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Via email: anthony.ko@planning.nsw.gov.au

Dear Mr Ko

RE: Snowy 2.0 Exploratory Works (SSI 9208) Modification 2 – Tunnelling Methodology

I refer to your notification dated 5 November 2019 seeking comment for the Snowy 2.0 Exploratory Works Modification 2 located in Kosciuszko National Park (KNP), within the Snowy Valleys and Snowy Monaro local government areas. The Biodiversity and Conservation Division (BCD) and National Parks and Wildlife Service (NPWS) of the Department of Planning, Industry and Environment ('the Department') have reviewed the exhibited Modification and supporting technical reports.

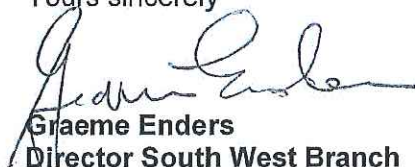
Significant concerns are held by BCD and NPWS regarding the proposal. Our advice is provided in **Attachment A**. In summary, the key issues requiring continued discussion and resolution prior to final consideration of the proposal are:

- composition of spoil from the tunnel boring process and the impacts on terrestrial and aquatic values
- disposal of spoil, subaqueously or on land within Kosciuszko National Park
- cumulative impact to Smoky Mouse habitat
- details about vegetation trimming and associated mitigation measures for avoiding disturbance to Smoky Mouse habitat
- completion of surveys for the Biodiversity Development Assessment Report.

The Modification as proposed will require all existing management plans to be updated to reflect the new works. We request that all plans required as a Condition of Approval that relate to BCD and NPWS matters are developed in consultation with the Department to ensure the identified issues are adequately addressed.

If you have any questions regarding this matter, please contact Nicole Shoter on (02) 6950 5535 in relation to park management issues, or Andrew Fisher on (02) 6022 0623 in relation to biodiversity and Aboriginal cultural heritage issues.

Yours sincerely



Graeme Enders
Director South West Branch
Biodiversity & Conservation Division
Department of Planning, Industry and
Environment

20/11/19



Mick Pettit
Director Southern Ranges, Park Operations
National Parks & Wildlife Service
Department of Planning, Industry and
Environment

20.11.19

ATTACHMENT A – Assessment Summary for Snowy 2.0 Exploratory Works Modification 2 (SSI 9208-Mod-2)

**ATTACHMENT A Assessment Summary for Snowy 2.0 Exploratory Works
Modification 2 (SSI 9208-Mod-2)**

Key Issues

1.	<i>Tunnelling Method</i>	<p>Modification Report section 3.2 identifies a change in methodology from drill and blast to the use of a tunnel boring machine.</p> <p>Recommended actions:</p> <ul style="list-style-type: none"> • Clarify the extent of difference in the composition of the spoil generated by the two methodologies. • Undertake a full environmental assessment of potential ground and surface water impacts resulting from the change in methodology. • Undertake a full environmental assessment of potential terrestrial and aquatic impacts resulting from the change in methodology. • Undertake a full assessment of potential water quality impacts to Talbingo Reservoir resulting from the changed spoil composition and approved sub aqueous placement. <p>Recommended condition of consent</p> <ul style="list-style-type: none"> • Tunnelling works are not to commence until a Subaqueous Emplacement Management Plan is prepared in consultation with EPA and completed to the satisfaction of the Planning Secretary and NPWS
2.	<i>Middle Bay barge ramp – dredge spoil</i>	<p>Modification Report section 6.2.1 (page 51), states "<i>dredge spoil from Modification 2 barge ramp construction will be placed within the designated subaqueous spoil placement area at Ravine Bay/Middle Bay.</i>" NPWS understands initial sampling of this material identified the presence of some heavy metals. NPWS also understands there is uncertainty regarding subaqueous spoil placement within Talbingo Reservoir as part of the Main Works EIS assessment.</p> <p>Recommended condition of consent</p> <ul style="list-style-type: none"> • Dredge material from Talbingo Reservoir is to not be temporarily or permanently stored on land in KNP
3.	<i>Aboriginal cultural heritage</i>	<p>The commitment to update the current Aboriginal Heritage Management Plan under section 7.2 and Table 7.1 (page 83) is noted.</p> <p>Recommended actions</p> <ul style="list-style-type: none"> • All operational maps and plans must also be reviewed and updated to ensure the new boundaries of works are consistent with the proposed modification changes. All older versions of operational maps and plans should be removed from circulation to ensure there are no inadvertent impacts to Aboriginal cultural heritage values due to any out-of-date mapping.

4.	Biodiversity	<p>The Department acknowledges that considerable effort has been made to reduce disturbance and supports measures for avoiding impacts to threatened fauna habitat.</p> <p>The residual impacts requiring offsets include 0.93 ha of Eastern Pygmy-possum habitat and 0.06 ha of Smoky Mouse habitat and direct impacts to 1.62 ha of native vegetation consisting of six plant community types. The resulting credit requirement is 32 species credits and 36 ecosystem credits.</p> <p>An additional area of 0.38 ha of native vegetation will be trimmed to 1.1 m high, including lopping or removal of any trees present. The Department understands that these trees require further assessment for breeding or roosting habitat of hollow-dependent threatened fauna.</p>
4.1	Native vegetation	<p>Trimming and tree removal</p> <p>Modification Report Section 3.3.2 (page 21) states <i>"to minimise impacts to potential Smoky Mouse habitat it is proposed to trim vegetation and selectively remove trees as required along some sections of the upper sections of Lobs Hole Ravine Road. Vegetation removal will occur at a width of 7.4 m and 1.1 m height for the extent of upper Lobs Hole Ravine Road."</i></p> <p>BDAR Section 2.4.2 lacks specific detail about trimming and tree removal along Lobs Hole Ravine Road south to enable transport of the tunnel boring machine. It is unclear how trimming to 1.1 m height and removal of trees will occur without impact to Smoky Mouse habitat.</p> <p>Modification Report Section 3.3.4iii (page 27) identifies the removal of dangerous trees along Lobs Hole Ravine Road north. NPWS understand that a full tree risk assessment (not included as part of Modification 2) has been conducted.</p> <p>The BDAR should identify specific mitigation measures for the residual impacts being assessed. Impact mitigation measures in Table 7.1 (pages 97-99) rely on general reference to pre-clearing and vegetation clearing protocols in the EMM (2019) Biodiversity Management Plan (BMP) to mitigate impacts on threatened species habitat from trimming and tree removal.</p> <p>The Department understands that the EMM BMP has been superseded by construction BMPs developed for Exploratory Works Stage 1 by Leed (approved in May 2019) and Stage 2 by Future Generation (approved in August 2019).</p> <p>Recommended actions</p> <ul style="list-style-type: none"> • Describe in detail the techniques and equipment to be used for vegetation and tree removal, including trimming to 1.1 m • Clarify the extent of dangerous trees identified for removal along Lobs Hole Ravine Road (north) and ensure they are included in the biodiversity assessment • Clarify the impact and the exact number of trees required to be trimmed and or removed completely along Lobs Hole Ravine Road • Specify the 'pre-clearance process' and 'clearing procedures' for mitigating impacts of Modification 2 due to removal of vegetation and threatened species habitat and indirect impacts due to

		<p>trimming of native vegetation and selective tree lopping and removal, including:</p> <ul style="list-style-type: none"> o best practice tree trimming to minimise long-term impact to threatened species habitat due to subsequent tree death o determining whether a tree is lopped or removed, such as proportion of canopy removal that triggers complete tree removal o minimising damage to understorey vegetation o delineation of area to be trimmed to 1.1 m o monitoring and reporting procedures for tree removal by licensed wildlife handlers and qualified ecologists. <p>Recommended condition of consent</p> <ul style="list-style-type: none"> • <i>Procedures for tree removal and vegetation trimming must ensure that damage to surrounding vegetation is avoided.</i>
4.2	Threatened species	<p>Targeted survey methods</p> <p>The northern section of Lobs Hole Ravine Road did not have targeted threatened species survey due to timing. BDAR Section 6.3.3 (page 60) states that "where required, additional pre-clearance surveys will be completed within this area before construction works are undertaken", and the results are to be addressed in the response to submissions (RTS).</p> <p>The BAM requires the assessment results and credit requirements to be identified within the BDAR. The Department's strong preference is that a revised and complete BDAR be provided rather than parts of the assessment being presented in the RTS.</p> <p>The use of upper-storey vegetation by Smoky Mouse, including tree hollows, is not well understood. Any habitat element within the relevant plant community types may be utilised by Smoky Mouse, including trees.</p> <p>Recommended actions</p> <ul style="list-style-type: none"> • Clarify the location of potential habitat that has not been surveyed for each species in Table 6.4 • Explain the process for determining where a survey will be required • After clarifying the trees to be removed, update the BDAR to consider the potential impact of tree canopy removal on Smoky Mouse and hollow-dependent fauna, including Gang Gang Cockatoo • After pre-clearing surveys have been completed during the correct months, provide a revised and complete BDAR
		<p>Smoky Mouse</p> <p>The assessment identified that 0.06 ha of Smoky Mouse habitat will be impacted by Modification 2.</p> <p>The Department is concerned with the incremental nature of how impacts to Smoky Mouse are being considered. The Exploratory Works EIS, including the original approval plus Modification 1 and 2, and then Main Works impacts in the same location will result in an</p>

		<p>increasing cumulative impact that makes it difficult to contextualise for individual assessments. In the absence of an overall assessment, we request an updated summary of cumulative impact to Smoky Mouse habitat with each separate development application.</p> <p>It is essential that the mitigation measures described in the EMM BMP (2019), as mentioned in BDAR Section 7.2.4 (page 95) will continue to be implemented to reduce the potential of vehicle strike on Smoky Mouse.</p> <p>Recommended actions:</p> <ul style="list-style-type: none"> • Include a table of incremental loss of Smoky Mouse habitat for all Snowy 2.0-related projects and modifications, including trimming • Ensure current measures to reduce potential vehicle strike continue to be implemented through Biodiversity Management Plans developed for Exploratory Works modifications and future Snowy 2.0 projects
		<p><i>Regent Honeyeater</i></p> <p>Regent Honeyeaters have recently been recorded flying over Lobs Hole.</p> <p>Recommended action:</p> <ul style="list-style-type: none"> • Include a protocol for stopping work if Regent Honeyeaters are sighted and observed to be foraging or breeding within the project area. An appropriately experienced ecologist is to determine whether Regent Honeyeaters are using the plant community type being impacted. Work should not recommence in that vegetation type until the breeding or foraging period is complete.
4.3	<i>Mitigation measures</i>	<p>Section 2.4.2 (page 14) describes maintenance works within the existing road and disturbed area along Lobs Hole Ravine Road north.</p> <p>Recommended action:</p> <ul style="list-style-type: none"> • Include a mitigation measure stating that spoil and sediment resulting from clearing of existing culverts and temporary removal of roll-overs must not be pushed or piled into native vegetation.