18 February 2022

Joe Fittell
Team Leader - Resource Assessments
Department of Planning, Industry and Environment (DPIE)

Dear Joe,

Glendell Continued Operations Project (GCOP) – Draft Conditions of Consent (Noise)

We refer to the Sleep Disturbance Criteria set out in the draft noise condition B1 for the Project.

The proposed 45dB (and/or 47dB) as a $L_{A1\,(1\,min)}$ criteria for the Project in the draft noise condition B1 is inconsistent with the 52dB $L_{AF\,max}$ Sleep Disturbance Screening Criteria/Noise Goal as set out in the *Noise Policy for Industry* (NPfI).

This inconsistency with the NPfI will cause material compliance and operational issues for the Project, particularly in the early years. While we appreciate DPIE (on advice from the EPA) may elect to include its proposed noise limits in its recommended conditions for referral of the GCOP to the Independent Planning Commission (IPC), we propose to submit our alternative drafting of these conditions and justification contained in this letter to the IPC for its consideration, which incorporates specialist input from Umwelt Australia Pty Ltd (Umwelt) on the technical aspects.

As required by the SEARs, the Noise Impact Assessment (NIA) for the Project has been prepared in accordance with the NPfI. Consistent with the NPfI, the relevant impact criteria against which the Project has been assessed is set out in Table D.1 of Appendix D in the NIA. In the draft conditions provided in their letter of 10 June 2020, the EPA provided the following:

> ***Noise limits:***
>
> *L1) Unless otherwise further restricted or otherwise stipulated by a condition of this Development Approval or any in-force environment protection licence, operational noise generated at the premises must not exceed the project specific noise goals defined in Table D.1 in Appendix D of the Noise Impact Assessment titled "Glendell Continued Operations Project Noise Impact Assessment" dated November 2019 by Umwelt Environmental and Social Consultants, excluding the construction noise goals.*

The proposed draft development consent noise conditions for the Project are inconsistent with this statement from the EPA. The proposed $L_{Aeq\ 15\ min}$ criteria is consistent with the criteria specified in Table D.1 in the NIA. However, the proposed criteria of 45 dB and 47 dB $L_{A1\,(1\,min)}$ differs from the Sleep Disturbance Noise Goal in Table D.1 which is 52dB $L_{AF\,max}$. The 52dB $L_{AF\,max}$ is also the criteria set out in Table 7.12 of the EIS and Table 3.8 of the NIA.

While not explicitly stated in correspondence from DPIE or the EPA, we understand that the EPA's and DPIE's position for applying sleep disturbance criteria to the Project's draft consent conditions is linked to the existing criteria in the current Glendell EPL (EPL 12840). However, it must be noted that the Project is a new SSD Project (SSD-9349) and not a modification of an existing approved project. The currently proposed noise limit criteria is a 'mix and match' of the Industrial Noise Policy (INP) and NPfI policy approach whereby the $L_{Aeq\ 15\ min}$ criteria has been set by reference to the NPfI and the short-term noise criteria is based on the old INP.

While Table 7.20 of the EIS and 7.1 of the NIA does identify a $L_{A1\ (1\ min)}$ monitoring criteria of 45 dB $L_{A1\ (1\ min)}$ at representative monitoring locations, these relate to representative monitoring locations only and do not specify limit criteria for specific residences.

At the time the EIS was finalised, the noise levels specified in Table 7.20 were appropriate for the setting of *monitoring criteria* under the Mount Owen Complex Noise Management Plan given the integrated nature of the Mount Owen Complex and the continued application of a 45dB $L_{A1\ (1\ min)}$ under the Mount Owen Consent at some receivers[1]. However, this monitoring criteria cannot not be used to represent the appropriateness of setting the noise limits under the new SSD-9349. This is particularly the case given the NIA modelling indicates that the proposed lower criteria in the draft development consent noise conditions is predicted to be unachievable.

Additionally, as is discussed further below, these lower monitoring criteria have now been increased to 52dB $L_{A1\ (1\ min)}$ in a recent Mount Owen EPL variation, issued by the EPA (see **Table 2** below). The approach to managing the difference in compliance criteria between the Mount Owen Operations and the Project is discussed further below.

Consideration of existing 'in-force' EPL noise limits to the setting of conditions

The transitional arrangements for the Noise Policy for Industry (2017) (Implementation Arrangements) provide the principles for applying the NPfI in circumstances where the INP may previously have been applicable. The Project is a new SSD with a significant ramping up of maximum production (4.5Mtpa to 10Mtpa) and necessitates an increased elevation in the in-pit emplacement area, both of which have significant implications for noise management. The relevant provisions of the Implementation Arrangements are extracted below (emphasis added):

1. *The NSW Industrial Noise Policy (2000) is withdrawn and is replaced by the Noise Policy for Industry (2017) except as described in points 2, 3 and 8 below.*

2. ***The Noise Policy for Industry (2017) will take effect immediately upon its release and should be referenced in relevant Secretary's Environmental Assessment Requirements (SEARs) for new industrial development issued after the policy release date.*** *Where SEARs were issued before the release of the new policy, and have not been modified, the assessment requirements referenced in the SEARs will apply for a period*

[1] The Adopted Noise Monitoring Criteria specified in Table 7.1 of the NIA and Table 7.20 of the EIS do not necessarily reflect a non-compliance with consent criteria. As identified in the text discussing Table 7.20 (**emphasis added)**: *If the adopted noise criteria at the compliance noise monitoring location are exceeded, it will be considered that the noise criteria at any of the residences in the defined receiver area* ***may*** *also have been exceeded.*

of two (2) years from the date of issue of the SEARs consistent with the provisions in the Environmental Planning and Assessment Regulation 2000, Schedule 2, Part 2, 3 (7).

…

4. **The Noise Policy for Industry (2017) will be used to assess and develop requirements for existing industrial developments/activities under the circumstances and through the processes described in points 5 and 6 below.**

5. **Modification to a planning approval:**

   a. *where the planning authority requires a noise impact assessment to support the modification; or,*

   b. where a significant change to existing plant, equipment or processes is proposed.

6. Environment protection licence review/variation:

   a. *where the existing environment protection licence does not include noise requirements and the regulation of noise is warranted (for example, due to complaints or changing land uses) through a pollution reduction program; or,*

   b. *where there is a change in the activity, or to existing plant, equipment or processes that may require a noise assessment.*

   NOTE: Where an application is made to vary requirements using the new policy, the NSW Environment Protection Authority (EPA) will take into account existing commitments and requirements, and performance against those requirements, as evidence of the ability of the proponent/licensee to implement reasonable and feasible measures to mitigate noise. That is, where a licence holder meets current noise limits or can do so, this will be considered evidence that practical measures can be implemented to mitigate pollution for the purposes of s.45(d) of the Protection of the Environment Operations Act 1997 when the EPA makes a licensing decision.

7. ***Where application of the policy is triggered through the above circumstances and processes the policy is to be applied in full. The Noise Policy for Industry (2017) is designed to be used in its entirety and 'cherry picking' or 'mix and match' between the NSW Industrial Noise Policy (2000) and Noise Policy for Industry (2017) will not be accepted.***

…

As highlighted above, the Implementation Arrangements clearly identify that the NPfI applies to the Project (including arguably the modification of the Mount Owen Consent) due to it being required by the SEARs. Furthermore, the proposed approach in the current draft consent conditioning is wholly inconsistent with the directions in paragraph 7 of the Implementation Arrangements which state that 'cherry picking' and 'mix and match' of criteria between the INP and the NPfI is unacceptable.

As the SEARs for the Project require the NIA to be undertaken in accordance with the NPfI (consistent with paragraph 2 of the Implementation Arrangements), the NPfI is to be applied "in-full" and the continued application of the INP to the Project assessment is not consistent with the above paragraph 7.

We understand that the justification for the proposed 'mix and match' approach to condition limits relates to the note to paragraph 6 and the requirement for both the Mount Owen EPL and the Glendell EPL to be varied as a result of the Project and associated modification to the Mount Owen Consent. However, the circumstances covered by paragraph 6 are designed to prevent existing industrial premises from seeking a potential increase in approved impacts from existing operations simply due to the NPfI setting higher day time and sleep disturbance criteria.

The consideration of whether an existing operation approved under an EPL can meet the existing criteria is only relevant where there is no material change to the proposed operations. In the case of the Project, the proposed extension of mining operations covered by SSD-9349 are not caught by paragraph 6 as it is a significant extension of mining operations which includes material changes to the existing operations that have implications for noise impacts (as is demonstrated in the modelling). The Project is a new SSD project, materially different to what is approved under the currently 'in-force' Glendell EPL and therefore must be considered against the NPfI in full. Accordingly, paragraph 6 has no application to the assessment of noise impacts and the setting of criteria for SSD -9349 and the Note is irrelevant.

We further note that even if the Note to paragraph 6 was relevant, a mix and match approach between assessment criteria would still not be permitted. As the SEARs prescribe the application of the NPfI to the Project, the criteria set under the consent for the SSD application (if approved) should be consistent with the PNTL criteria and the 52 dB $L_{A\ Max}$ sleep disturbance noise goal set out in Table D.1 (as per the EPA letter of 10 June 2020) and the criteria under the current Glendell EPL is irrelevant.

As the broader Project includes a modification to the Mount Owen Consent (SSD-5850), the application of the INP and NPfI to the modification of the Mount Owen Consent requires separate consideration. In this regard, the note in the EPA letter of 10 June 2020 to an in-force EPL and existing consent conditions does have relevance to the conditions under the modified Mount Owen Consent SSD-5850. Despite this modification forming part of the 'Project' and the assessment of these changes being subject to the SEARs, the Project does not propose material changes to operations at the Mount Owen from a noise perspective other than bringing the haulage route for ROM coal to the CHPP entirely within the Project consent (it was previously managed under the Mount Owen Consent). Given the lack of any material change to the noise impacts from the Mount Owen operations as a result of the Project, we accept that an approach consistent with EPL conditions is appropriate for the modification to the Mount Owen consent. In this regard, the Note in Paragraph 6 is relevant to guide the conditioning the modification of the Mount Owen consent but not the Project.

Worst case impacts not necessarily modelled

One of the stated reasons for setting conditions on the Project lower than the PNTLs (or sleep disturbance screening criteria) is that this represents noise levels which are achievable by the operations. While this is correct in terms of representing the worst case noise levels for the scenarios and meteorological conditions *modelled* it unlikely (particularly in the case of sleep disturbance) to represent worst case impacts as not all meteorological conditions were (or are required to be)

modelled. There are two principal reasons why the modelled predictions may not represent worst case operating impacts:

- The first is that the NPfI only requires the modelling of prevailing conditions determined in accordance with Fact Sheet D of the NPfI. These are conditions which must occur for more than 30% of the time during any day, evening or night period. Conditions which occur below 30% threshold are not required to be modelled and these can include conditions which would result in higher noise impacts than those required to be assessed. The assessment in Tables F.2 indicates that, without active management, there is potential for $L_{Aeq\ 15\ min}$ noise criteria to be exceeded under different operating scenarios.

- The second is that the published $L_{AF\ max}$ predictions represent the modelled impacts for a *representative* modified operational scenario that could be implemented under adverse conditions should monitoring of either noise impacts or meteorological conditions indicate a change to operations is required to meet criteria.

  Unlike many industrial developments, mining operations do not have static noise sources, either in terms of the location of machinery or the noise emitted by that machinery. Due to this dynamic nature of mining operations, the modelling only represents a snapshot of mining. In reality, actual operating conditions (and therefore noise impacts) will vary significantly over the life of the project and even in the representative stages modelled. As detailed in section 7.0 of the NIA, the Project will operate a noise management system which includes a proactive noise management system based on forecast meteorological conditions for the coming day and also a reactive noise management system based on real time noise monitoring to alert operations to conditions which may be approaching noise criteria and enables mine management to adjust operation to reduce potential noise impacts based on the nature of meteorological conditions that are driving the increased noise level observed. This means that, whilst the operations are very carefully monitored and managed, at times there still may be short periods of higher peak noise levels, whilst the operation responds to real-time noise monitoring by adjusting operations to a particular, unanticipated weather condition or un-planned operating circumstance.

Glencore has committed to managing operations for the Project to remain below the PNTLs and sleep disturbance screening criteria and this commitment was based on the assumption that noise criteria would be set at the relevant PNTLs for each area and the NPfI noise screening criteria.

Noise compliance monitoring at the Mount Owen Complex

The differing noise limit conditions under the two consents (the Project and Mount Owen) has monitoring implications for the combined complex. It is noted that this already occurs in relation to existing operations. Table 7.20 in the EIS identified '*monitoring criteria'* for the Project to be included in the noise management procedures. On 23 September 2021, the EPA issued a variation to Mount Owen EPL (EPL 4460) to, among other things, update the Night time LA1(1 Min) limits at two monitoring points (but not receiver locations) to reflect noise modelling predictions in the Mount Owen Continued Operations Project Noise Impact Assessment. The Mount Owen Noise Management Plan has recently been updated to reflect these changes.

Table 1 provides recommended noise monitoring locations and criteria for the Project based on the full application of the NPfI to the Project (SSD-9349). **Table 2** provides an updated table of proposed

monitoring which reflects the recently updated Mount Owen EPL and the subsequently updated Noise Management Plan monitoring locations.

Table 1 Proposed Compliance Noise Monitoring Locations for SSD-9349

	EPA 12840 (Glendell)	EPL 4460 (Mt Owen)			Day/Evening/ Night $L_{Aeq\ 15\ min}$	Night $L_{AF\ max}$
N3	-	33 (NMG 2)	23	Areas 4 North and 4 South - all private residences	40/35/35	52
N8	8	-	145	Residences 145, 144a	40/38/37	52
N9	9	-	150	Residences 150, 152	40/40/38	52
N10	10	-	143	Residences 143, 154, 155, 156	40/40/38	52
N11	11	37 * (NMG 3)	127a	Residences 111, 127a, 127b, 127c, 127d, 146, 147, 148	40/40/38	52
N17	-	39 (NMG 4)	134	Area 11- all private residences	40/35/35	52

Note: * Supplementary monitoring locations only monitored if elevated noise levels are detected Primary monitoring locations.

Table 2 Compliance Noise Monitoring Locations for SSD-5850

Monitoring location				**Mount Owen SSD-5850**	
				Day/Evening/ Night $L_{Aeq\ 15\ min}$	Night $L_{A1\ 1min}$
N1	31	42	NMG 1	35/35/35	45
N3	33	23	NMG 2	45/45/42	49
N15*	44	10		37/37/37	45
N4	34	127a	NMG 3	42/42/42	52
N11*	37			39/39/35	45
N17	39	134	NMG 4	35/35/35	45

Note: * Supplementary monitoring locations only monitored if elevated noise levels are detected Primary monitoring locations.

It is emphasised that Table 1 and Table 2 above relate to noise *monitoring* criteria only, noting for example in Table 2, two monitoring locations (N3 and N4) are adjacent to mine owned land but are

important in the triggering of investigations and assessment of compliance within the noise management groups. These criteria are used to inform investigations of potential non-compliances with the residence specific criteria.

Recent Precedents

We note that this approach of adopting 52dB $L_{AF\ max}$ as a sleep disturbance noise limit criteria for new projects and extensions of existing new projects is entirely consistent with recent approvals granted by the IPC, in particular the Maxwell Underground Coal Project (SSD-9526) and the Mangoola Coal Continued Operations Project (SSD-8642). For these Projects, the adoption of a 52dB for the night time sleep disturbance criteria at all residences is consistent with NPfI sleep disturbance screening criteria other than the use of $L_{A1\ (1\ min)}$ in the Mangoola consent as opposed to $L_{AF\ max}$. The split application of INP and NPfI to discrete aspects of a project is also consistent with the conditions imposed on the 2019 modification of the Ulan Continued Operations Consent (08_0184) approved by the IPC, which applied the NPfI to the setting of conditions related to a new and discrete aspect of that modification (a ventilation fan) while retaining the INP derived noise criteria for other operations which remain unchanged. For these projects, the 52dB criteria were provided for nominated receivers as well as the default 'all other receivers' with all predictions being below the 52dB screening criteria. Given the above precedents, it is not clear why a different approach is now adopted for setting of conditions for the Glendell Continued Operations Project.

In our discussions, DPIE have referred to the draft conditions for the Mount Pleasant Optimisation Project as a relevant precedent for this Project. We understand from a review of EPA submissions on the Mount Pleasant Optimisation Project that the EPA have recommended $L_{A1\ (1\ min)}$ criteria of 45dB for that consent (if approved) despite that project also being assessed under the NPfI. Notably, those draft conditions are also subject to the $L_{A1\ (1\ min)}$ criteria not applying to properties with acquisition or mitigation rights. We are unable to comment on the appropriateness of these conditions to that project other than to note that this approach would also appear to be inconsistent with the NPfI and Implementation Arrangements for similar reasons to those discussed earlier. In this regard, these proposed conditions should not be viewed as an appropriate precedent for SSD-9349.

Appropriateness of 52dB $L_{AF\ max}$ as a night time sleep disturbance criteria

There is potentially some concern among stakeholders that an increase in noise criteria from 45 dB $L_{A1\ (1\ min)}$ to 52 dB $L_{A\ Max)}$ may result in increased impacts to sleep disturbance. However, the short-term impact criteria set for sleep disturbance is specifically designed to avoid potential impacts on sleep disturbance from projects. The processes of updating the NPfI from the INP specifically considered the appropriate management of potential impacts to sleep disturbance. The policy justification for the increase in sleep disturbance assessment criteria from the INP to the NPfI is clearly explained in the 2015 EPA Draft Industrial Noise Guideline Technical Background Paper (Technical Background Paper) that supported the consultation processes on the draft NPfI. Section 4.7 of the Technical Background Paper includes detailed discussion on both the assessment of sleep disturbance impacts under the INP and the proposed justification for the approach now adopted under the NPfI. The key justification for the proposed approach is set out below:

> *The* [World Health World Health Organization (WHO). Night Noise Guidelines for Europe (WHO, NNG-2009)] *recommends a yearly average* $L_{night,outside}$ *of 40 dB(A). However, this criterion has been specifically derived in relation to long-term exposure to noise and the relationship with health effects. The WHO criteria are not intended for use as criteria for assessment of the*

impacts of a specific project and must be used with caution. The criteria represent a health-based threshold based on the lowest observed adverse effect level (LOAEL), a very conservative health end point.

The WHO, NNG also indicates that L_{Amax} 42 dB inside a bedroom aligns with the LOAEL as this level is identified as the levels that may cause awakenings from sleep. Based on the conservative assumption of a 10 dB(A) noise reduction across a façade with a partially open window, this results in an external level of L_{Amax} 52 dB. The current practice of deriving screening level sleep disturbance assessment criteria on the basis of background plus 15 dB can lead to screening criteria as low as L_{Amax} 45 dB(A), which is well below the LOAEL recommended by WHO. Therefore, it is proposed to raise the base screening level criteria for the maximum noise level descriptor to L_{Amax} 52 dB(A) to align with the WHO, NNG. Like all trigger levels in the draft ING, this should not be construed as the level at which unacceptable impacts occur, but rather the level at which feasible and reasonable mitigation measures need to be considered as part of a detailed assessment. It has therefore been proposed in the draft ING to adopt the following screening level assessment criteria approach and trigger levels. Where the subject development can satisfy the following two noise level event trigger levels for the night-time period, no additional assessment or evaluation of sleep disturbance is required:

1. *a night-time project noise trigger level of $L_{Aeq,15minutes}$ 40 dB(A)*
2. *a maximum noise level screening criteria of L_{Amax} 52 dB(A) when assessed or predicted at 1 metre from the façade of a residence containing a window.*

Where the night-time noise levels are predicted to exceed one or both of the maximum event noise trigger levels above, a detailed analysis should be undertaken

These NPfI Sleep Disturbance Screening Criteria has been established having regard to internationally recognised standards which are specifically designed to avoid potential sleep disturbance effects.

Summary

In conclusion, Glencore is seeking a consistent application of the relevant NSW Government Policy in relation to sleep disturbance criteria. The adoption of the 52 dB $L_{A\ Max)}$ sleep disturbance noise limit set out in Table D.1 in the NIA as the noise criteria for the Project (as originally identified in the 10 June 2020 EPA letter) is consistent with both the NPfI and recent approvals granted by the IPC and also aligns with relevant international guidance. The below proposed revised draft development noise condition B1 and B2 reflects this approach:

Noise Criteria

B1 The Applicant must ensure that the noise generated by the development does not exceed the criteria in ***Table 1***.

Table 1: *Noise criteria dB(A)*

Noise Assessment Location[a]	***Day*** $L_{Aeq\ (15\ min)}$	***Evening*** $L_{Aeq\ (15\ min)}$	***Night*** $L_{Aeq\ (15\ min)}$	***Night*** $L_{A\ Max}$
Residences on Privately-Owned Land				
Areas 1, 2, 4, 5, 7 and 11	40	35	35	52

Area 8	40	40	38	52
Area 9	40	40	38	52
Area 10	40	38	37	52
Other privately-owned residences	40	35	35	52

[a] *The Noise Assessment Locations referred to in Table 1, are shown in Appendix 3.*

Noise generated by the development must be monitored and measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the *NSW Noise Policy for Industry* (EPA, 2017). The noise enhancing meteorological conditions determined by monitoring at the meteorological station required under condition B36 and as defined in Part D of the *NSW Noise Policy for Industry* (EPA, 2017) apply to the noise criteria in Table 1.

B2 The noise criteria in ***Table 1*** do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

For the reasons set out in this letter, Glencore requests that the DPIE revises its recommended draft noise conditions for the Project consistent with the its NIA, EIS and the noise limit criteria set out in the NPfI.

Should you require any further information or clarification on the above then please do not hesitate to contact the undersigned.

Yours sincerely,

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