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Stephen O'Donoghue

Senior Planner
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NSW Department of Planning & Infrastructure

Re: Cobbora Coal Project - responses to noise queries

Dear Stephen,

Responses to the Department of Planning and Infrastructure (DP&I) questions since completion of the Planning Assessment Commission (PAC) Review Report for the Cobbora Coal Project (the Project) are attached.

Yours sincerely,

Oliver Muller
Associate, Senior Acoustic Scientist
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Review :PT

Question 1: 25% land affected

Table 15.9 PPR / RTS identifies 2 aggregated land holdings more than 25% >40dBA due to mining operations. Lots 50/754305; 20/754305; 6/75435; and 41/754305 are identified as one aggregated holding. These lots are different to and are not listed in Table 4.4 in the EA Appendix N and there also appears to be a typo in Lot 6/75435 should be 754305? Can you clarify.

Please provide a map showing these lots - are these "vacant" lots or are these land-holdings associated with a residence - if so which ones. Based on the contour maps in Appendix N, it would appear to be land-holdings associated with residences 3108 and 1178? Is this correct?

Response

Lot 6/75435 should read 6/754305. Lots 50/754305, 20/754305, 6/754305 and 41/754305 are now owned by CHC.

There are no aggregated properties where the 40 dB(A) is predicted to be exceeded over 25% or more of the area for Years 8 and 20. Given that these have been selected as being 'worst-case' scenarios, it is unlikely that this 'vacant land' noise criterion will be exceeded at any properties during the life of the Project.

Question 2: Contour Map

Is it possible to provide a noise contour map (with 35 and 40dB contour) for the year 20 operations maximum impact adverse meteorological scenario for extraction only - that is not combined extraction and rail. This will be useful for the assessment report in clearly showing impacts from mining operations alone without rail spur line contribution.

Response

See Section 3.2 of Appendix I of the *Cobbora Coal Project Response to Recommendations of the Planning Assessment Commission Review Incorporating a Revised Preferred Project Report* (EMM, 13 May 2013) (the PAC Review Report) for extraction-only noise contours for Year 8 and Year 20.

Question 3: Noise Prediction Table 4.3 EA

Can you provide what the noise levels would be for Extraction only and Rail and Spur line Extraction for year 20 for calm conditions and adverse winds scenario? This would be useful information for the assessment report.

Response

Table 1 provides modelled noise levels for the revised mine plan for extraction and the rail spur and for extraction-only (no rail spur) for Year 20 when mining is closest to the rail spur. The extraction and the rail spur results are significantly higher for receivers closest to the rail spur. As expected, the results show the majority of noise at the residences close to the rail spur are due to trains although train movements are anticipated to occur only 10 times within a 24 hour period.

The extraction and rail spur scenario is representative of the recently superseded INP approach to noise assessments, where extraction noise and rail spur noise were combined and assessed over a fifteen

minute L_{eq} metric. It is noted the realignment of the rail spur and increase in train speed are the major contributors to an increase in noise levels at receptors.

The current noise assessment method requires consideration of an extraction-only scenario (including rail loops and train loading operations) for assessing extractive industry projects with the industrial noise component of extraction modelled over a fifteen minute L_{eq} metric. The comparison in Table 1 adopted the same assumptions as the EA including adopting a relatively low train speed so comparisons can be made between old and new rail spur. Notwithstanding, a comparison of proposed train speeds between the $L_{eq(15\text{-}min)}$ and a $L_{eq(period)}$ have been provided in the response to Question 6.

Results of the extraction only scenario identify that the revised mine plan would satisfy the project specific noise level (PSNL) at all private residences (35 dB(A)) with the exception of 3108 where a 1 dB(A) exceedance is predicted.

As reiterated in Appendix I of the PAC Review Report, CHC are committed to the following to reduce impacts to the community:

- CHC has comprehensively modelled noise and has, or will, either acquire properties or reach noise amenity agreements to achieve relevant EPA criteria;
- management plans will reduce noise during adverse wind or weather conditions;
- CHC will conduct real time and regular attended compliance noise monitoring which will provide input to adaptive management strategies; and
- CHC has, or will, buy properties or reach amenity agreements with all willing landowners along the rail spur if EPA noise criteria are exceeded.

Table 1 Operational noise level comparison (INP) – revised mine plan for Year 20- dB(A), $L_{eq(15\text{-}min)}$

Receptor ID	PSNL All periods	Revised mine area Year 20					
		Extraction and rail spur			Extraction only (including rail loop)		
		Calm	Winds	Stability F	Calm	Winds	Stability F
1001 - 1172	35	<35	<35	<35	<35	<35	<35
1178	35	<35	<35	35	<35	<35	<35
1198	35	<35	<35	35	30	30	35
1199	35	<35	<35	<35	30	30	35
3021	35	<35	**36**	**37**	<35	<35	<35
3022	35	<35	**36**	**37**	<35	<35	<35
3024	35	<35	35	**36**	<35	<35	<35
3029	35	<35	<35	<35	<35	<35	<35
3035	35	<35	<35	35	<35	<35	<35
3041[6]	35	<35	<35	<35	<35	<35	<35
3043[6]	35	<35	36	36	<35	<35	<35
3044 - 3052	35	<35	<35	<35	<35	<35	<35
3057[6]	35	41	43	46	<35	<35	<35
3062	35	**37**	**40**	**42**	<35	<35	<35
3063	35	<35	<35	35	<35	<35	<35
3065 - 3086	35	<35	<35	≤35	<35	<35	<35
3108	35	**47**	**48**	**50**	<35	**36**	**36**
3218 - 3236	35	<35	<35	<35	<35	<35	<35
5001	35	**36**	**42**	**42**	<35	<35	<35
5003 - 5006	35	<35	<35	<35	<35	<35	<35
5011 - 5022	35	<35	<35	<35	<35	<35	<35
5023[6]	35	<35	**36**	**36**	<35	<35	<35
5024 - 5025	35	<35	<35	<35	<35	<35	<35

Notes: 1. Calm: no wind or temperature gradient; 2. Winds: 2.3 m/s 247.5° (WSW); 3. Inversion: F class stability; 4. Bold - receptors that fall into the management zone (>35 dB(A) and ≤40 dB(A); 5. Bold/grey - receptors that fall into the affectation zone (>40 dB(A)).6 CHC owned or amenity agreement in place (criteria not applied).

Question 4: Rail Spur Line and negotiation status

Properties 3041 and 3043 are to be sub-divided to allow rail spur line access. Is there any noise agreement including options for acquisition with these landowners as part of this sub-division process?

Response

Negotiations regarding amenity and "put or call" agreements were put on hold following the Treasury announcement to sell or lease the Project.

Question 5: Construction

I need some additional info on predicted construction noise from PPR Appendix Table 3.2 to 3.10. Can you provide from the noise prediction tables:

- the remaining privately owned residences only (not including all receptor vacant lots) and the specific noise prediction at the receptor (not a range for all receptors as current) - for the purposes of setting a limit in conditions I need the individual prediction not range for group of receptors.

Response 5

The range represents the maximum and minimum L_{eq} noise levels predicted for each receptor. The maximum noise level would represent the 'specific' noise level that a receptor would receive. The maximum L_{eq} for any scenario conducted during the out of hours (OOH) period is provided in Table 2.

Table 2 Out of hours (OOH) construction noise levels $L_{eq(15\text{-}min)}$, all receptors

Receiver	Predicted received L_{eq} noise level, dB(A)	Receiver	Predicted received L_{eq} noise level, dB(A)	Receiver	Predicted received L_{eq} noise level, dB(A)	Receiver	Predicted received L_{eq} noise level, dB(A)	Receiver	Predicted received L_{eq} noise level, dB(A)
5023	60	1198	44	*1223*	40	1201	36	1168	34
5001	59	1122	44	1243	40	1241	36	1167	34
3006	58	1199	44	*1222*	40	1011	36	1141	33
3008	52	*1213*	44	1239	40	1013	36	1143	33
3063	51	1046	43	1251	40	1089	36	1144	33
3108	51	*5003*	43	*1058*	39	1244	36	1111	33
1004	51	*3018*	43	*1059*	39	1088	36	1134	33
3062	50	*3218*	43	*1225*	39	5006	36	1140	33
3065	49	1246	43	*1158*	39	1036	35	1142	33
3086	49	1072	42	1076	39	1170	35	1233	33
3029	49	*1252*	42	1179	39	1171	35	1234	33
3067	49	1178	42	1155	38	1240	35	1185	33
3235	49	3043	42	1014	38	1133	35	1138	32
3066	49	3044	42	1157	38	1080	35	5017	32
1001	48	3052	42	1156	38	1230	35	5022	32
3022	47	*3057*	42	5016	38	1169	34	5014	31
3020	46	3236	42	1078	38	*1149*	34	5015	31
3021	46	*1075*	42	1172	38	*1232*	34	5018	31
3050	46	3051	42	*2097*	38	1120	34	5021	31
3024	46	1215	41	1253	37	*1147*	34	5019	30
3177	46	3041	41	1002	37	1145	34	5020	30
1031	46	1242	41	1250	37	1187	34	5013	28
3035	46	1037	41	1238	37	1146	34	5011	27
1094	45	3224	41	*1228*	36	1165	34	5012	27
1180	45	*1200*	40	1039	36	1166	34	-	-

Italics – CHC owned or amenity agreement in place (criteria not applied).

Question 6: noise impacts at receptor 3062

As discussed can you get PB to clarify noise impacts at receptor 3062 from the rail spur line.

In the EA the predicted noise level was <35dBA based on 15 min intrusiveness criteria, with sleep disturbance LAmax of 54dBA.

In the PPR with the rail spur line now 32m closer - LAeq =? , LAmax = 56dBA, LAeq period = 45 all periods.

Query - why was the original LAeq 35dBA prediction so low given that receptors at double the distance eg. 3021 at approx 800m predicted 39dBA. It would appear to be due to topography in this area with attenuation of noise to the west for part of the train passby? Hence still a high LA max but lower LAeq. Can PB provide comment on this.

Response

See Section 3.3 of Appendix I of the PAC Review Report for a comparison of INP versus RING noise levels for the rail spur and proposed reasonable and feasible mitigation to be adopted by CHC.

The proposed mitigation includes the construction of barriers (earth mounds). The barriers are not to cross Laheys Creek Road and are to be constructed at the following coordinates:

- residence 3108: 1.8 m high from the top of the rail and 230 m long from Zone 55 (Map Grid Australia (GDA 1996) E717185 N6434364 to E717246 N6434145; and
- residence 3062: 3.5 m high from the top of the rail and 200 m long, from E724150 N6433851 to E724351 N6433857.

The assumption that topography shields residence 3062 from rail noise along the western rail spur is correct. The L_{max} source was assumed to be in direct line of site to the receptor at the nearest point on the rail spur.

Question 7: Inversions

Also as discussed could you confirm whether Class G inversions are a feature of the area or they were just included in the modelling as an additional scenario.

Response

Results presented are for F and G class inversion scenarios. A review of G class stability for the Dubbo region identified that the percentage occurrence was 11% during nights in winter months, and therefore not a 'feature of the area' according to the INP.

Question 8: blasting

Need some clarification on blast impacts on heritage structure - Laheys Creek cemetery.

1. Given distance to blasting is approximately 300m to cemetery, what would be the MIC needed to meet structural criterion of 10mm/s ppv and 133dBA over-pressure - noting that MIC of 1500 kg would exceed ppv at 450m (table 16.26 EA). Noting that there is no info on overpressure compliance in this table.

2. What are implications of a reduced MIC in this location operationally - that is will it significantly impede operations

Response

The revised pit plans result in the cemetery being 375 m from the nearest blast, which is likely to be a coal blast within the nearest pit. The maximum coal blast is estimated to be 300 kg MIC, while the maximum overburden blast on site is proposed to be 500 kg MIC. Using the maximum MIC of 500 kg, both vibration and overpressure criteria will be satisfied. Table 3 presents the results of the re-calculations to demonstrate this.

Table 3 Revised blast overpressure and vibration predictions

Assessment Distance	MIC	Resultant Peak Particle Velocity	Resultant Overpressure	Vibration criteria, mm/s	Overpressure criteria (dBZ)
375	500	5.5	123.8	10	133