approval Condition 22¹ (a) – (d), as detailed in Table 1 above.

We therefore endorse the BRMP (Rev A, 1 March 2024) for approval by the Director-General of the NSW DPI.

It is noted that due to the complexity of design associated with the planned fish screens at the southern end of Tantangara Reservoir, the BRMP has been staged and the version subject to this review (Stage 1 BRMP) will be updated into Stage 2 once the fish screens have been subject to detailed design and confirmation that they can be safely and reliably operated. At that point, and prior to the commencement of construction of the fish screens at Tantangara Dam, the BRMP Stage 2 will require further peer review under Condition 14 of the EPBC Approval and subsequent approval by the Director-General of NSW DPI under Condition 22 of the NSW Approval. The BRMP Stage 2 will involve a revision of Section 8 of the BRMP to update the screen design information provided in the BRMP Stage 1.

It is recommended that Stage 2 of the BRMP, which will be subject to approval by the Director-General of NSW DPI under Condition 22 of the NSW Approval, include details of the specific requirements to be included in the CEMP(s) to be prepared for the installation of the fish screens to provide further detail on how environmental impacts associated with installation of the fish screens at southern end of Tantangara Reservoir will be minimised.

¹ Noting that the approval of the BRMP by the Director-General of NSW DPI is required to fully satisfy Condition 22

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APPENDIX A – APPROVAL OF PEER REVIEW TEAM



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC ref: 2018/8322

Elizabeth Pope
Senior Environmental Scientist
Snowy Hydro Limited
Elizabeth.Pope@snowyhydro.com.au

Approval of qualified experts for EPBC 2018/8322 Snowy 2.0 Main Works, NSW

Dear Elizabeth

Thank you for your correspondence dated 22 June 2023 to the department, requesting approval of suitably qualified experts to undertake a peer review of the Biosecurity Risk Management Plan under condition 14 of *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval 2018/8322, for the Snowy Hydro 2.0 Project.

I have noted the information provided, including the qualifications and experience of the nominated experts and the requirements specified in definitions attached to the EPBC Act approval for the above project.

I have approved Steve Fermio, Will Steggall and Leonie Stevenson from WolfPeak as independent and suitably qualified experts for the purpose of undertaking a peer review of the Biosecurity Risk Management Plan, in accordance with condition 14 of the approval for Snowy 2.0 Main Works Project, NSW (EPBC 2018/8322).

Should you require any further information please contact Jessica Feder by email to
PostApproval@dcceew.gov.au.

Yours sincerely

Rachel Short
Branch Head
Environment Assessment (Vic, Tas) and Post Approvals Branch

21 September 2023