



Our ref: STH18/00073/12
Contact: Andrew Lissenden 4221 2769
Your Ref: SSI 10034

13 November 2019

Anthony Ko
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SNOWY 2.0 SEGMENT FACTORY ENVIRONMENTAL IMPACT STATEMENT (SSI 10034) - PUBLIC EXHIBITION COMMENTS

Dear Anthony,

Roads and Maritime Services (RMS) refers to your correspondence dated 30 September 2019 relating to the above State Significant Infrastructure (SSI) application that has been forwarded to RMS for comment.

RMS has completed an assessment of the information provided (Environmental Impact Statement prepared by EMM dated 20 September 2019 and Proposed Segment Factory Traffic and Transport Assessment – Revision 7.0 prepared by SCT Consulting dated 25 September 2019) focusing on the impact to the state road network. RMS notes:

- The key state classified roads are the Monaro Highway, Sharp Street and the Snowy Mountains Highway. Polo Flat Road to which access to the site is gained is a regional classified road;
- The development, to which the Environmental Impact Statement (EIS) relates, involves the construction of a segment factory within the Polo Flat industrial area to the east of Cooma. The factory being constructed to manufacture precast tunnel segments and concrete rings for Snowy 2.0 Main Works project (SSI 9687);
- The segment factory will operate for a period of 3.5 years and will produce approximately 131,000 segments as well as 14,500 concrete rings. The material produced to be transported by trucks to the project sites associated with the Snowy 2.0 Main Works project;
- The development will generate a significant amount of additional traffic (both light and heavy vehicles) that has the potential to adversely impact upon the state road network. The impact of this traffic needs to be considered and adequately mitigated by the proponent;
- The traffic implications of the proposed development cannot be considered independently of the Snowy 2.0 Main Works project. Noting that the Snowy 2.0 Main Works project is a separate application being assessed by the NSW Department of Planning, Industry and Environment (DPI&E) RMS will be making a separate submission on the Main Works project; and
- Transport for NSW (TfNSW) will be providing a separate response to address the requirements of Clause 84 of *State Environmental Planning Policy (Infrastructure) 2007*.

Noting the above RMS advises that the currently submitted application does not provide sufficient information to address the Secretaries Environmental Assessment Requirements (SEAR's) that it previously provided (RMS letter dated 21 August 2019 – Refer to **Annexure 1**) and as such does not provide adequate information to enable RMS to assess the impacts of the proposed development on the classified road network. RMS therefore requires the matters outlined in **Annexure 2** to be addressed by the applicant.

To assist in progressing the traffic related matters RMS is currently having ongoing discussions with the applicant, their consultants and Snowy Monaro Regional Council. RMS encourages further consultation, as required, to ensure the traffic impacts are adequately addressed in the information provided as part of this current SSI application and before any approval is issued.

If you have any questions please contact Andrew Lissenden on 4221 2769.

Please ensure that any further email correspondence is sent to 'development.southern@rms.nsw.gov.au'.

Yours faithfully

A handwritten signature in blue ink that reads "Sam Knight". The signature is written in a cursive, flowing style.

Sam Knight
Director Southern Region

Cc: Anthony.Ko@planning.nsw.gov.au; and



Transport
Roads & Maritime
Services

Our ref: STH18/00073/09
Contact: Andrew Lissenden 4221 2789
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21 August 2019

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SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS – SNOWY 2.0 SEGMENT FACTORY (SSI 10034)

Dear Anthony,

Roads and Maritime Services (RMS) refers to your email dated 23 July 2019 that requests RMS input into the Secretary's Environmental Assessment Requirements (SEAR's) for the Snowy 2.0 Segment Factory development.

RMS has reviewed the information provided (i.e. 'Proposed Segment Factory for Snowy 2.0 Scoping Report', Report No. J17188RP#69, Version v1 Final, dated 19 June 2019 prepared by EMN) focusing on the impact to the state road network. RMS as a result of its review notes the following:

- The key state roads are the Monaro Highway, Sharp Street and the Snowy Mountains Highway;
- The development, for which the SEAR's are requested, involves the construction of a segment factory within the Polo Flat industrial area to the east of Cooma. The factory being constructed to manufacture precast tunnel segments and concrete rings for Snowy 2.0 project (both the exploratory works and main works);
- The segment factory will operate for a period of 3.5 years and will produce approximately 131,000 segments and 14,500 concrete rings. The material produced to be transported by trucks to project sites associated with the Snowy 2.0 main works project;
- The development will generate a significant amount of additional traffic (both light and heavy vehicles) that has the potential to adversely impact upon the state road network. The impact of this traffic needs to be considered and adequately mitigated; and
- The traffic implications of the proposed development cannot be considered independently of the Snowy 2.0 Main Works project.

Having regard for the above RMS considers the matters outlined in Attachment 1 should be included in the SEAR's issued and should be addressed by the proponent as part of any future application/Environmental Impact Statement lodged. Please note that Attachment 1 does not intend to represent an exhaustive listing of all the issues to be considered in the assessment of the traffic impacts associated with the proposed development. RMS emphasises that the proponent, in the design and construction of the development

needs to identify appropriate measures to minimise the impact of the development on the safety, efficiency and standard of maintenance along the existing state road network.

RMS is currently having ongoing discussions with the proponent, their consultants and Snowy Monaro Regional Council in relation to potential traffic related issues the Snowy 2.0 development may have and will need to address. RMS encourages further consultation, as required, to ensure the traffic impacts are adequately addressed in the information provided as part of any future application.

If you have any questions please contact Andrew Lissenden on 4221 2769.

Please ensure that any further email correspondence is sent to development.southern@rms.nsw.gov.au.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'Sam Knight', is positioned above the printed name.

Sam Knight
Director Southern Region

Cc: Anthony.Ko@planning.nsw.gov.au; and
ben.cryan@snowyhydro.com.au

Traffic Impact Study (TIS)

A Traffic Impact Study (TIS) is required. As a guide Table 2.1 of the RTA Guide to Traffic Generating Developments outlines the key issues that should be considered in preparing a TIS.

RMS believes the traffic implications for the segment factory development should be considered together with the traffic implications of the Snowy 2.0 Main Works project. While RMS notes a separate approval will be sought from the Department of Planning, Industry and Environment (DPI&E) for the Snowy 2.0 Main Works project, RMS recognises the impacts are linked and believes it is logical to consider and address the impacts in an integrated manner.

Noting the comments above RMS believes the TIS should include, but not be limited to, details on:

1. The development sites to which material from the segment factory will be taken to as well as the road transport routes to be used (for both heavy and light vehicles).
2. The existing vehicle movements along the state roads that provide access to/from the above sites (e.g. traffic volumes based on survey) as well as proposed movements as a result of the development. This including daily maximum quantities and associated maximum daily vehicle movements.
3. Types of vehicles to be used, their size and their associated carrying capacity, etc. RMS is supportive of the use of longer vehicles which will reduce the number of heavy vehicle movements to and from the Snowy 2.0 Exploratory Works and Main Works development sites (e.g. use performance based standards (PBS) vehicles).
4. An assessment of the impact of the proposed development on journey times for motorists along on the Monaro Highway, Sharp Street and the Snowy Mountains Highway, identification of appropriate measures to minimise delays for motorists and measures to ensure road users are kept well informed regarding the increased traffic and changed driving experience. The assessment needs to consider AM and PM peak volumes, particularly during seasonal peaks.
5. An assessment of the impact of the proposed development on the existing intersections that will be used to provide access to/from the development sites and identification of appropriate upgrades to manage these impacts.

Notes:

- For rural low volume intersections, consideration needs to be given to sight distance, turn warrants and vehicle swept paths in determining the appropriate intersection treatment.
- For urban intersections and higher volume rural intersections, consideration needs to be given to sight distance, turn warrants, vehicle swept paths and SIDRA modelling in determining the appropriate intersection treatment. Where the SIDRA modelling indicates significant delays for the right in or out, a higher order treatment may be required (i.e. a roundabout or traffic lights). RMS believes this analysis should include, but not necessarily be limited to, the following intersections:
 - Monaro Highway/Polo Flats Road/Yallakool Road; Monaro Highway/Saleyards Road;
 - Kosciuszko Highway/Snowy Mountains Highway;
 - Sharp Street/Vale Street;
 - Sharp Street/Bombala Street; and
 - Sharp Street/Baron Street.

Attachment 1

- **Sight distance:** Confirmation of the available sight distance at the state road intersections is required. Sight distance should aim to comply with Table 3.2 of AUSTROADS Guide to Road Design - Part 4A: Unsignalised and Signalised Intersections based on a reaction time of 2 seconds and should be shown on a scaled plan. If the required sight distances cannot be achieved details on works to be undertaken to mitigate any road safety impacts must be provided.
- Turn warrants refers to the warrants for BA, AU and CH Turn Treatments outlined in Appendix A.8 of AUSTROADS Guide to Road Design – Part 4: Intersections and Crossings – General. Volume plots on Figure A 10 (of Appendix A.8) should be provided to identify the appropriate turn treatments. Traffic volumes need to consider AM and PM peaks, and in particular, seasonal peak volumes.
- Swept paths refers to an swept path analysis in accordance with Austroads turning templates is required for all intersections/the proposed connections with the state road network. This is required to demonstrate that the largest vehicle likely to utilise these connections can enter and exit in a forward direction without crossing the centre line of the intersection/road.
- SIDRA modelling refers to intersection modelling. The modelling should consider
 - The traffic implications from the full development (i.e. segment factory and Snowy 2.0 Main works);
 - AM and PM peak volumes (including seasonal peak volumes);
 - Existing traffic volumes with and without development and projected volumes with and without the development;
 - Calibration and validation of the model should follow RMS modelling guidelines. In this regard the base SIDRA models must be calibrated with on-site observations in the AM and PM peak. This can be done by measuring existing queue lengths, delays, etc; and
 - Electronic copies of all SIDRA files needs to be provided to RMS for review.
- 6. **Heavy vehicle salvage plans/protocols.**
- 7. A Drivers' Code of Conduct that includes, but is not limited to, details on the safe driving practices and how they will be maintained by drivers transporting products to and from the development site (i.e. during the course of the Snowy 2.0 Main Works to which the material being manufactured will be taken), measures to ensure light vehicles have safe opportunities to pass heavy vehicles on the Snowy Mountain Highway (e.g. all heavy vehicles travelling to construction sites accessed off the Snowy Mountains Highway will be required to enter the Russel Holding Lot), safe merging practices at the intersection of Link Rod and the Snowy Mountains Highway, etc.

Strategic designs

A strategic/concept design needs to be provided as part of the application (and prior to determination) for any proposed upgrade works, including:

- Any proposed infrastructure measures to minimise delay to motorists;
- Any proposed infrastructure measures to ensure road users are kept well informed regarding the increased traffic and changed driving experience; and
- Any proposed intersection upgrades, including any proposed measures to upgrade the intersection treatment, cater for vehicle swept paths and increase sight distance.

The strategic/concept design is needed to clarify the scope of works, demonstrate the works can be constructed within the road reserve and allow the consent authority to consider any impacts of the works as part of their assessment. The concept design must be to scale, identify legal property boundaries (inclusive

Attachment 1

of road reserve boundaries), detail existing lane widths, proposed lane widths, new/proposed works, lane lengths and demonstrate the works will comply with the applicable requirements of Austroads Guide to Road Design and associated technical directions.

Environmental Impacts

The environmental assessment for the project needs to include an assessment of any proposed road infrastructure upgrade works (as identified in the traffic study and clarified with strategic designs). This is to allow the consent authority to consider the environmental impacts of these works, including traffic and road safety impacts as well as other impacts such as noise, flora and fauna, heritage, impact to the community, etc. It will be a matter for consent authority to determine if any further consultation is required for any specific matter or impact.

The RMS letter dated 21 August 2019 detailed what information should be provided as part of any future application to address traffic related issues associated with the proposed segment factory. RMS' review has indicated that additional information is required to address the yellow highlighted sections as shown in **Annexure 1** above. Additional information on the above is provided below.

- Types of vehicles (point 3 in Attachment 1 of the RMS letter dated 21 August 2019)

RMS is supportive of PBS vehicles being used and as such encourages further discussions with RMS Freight Branch in relation to the above so as to enable an agreement to be reached prior to the applications determination on the type of PBS vehicle to be used. Details of these discussions should be provided as part of any additional information that is provided.

- Impact on journey times and identification of appropriate measures (point 4 in Attachment 1 of the RMS letter dated 21 August 2019)

RMS notes that no assessment of the impact of the development on journey times for motorists along the classified road network has been undertaken or appropriate measures identified to minimise delays and to ensure road users are kept well informed of the increased traffic and changes driving experience (i.e. slow vehicle turn out bays, electronic variable message signage at key locations on the road network, etc).

RMS requests this issue be addressed.

- Impact on existing intersections and identification of appropriate upgrades (point 5 in Attachment 1 of the RMS letter dated 21 August 2019)

RMS notes the assessment that has been undertaken and provides the comments in the table below.

Intersection	Proposed Upgrade (as detailed in the segment EIS and TIA)	RMS Comments
Monaro Highway and Polo Flat Road	Nil	RMS does not believe the existing intersection is adequate to cater for the increased heavy vehicle movements associated with the development (both for the required right turns in to Polo Flat Road and the left turns out onto the Monaro Highway). While the existing treatment at the intersection does not comply with Austroads standards with respect to treatments for turn warrants, RMS does not believe it is acceptable to increase movements significantly at this intersection without providing an appropriate upgrade.
Monaro Highway/Sharp Street and its intersection with Bombala Street.	Nil	RMS is concerned with the impact the development will have on the existing operation of the intersection as well as the impacts of increased heavy vehicle traffic on pedestrian movements across Sharp Street at this location.
Monaro Highway/Sharp Street and its intersection with Vale Street	Nil	RMS does not believe additional treatments/works are required at this intersection as part of the current application, subject to a swept path being provided to demonstrate that a PBS vehicle can undertake a manoeuvre through the existing roundabout. RMS does note adjustments to the roundabout for transporting tunnel boring machines will be considered as part of a separate application.

Kosciusko Road and its intersection with the Snowy Mountains Highway	Nil	RMS is concerned with the right turn movements onto the Snowy Mountains Highway and the left turn movements out of the Snowy Mountains Highway given the number of heavy vehicles and the ability of vehicles to be contained within the existing pavement.
Snowy Mountains Highway and its intersection with Rock Forest (holding lot)	Basic Right Turn (BAR) Treatment and Basic Left Turn (BAL) Treatment.	RMS is satisfied with the proposed treatment subject to the provision of concept designs and swept paths (refer to additional comments below).
Snowy Mountains Highway and its intersection with Tantangara Road	Nil	RMS is concerned with this access point given its reduced sight distances and its horizontal and vertical geometry. At minimum for right turns into the site a Channelised right (CHR) treatment should be provided. The left turn out of Tantangara is also considered to be a problem and could be addressed via shoulder widening to enable heavy vehicles leaving to accelerate and gain additional speed before merging into the travel lane. Any works proposed should avoid impacting the chain bay to the west of the intersection. Sealing of the mouth of the Tantangara Road intersection would also be required. Concept designs and swept paths should be provided (refer to additional comments below).
Snowy Mountains Highway and its intersection with Link Road	Nil	While RMS acknowledges the constraints with the existing intersection (e.g. two lane bridge to the south of the intersection), measures should be identified that can be implemented to minimise delays and inform the road users about changed traffic conditions (e.g. Vehicle Activated Sign (VAS) to alert east bound motorists and a slow vehicle turn out to the east of the existing bridge)

RMS requests the submission of additional information to address above comments. As detailed under point 5 in Attachment 1 (i.e. RMS letter dated 21 August 2019), this information needs to include:

- Scaled plans to support sight distance measurements.
- Swept path analysis for all intersections.
- SIDRA modelling, including information to support calibration and validation (i.e. existing queue lengths, delays) and electronic copies of the modelling.
- Heavy Vehicle Salvage (point 6 in Attachment 1 of the RMS letter dated 21 August 2019)

No details on how heavy vehicle salvage, if required, will be dealt with so as to minimise impacts on the state road network (e.g. plans/protocols, how road users will be kept informed, etc).

RMS requests that this information be provided.

- Strategic/concept designs (separate point in Attachment 1 of the RMS letter dated 21 August 2019)

RMS notes that a strategic/concept design has not been provided as part of the EIS information submitted for any proposed upgrade works. RMS request that strategic/concept designs be submitted as detailed in the SEAR's (refer to Annexure 1 for additional details).

- Environmental Impacts (separate point in Attachment 1 of the RMS letter dated 21 August 2019)

Noting the comments above any road infrastructure upgrade works that are being proposed as part of the current application will need to give consideration/undertake an assessment of the environmental impacts of the proposed works. Refer to Annexure 1 for additional details.

- Other General Comments:

RMS notes a road safety audit (RSA) has been undertaken. It is unclear to RMS what is being actioned from the RSA that has been submitted and who is responsible for implementing the RSA recommendations. Additional details are required in relation to the above inclusive of a timeframe for when identified actions will be completed.