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5 November 2021
Stephen O'Donoghue
Director Resource Assessments
Department of Planning Industry and Environment
12 Darcy St, Locked Bag 5022
Parramatta NSW 2124

Dear Stephen,

We refer to your letter dated 14 October 2021, requesting further information in relation to the Bulli Seam Operations (MP08_0150) Modification 3 Application.

Please find attached the response to each request for information (Attachment A).

If you have any queries or require additional information, please contact the undersigned.

Yours sincerely,

Gary Brassington
Manager Approvals
0438 042 897

## *Attachment A – Summary of Responses*

**Traffic**

***Department comment:***
*The Department notes that the Traffic Assessment (Transport & Urban Planning Pty Limited, May 2021) does not provide modelling or assessment of the potential traffic impacts on the regional road network as a result of the modification.*
*It is understood that the majority of the construction and operational workforce and heavy vehicles would likely arrive from and depart to the south of the site along Menangle Road. It is therefore requested that information be provided on the potential impact of the modification on the regional network to the south of the site, including:*

- *Wilton Rd at Broughton Pass;*
- *Douglas Park Gorge on Douglas Park Drive; and*
- *Hume Highway/Picton Road intersection.*

*It is noted that this issue was raised in a public submission on the modification (https://www.planningportal.nsw.gov.au/major-projects/submission/798641), but was not fully addressed in the Submissions Report (October 2021).*
*The submission also questioned how IMC would monitor and ensure compliance with the proposed Driver Code of Conduct (DCOC) for the modification. The Department requests a response to this question.*

Traffic Assessment

The Traffic Assessment Report (Transport & Urban Planning Pty Limited, May 2021) prepared for the Modification Application did not include a regional analysis of the specific intersections/passes noted due to the distance of these locations from the Appin Mine Ventilation and Access Project (the Project).

Previous analysis of the Picton Road / Hume Motorway intersections was undertaken by Transport and Urban Planning Pty Ltd in 2017 for an unrelated project, and this analysis has been reviewed in consideration of the Project.

The Picton Road / Hume Motorway intersection peak hours were found to occur between 7.30am and 8.30am and 4.45pm to 5.45pm. SIDRA modelling of the intersections for existing AM peak hour conditions found that conditions at the intersections were satisfactory during the AM peak hour (Level of Service B operation). Analysis was also undertaken for a future 10 year scenario based on 29% future growth. This analysis found that the intersections would also operate at a satisfactory level during the AM peak hour (Level of Service B/C operation).

The relevant peak hour for the Project during the operational phase is the AM peak hour between 7am to 8am. During this hour the Project will generate an additional 78 vehicles per hour using these intersections, which is an average of 1 - 2 vehicles per minute. The majority of these vehicles (77 vehicles per hour) will be travelling away from the project site and towards Wollongong, which is the non peak direction. It would be expected that the intersections would continue to operate at a satisfactory Level of Service.

Heavy vehicles during the operational phase will number 12 inbound / 12 outbound trips per day and average 1 - 2 inbound / 1 - 2 outbound trips per hour. The impact of 1 - 2 heavy vehicles per hour using these intersections would also be minimal.

The construction workforce trips will not coincide with the commuter AM and PM peak hours or with the AM or PM peak hours at the Picton Road / Hume Motorway intersections. As the construction workforce trips will be outside the peak hours, traffic conditions are expected to remain satisfactory at the intersections.

Apart from the peak construction period, heavy vehicles during construction will average 1 - 2 vehicles per hour travelling in each direction along Picton Road and will not have a significant impact on traffic conditions at the intersections. During peak construction period, which is estimated to be a 6 - 8 week period, heavy vehicles will average 4 vehicles per hour with up to 8 vehicles per hour during busy hours. However, the majority of these vehicles, associated with the concrete pours, will be arriving and departing to and from the north.

It was noted by Transport and Urban Planning Pty Ltd that Transport for NSW is proposing to upgrade Picton Road between the Wilton Growth Area and the M1 Princes Highway Motorway including the interchange (intersections) at the Hume Motorway. It would be expected that these upgrade works will provide sufficient intersection capacity for existing and future traffic volumes projected to use these intersections.

In regard to the use of specific regional roads such as Wilton Rd at Broughton Pass and Douglas Park Gorge on Douglas Park Drive, both of these roads are unsuitable for heavy vehicles and as such would not be utilised by these vehicle types during construction or operation. As noted in the Traffic Assessment, IMC expect the majority of the workforce (93%) to arrive and depart the Site from/to the south via Menangle Road from Picton Road with a smaller proportion arriving and departing from/to the north, based on current employee location data.

A small proportion of workforce traffic will continue to utilise these specific regional roads to travel between Appin North, Appin West, Appin East and other facilities, which is consistent with the current use of these roads. Its noted that the avoidance of traffic impacts on Douglas Park Drive in Douglas Park (which is located on the route between these specific regional roads and the Project) is the subject of an existing Appin Mine condition of approval (Condition 2 of Schedule 4). Traffic related impacts at this location would continue to be managed in accordance with the Appin Mine Noise Management Plan, Appin Mine Traffic Management Plan (TMP) and Douglas Park Drivers Code of Conduct (DCOC). Under the plans, IMC seeks to minimise road traffic noise generated by employee commuter vehicles on public roads.

Drivers Code of Conduct

Section 6.6.3.3 of the Submissions Report describes IMC's approach to traffic management under the existing TMP, which utilises DCOC's as a key traffic impact mitigation measure. IMC has successfully implemented a number DCOC's across its operations including for Douglas Park (during Ventilation Shaft 6 construction and operation), Port Kembla Coal Terminal and within the Mount Kembla Village near Dendrobium Mine. Each DCOC is tailored to the location and includes requirements for relevant aspects such as recommended travel routes, travel times, compression breaking, speed limit, truck washing and equipment performance.

Section 6.10.3.3 of the Submissions Report commits to preparing a DCOC for the Project under the TMP, with its purpose being to minimise traffic impacts associated with the Project by including preferred travel routes to ensure unsuitable traffic routes are not utilised by IMC personnel, contractors and visitors attending the Site. Heavy vehicle traffic is currently prohibited to travel through Broughton Pass and Douglas Park Gorge (via the existing sign-posted limits). The DCOC will reinforce the avoidance of

these two routes, and will be shared with all contractors and employees working on the Project.

The DCOC developed for the Project under the TMP would utilise the existing strategies for monitoring and management of traffic. This would include:

- the monitoring of compliance against the DCOC both internally (via operational employees) and externally (via the Community Call Line).
- investigation of all complaints in accordance with the DCOC.
- breaches of the DCOCs would be followed up with the person or contract company involved and recorded in the event reporting system G360.
- disciplinary action undertaken in accordance with the DCOC, where required.

Opportunities to audit against attainable location technology in contractor vehicles will also be investigated in development of the DCOC. Additional mitigations and management measures would be identified as required, in the development of the TMP and DCOC.

**Noise**

***Department comment:***
*The Department requests further information on the timeframes for the construction of the "civil works" and the "intersection works", as referred to in Table 25 of the Noise and Vibration Impact Assessment (NVIA) (Wilkinson Murray, June 2021). It is unclear if these works correlate to the "site establishment, bulk earthworks, construction utilities, pre-sinking and access upgrades" referred to in Table 22, and therefore whether they would occur concurrently and take approximately 7 months to complete.*

Table 22 of the Noise and Vibration Impact Assessment (NVIA) (RWDI Pty Ltd, June 2021) provides an indicative breakdown of the tasks required to occur during the various construction phases of the Project, consistent with Table 3-5 in the Modification Report. The "*site establishment, bulk earthworks, construction utilities, pre-sinking and access upgrades"* construction phase includes the enabling works required to prepare the Site for the construction of the shafts and surface infrastructure. This phase will include the "civil works" and the "intersection works" identified in Table 25 of the NVIA. Further description of the components of this phase can be found in Section 3.7.2 of the Modification Report.

In the NVIA, the conservative approach taken by RWDI was to model the likely equipment noise level emissions and locations associated with each key noise generating construction stage, outlined in Table 24 of the NVIA. The equipment included in the model for 'civil works' and 'intersection works' represents a worst case typical scenario, where all equipment is operating concurrently at the typical worst-case sound power level during a given 15-minute period. As noted in the NVIA, the sound power level given is unlikely to be sustained at such a level for the duration of the activity and as a result, construction noise emissions during many 15-minute periods will be at lower than the levels predicted in Table 25 of the NVIA.

Based on the indicative schedule and concept intersection design, the intersection works are anticipated to take approximately 16 - 20 weeks with the noisiest activity (pavement works) occurring over approximately 3 - 4 weeks. Civil works (such as topsoil stripping, fencing, relocation of services, decommissioning of dams and earthworks for construction of the pad, drainage and pre-sink) will be occurring throughout the 7-month site establishment phase, however the activities and equipment

will be highly variable depending on the type of work occurring. Further, while the intersection work is occurring in a generally discrete location, the civil works will be spread across the Site and the noise emissions will vary with location. Construction works would occur during daytime hours during this phase.

While it's anticipated that the intersection works will, at times, occur concurrently with the civil works, it's not feasible that all equipment listed in Table 24 would be operating concurrently, nor operating concurrently for the full duration of the anticipated 7 month period. Careful scheduling and management of the works will be undertaken to ensure noise emissions are minimised/managed during these short periods through the implementation of reasonable and feasible noise mitigation strategies. Examples of noise mitigation strategies that may be employed have been outlined in section 5.3.3 of the NVIA.

Opportunities to reduce the impact of potentially noise generating works through sequencing and methodology selection will be investigated during detailed design, in consultation with the selected contractors.

**Out of Hours Blasting**

***Department comment:***
*As indicated in the Department's Request for Information No. 2, evening and night-time blasting activities are typically not permitted in NSW and are unlikely to be approved for this modification based on the predicted impacts on receivers over an extended period of time.*
*The Department requests further demonstration of why blasting activities cannot be coordinated to occur during morning and afternoon periods.*

Adaptive Management Approach

IMC appreciates that where construction blasting is utilised for commonly undertaken construction projects in NSW (such as road/rail tunnels and stations) blasting is generally not proposed during the evening and night time. However, IMC consider that the proposed Project is unique given that the blasts will occur at increasing depth as the shaft construction progresses towards the underground mine.

As outlined in our letter dated 5 October 2021 and the supporting memorandum from RWDI (30 September 2021), as the shafts are sequentially excavated towards their final depths (approximately 591m for VS7 and 560m for VS8) the perception of blasting at sensitive receivers is predicted to diminish to levels that would be acceptable for maintaining amenity during the evening and night time.

In consideration of this key aspect of the Project, IMC has proposed an adaptive management approach for the approval of blasting, to ensure amenity of residents is preserved. Under the adaptive management approach, approval for blasting in the evening and night time would only be sought following comprehensive monitoring and analysis of the blasting undertaken during the day.

Data collected during trial blasting events and daytime construction blasts during the initial (pre-sink) phase of shaft sinking, will be used to confirm that overpressure and vibration results are within acceptable levels to maintain amenity, confirm the suitability of the applied mitigations and to establish appropriate criteria for blasting during the evening and night time periods.

Progression to evening and night time blasting would be subject to the approval of the adaptive Blast Management Strategy by DPIE, in consultation with relevant agencies.

To facilitate this approach, the adaptive Blast Management Strategy would include:

- details of blasting to be performed, the program and method;
- identification of all potentially affected receivers;
- establishment of appropriate criteria for blast overpressure and ground vibration levels at each receiver;
- establishment of appropriate criteria to transition to evening and nighttime blasting;
- determination of potential noise and vibration and risk impacts from blasting and appropriate best management practices;
- details of the proposed blast monitoring program; and
- consultation, impact mitigation and notification procedures for all potentially affected receivers. This may include entering negotiated agreements with some receivers.

The adaptive Blast Management Strategy would be developed in consultation with relevant stakeholders and reviewed by a suitably qualified and experienced person. Consultation with receivers identified as potentially affected would occur throughout all phases of the blasting program.

As noted in Section 6.4.1.2 of the NVIA, small scale trial blasts would be conducted during the detailed design phase prior to construction blasting commencing. A trial blast involves firing several small charges (at depth) and monitoring the resultant vibrations at key monitoring locations around the site. The purpose of these trial blasts would be to support the comprehensive modelling and site geotechnical investigations already completed to date, and refine the construction blast design to comply with project blasting noise, overpressure and vibration criteria.

Scheduling of Blasting

During the initial stages of shaft construction, it is proposed that construction blasts would be scheduled to occur during daytime hours only. During this period, IMC notes that maintaining a regular daily schedule for blasting is the preferred method to maximize efficiency of the shaft sinking operation and avoid delays.

However, as detailed in our letter dated 5 October 2021, there are several variables that may impact the day-to-day progress of shaft sinking, making it difficult to plan a regular blast time over the entire construction period. This includes the variable duration of shaft sinking cycle, excavation depth, changes in water make, changes in ground conditions and safety considerations. Given that the blasting cycle follows a repetitive sequence of activities, in the event a scheduled blast was delayed and unable to be completed during the day time, the shaft sinking cycle may experience an overnight delay as the next activities in the sequence would be unable to continue.

As predicted by RWDI in their memorandum (30 September 2021) and the NVIA, as the shaft depth increases the perception of blasting at sensitive receivers is predicted to diminish to levels that would be acceptable for maintaining amenity during the evening and night time. When this depth is reached, restricting blasts to the day time will not result in any additional impact mitigation benefit for receivers.

Discussion on the implications of restricting blasting to the daytime period is provided in our letter dated 5 October 2021. Of note, restriction of blasting to daytime hours over the full construction period is predicted to extend the duration of construction by 5

months, resulting in additional duration related impacts on the community. During our consultation with the local community, we have been advised that investigation of opportunities to shorten the construction period are welcomed.

As such, IMC seeks to preserve the option to seek approval for blasting during the evening and night, under an adaptive management plan approach. The opportunity to undertake evening and night time blasting, following comprehensive monitoring and consultation under an approved adaptive Blast Management Strategy, would contribute to minimising construction related impacts on the local community and is critical to meeting the operational needs of the Mine.