NSW EPA

Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001
Attention: David Mooney

Your reference:
Our reference: PART 3A DOC12/46787; LIC08/570-05
Contact: Karen Marler (02) 4908 6803

20 DEC 2012

Dear Mr Mooney

DA 11_0062 - Drayton South Coal Project

I refer to your email of 7 November 2012 and the document titled: *"Drayton South Coal Project Environmental Assessment"* (the EA) prepared by Hansen Bailey and dated November 2012 and requesting comments and recommended conditions of approval from the Environment Protection Authority (EPA) for the project.

The EPA has reviewed the EA, and understands that the proponent is seeking approval for the following:

- Continuation of operations at the Drayton Mine as approved, with additional mining areas within the East, North and South Pits,
- The development of an open cut and highwall mining Drayton South operation extracting up to 7 Mtpa of ROM coal over a period of 27 years;
- Utilisation of the existing Drayton Mine workforce and equipment fleet, rejects and tailings voids and water storage;
- Utilisation of the existing Drayton Mine Coal Handling and Preparation Plant; and
- Construction of a transport corridor between Drayton South and Drayton mine infrastructure.

The EPA provides the following comments and advice in relation to the project. Recommended conditions of approval are provided at **Attachment A**. Environment Protection Licence (No. 1323) currently authorises operated at the Drayton Mine. The proponent will need to make application to the EPA, if consent is granted, to vary this licence to authorise both scheduled development works and the operation of the proposed Drayton South mine.

Air Quality

Exceedances of EPA particulate impact assessment criteria are predicted for up to twelve private residences, with six residences to the south of the project most impacted. The EPA notes that assessment of potential air quality impacts from the project utilises percentage reductions in emission calculations based on proposed best practice control methods and as such, the predicted potential for impact relies heavily on whether emissions are as effectively controlled as assumed in the EA.

Air quality impacts are expected to exceed the EPA's particulates impact assessment criteria[1] for up to twelve private residences as shown in Table 1 below. Note that residences are divided into private and

[1] EPA notes that an assessment of PM2.5 impacts was also conducted and no exceedances of the advisory standard were predicted.

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mine owned residences with criteria exceedances shown in bold text. Potential for impacts are most significant for six private residences to the south of the project with exceedances of the EPA's 24 hour and annual average criteria and TSP criterion predicted for two residences(as shown in red)[2]. Residences to the south east and northwest of the project where exceedances are predicted are mine owned. The EPA notes that majority of exceedances are predicted to occur from year 10 of the project onwards.

Table 1 - Summary of key Drayton South Project Dispersion Modelling Results for Private Residences

Receptor ID	Maximum predicted PM_{10} 24-hour average concentrations	Maximum predicted number of days exceeding 50 $\mu g/m^3$ criteria in a year		Maximum predicted PM_{10} annual average concentrations	Maximum predicted TSP annual average concentrations
	Project alone	Project alone	Cumulative	Cumulative	
Units	$\mu g/m^3$	Number of days		$\mu g/m^3$	
Private residences					
209	24	0	10	22	61
217A	32	0	12	23	66
226A	**94**	**13**	*	**32**	88
226B	**106**	**23**	102	**36**	**99**
226C	**100**	**17**	*	**34**	**94**
226D	**72**	3	50	25	72
227A	43	0	30	19	56
227F	**55**	1	53	28	79
228M	**54**	1	**	20	57
240A	26	0	26	18	49
250A	31	0	28	18	51
411	31	0	11	17	45
Mine owned residences					
57	**69**	5	43	25	70
58A	**101**	26	92	**34**	**94**
58B	**84**	9	***	**31**	87
60	**81**	19	****	**54**	**149**
145A	53	1	38	27	77
145B	71	2	*****	**31**	87
145C	56	1	*****	28	78
145D	52	1	*****	27	75
410	34	0	11	17	46

* Exact data not provided for particular receptor but can be assumed to follow similar pattern as for 226B as these are adjacent
** As above but grouped with 227F
*** As above but grouped with 58A
**** As above but grouped with 57
***** As above but grouped with 145A

The proponent proposes management of impacts at the six private residences identified in the EA via a real time and/or predictive monitoring system to enable operations to be modified according to meteorological conditions and dust levels, however a detailed management plan describing how this will be achieved is not provided in the EA.

[2] Note that an assessment of Lot 226 has also been conducted to determine if greater than 25 % of the privately owned land is predicted to exceed the 24 hour average PM10 impact assessment criterion as consistent with recent approvals processes adopted by the Department of Planning and Infrastructure for mines. 98th percentile impacts greater than 25 % are predicted for this lot during years 5 and 10 of mining activities.

The EPA recommends that an air quality management plan is developed that incorporates effective proactive and reactive management of activities on the mine in response to the results of measured real-time PM_{10} and other inputs such as predicted and prevailing meteorology.

It is unclear whether the proponent has given a commitment to the acquisition of affected properties if necessary and the conditions of consent should include reference to acquisition where air quality is predicted to, or monitoring confirms that, the impact assessment criteria will be exceeded.

A broad overview of proposed best practice dust control measures is provided in the EA, including Level 2 watering and use of chemical suppressants on unsealed haul roads, watering of overburden stockpiles and water injection while drilling[3]. In addition, a broad overview of a proposed real time monitoring and dust management system is provided:

- Three continuous PM10 monitors are proposed for the areas where worst case impacts have been predicted- south/south-west and south east of Drayton South and north-east of the existing Drayton Mine. Real time data from these monitors would form the basis of a trigger action response plan for the site.
- A link with at least one of the Upper Hunter Air Quality Monitoring Network sites is also proposed (eg Jerry's Plain)
- Onsite meteorological monitoring to help initiate response to adverse weather conditions and in conjunction with the PM10 monitors to identify source type and location contributing to dust emissions
- A predictive meteorological forecasting system for proactive dust management by predicting where the risk of dust emissions may occur so that site activities can be managed in advance.

The EPA is aware that the proposed Drayton South Coal Project is located within a region that also includes the Drayton mine, Mt Arthur Coal mine, Mt Pleasant mine, Mangoola mine, Bengalla mine and Hunter Valley Mining operations and the EA has included background emissions from these sources when assessing cumulative impacts.

As shown in Table 1 the EPA notes that exceedances of the EPA's 24 hour average impact assessment criterion are predicted for some private residences to the north east, south east and west of the proposed project when cumulative impacts are taken into account but not for the project in isolation. Although the assessment indicates that Drayton South Coal Project is not the sole contributor to exceedances at these residences, it is imperative that appropriate monitoring and dust management strategies are undertaken with view to mitigating impacts at these receivers.

Water Quality

The proponent has identified that there is a high probability that saline mine water will need to be discharged from the site at various stages of mine life. The recommended conditions of approval at **Attachment A** specify conditions which relate to the proponents participation in the Hunter River Salinity Trading Scheme and which will be reflected in the conditions of Drayton's Environment Protection Licence.

Noise Assessment

The EPA notes that in the assessment of low frequency noise, a correction factor has been applied to the source sound power levels rather than at the receiver to simplify the assessment. This is at odds with the procedure described in the Industrial Noise Policy (EPA, 2000) (INP) where the correction factor is applied at the receiver. This could result in noise levels being underestimated, depending on how the 5 dB has been applied at the source (i.e. how it has been 'spread' along the 1/3 octave band to increase the source

[3] EPA also notes that the proponent has investigated the potential for reduction in emissions using a conveyor to transport ROM coal from the Drayton South mine to the Drayton CHPP rather than haulage. While the assessment indicates reduced impacts it is also noted that the greatest reductions would be achieved over existing mine owned buffer lands (Drayton and Mt Arthur) rather than privately owned residences and therefore this option is not further explored.

level by + 5dB). Meteorological conditions and propagation factors could lead to a greater reduction in the applied penalty in the higher octave bands.

The EPA notes that sleep disturbance is discussed in terms of maximum levels. However, the noise contours in Figure B23, B24 and B32 of the Noise Impact Assessment are presented as a combination of 'reasonable worst case' operating conditions (taken to be LAeq,night) *plus* 'maximum' noise levels and presented as LAeq noise contours, and not the LA1,1-min as per Table 11. This section also discusses source levels of plant but offers no comment on the predicted noise levels against the criteria in Table 11. Exceedences have been identified from certain activities and a recommendation is made to review potential impacts and provide mitigation, all of which are to be documented within a noise management plan. It is recommended that if consent is granted a condition is included which requires the proponent to prepare a noise management plan to provide details of these mitigation actions as well as mitigation required to address potential construction noise impacts.

The EPA also notes that the EA considers rail traffic-generating development and refers to the draft Rail Infrastructure Noise Guideline (Feb 2012) instead of the procedure on the EPA website. Both procedures are the same, however an assessment of the maximum (LAmax) noise level is not provided. Nonetheless, the change in noise level is predicted to be below the 'project-related' increase of 0.5 dB.

Recommended conditions in relation to noise are provided at **Attachment A**

Please contact me on (02) 4908 6803 if you require any further information regarding this matter.

Yours sincerely

KAREN MARLER
Head Regional Operations Unit – Hunter
Environment Protection Authority

Enclosure: Recommended conditions of approval – Drayton South Coal Project

ATTACHMENT A

RECOMMENDED CONDITIONS OF APPROVAL – DRAYTON SOUTH COAL PROJECT

ADMINISTRATIVE CONDITIONS

Works to be undertaken in accordance with information supplied

1. Except as provided by these recommended conditions of approval, the works and activities shall be undertaken in accordance with the proposal contained in:

   (a) The development application DA-11_0062 submitted to the NSW Department of Planning and Infrastructure;
   (b) The document *"Drayton South Coal Project Environmental Assessment"* prepared by Hansen Bailey and dated November 2012

   unless otherwise specified in these conditions of approval.

AIR CONDITIONS

2. General Dust Conditions

2.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

2.2 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.

2.3 All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.

3. Requirement to monitor weather

3.1 The licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Point 1 (actual point number to be confirmed in the Environment Protection Licence)

Parameter	Units of measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm	continuous	1 hour	AM-4
Sigma theta	degrees	continuous	10 minute	AM-2 and AM-4
Siting				AM-1
Air Temperature	°C	continuous	10 minute	AM-4
Wind Direction at 10 metres	degrees	continuous	15 minute	AM-2 and AM-4
Wind Speed at 10 metres	metres per second	continuous	15 minute	AM-2 and AM-4
Temperature lapse rate	°C/height interval (m)	Continuous	15 minute	Method approved in writing by the EPA

3.2 Monitoring of all parameters listed in Condition 5.1 Column 1 must commence prior to any earth moving activities being undertaken at the premises.

4. Requirement to monitor ambient particulate matter

4.1 The licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Point 2

Parameter	Units of measure	Frequency	Averaging Period	Method
PM_{10}	Micrograms per cubic metre	continuous	1-hour	AS 3580.9.8 - 2008

Note: The number and location of PM10 monitors must be approved by the EPA prior to the installation of the monitoring equipment. Monitoring locations must be representative of emissions from the operation of the mine taking into account prevailing wind direction and the location of residential properties or other sensitive receivers.

4.2 Monitoring of all parameters listed in Condition 6.1 Column 1 must commence prior to any earth moving activities being undertaken at the premises.

WATER QUALITY CONDITIONS

5. Location of monitoring/discharge points and areas

5.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Water and Land

EPA Identification No.	Type of monitoring point	Type of discharge point	Description of location
X (to be specified in the Environment Protection Licence)	Hunter River Salinity Trading Scheme discharge and monitoring point	Hunter River Salinity Trading Scheme discharge and monitoring point	To be specified in the Environment Protection Licence (location reference to be provided by the proponent)
Y (locations to be specified in the Environment Protection Licence)	Water quality monitoring		At locations upstream and downstream of the Hunter River Salinity Trading Scheme discharge point, and at other ambient locations located to determine the impact the of surface water discharge/runoff from mining operations at the premises (location references to be provided by the proponent)

Limit Conditions

6. Pollution of Waters

6.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the *Protection of the Environment Operations Act 1997.*

6.2 For each monitoring/discharge point or utilisation area specified below (by point number), the concentration of al pollutant at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

6.3 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

6.4 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table:

6.5 Water and/or land concentration limits

POINT X (Point number to be specified in the Environment Protection Licence)

Parameter	Units of measure	100 percentile concentration limit
pH	pH	6.5-9.0
Total suspended solids	milligrams per litre	120

7. Volume and Mass Limits

7.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
(a) Liquids discharged to water, or;
(b) Solids or liquids applied to the area;
Must not exceed the volume/mass limit specified for that discharge point or area.

Point	Units of measure	Volume/Mass Limit
X	Megalitres per day	100

8. Monitoring and Recording Conditions

8.1 Requirement to monitor concentration of pollutants discharged

For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

Water and/or land monitoring requirements

POINT X (Point number to be specified in the Environment Protection Licence)

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	Microsiemens per centimetre	Continuous during discharge	A probe designed to measure the range 0 to 10,000 µS/cm
pH	pH	Daily during any discharge	Representative sample
Total suspended solids	milligrams per litre	Daily during any discharge	Representative sample

8.2 Requirement to monitor volume or mass

For each discharge point or utilisation area specified below, the licensee must monitor:
(a) The volume of liquids discharge to water or applied to the area;
(b) The mass of solids applied to the area;
(c) The mass of pollutants emitted to the air;
at the frequency and using the method and units of measure, specified below.

POINT X (Point number to be specified in the Environment Protection Licence)

Frequency	Units of measure	Sampling Method
Continuous during discharge	Megalitres per day	Ultrasonic flow meter

9. Hunter River Salinity Trading Scheme (HRSTS) Monitoring

9.1 The licensee must continuously operate and maintain communication equipment which makes the conductivity and flow measurements taken at Point X available to the NSW Office of Water (or other service provider as advised by the EPA) within one hour of those measurements being taken and makes then available in the format specified in the 'Hunter River Salinity Trading Scheme Discharge Point Site Equipment" as published the (then) Department of Land and Water Conservation on 7 May 2002.

9.2 The licensee must ensure that all monitoring data is within a margin or error of 5% for conductivity measurements and 10% for discharge flow measurements.

9.3 The licensee must mark Point X with a sign which clearly indicates the name of the licensee, and that Point X is a monitoring point for the HRSTS.

9.4 The licensee must mark Points Y with signs which clearly indicates the name of the licensee, whether the monitoring point is upstream or downstream of discharge Point X and that it is a monitoring point for the HRSTS.

Reporting Condition

10. Hunter River Salinity Trading Scheme Reporting

10.1 The licensee must compile a written report of the activities under the Hunter River Salinity Trading Scheme (HRSTS) for each HRSTS year. The HRSTS year is from 1 July to 30 June each year. The written report must be submitted to the EPA's Newcastle Regional Office within 60 days after the end of each HRSTS year and be in a form and manner approved by the EPA. The information will be used by the EPA to compile an annual HRSTS report.

Special Conditions

11. Hunter River Salinity Trading Scheme

11.1 This licence authorises the discharge of saline water into the Hunter River Catchment from an authorised discharge point in accordance with the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002.*

11.2 For the purpose of clauses 23 and 29 of the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002* the licensee must apply the conversation factor of 0.6.

12. Saline Dispersion Study

12.1 During the licensee's next discharge under the Hunter River Salinity Trading Scheme (HRSTS) the licensee must monitor salinity levels at least at the following location, provided it is safe to do so:

- at the nearest downstream irrigation off-take point.

As far as practicable monitoring should be timed to coincide with the peak flow of discharge water. The results of this monitoring must be reported to the EPA's Regional Manager Hunter within 30 days of being collected. The report should detail the exact location, time and method of monitoring.

Note:- A handheld salinity probe is considered an adequate method of undertaking this monitoring.

13. Discharge Lag Time Study

13.1 Prior to any discharge of saline water from the premises, the licensee is to advise the Hunter Region Office of the EPA in writing of the estimated lag time (in hours) for discharges from the Hunter River Salinity Trading Scheme (HRSTS) discharge point to reach the Hunter River gauging station number 210127 (the HRSTS middle sector reference point which is located upstream of the confluence with Glennies Creek).

NOISE CONDITIONS

14. Limit Conditions

14.1 Noise generated at the premises must not exceed the noise limits in the table below. The locations referred to in this table are described in *Table 1* to *Table 7*, and in *Table 18* and illustrated on the Figures in *Appendix A and B, Drayton South Coal Project, Environmental Assessment, Acoustics Impact Assessment, prepared by Bridges Acoustics, dated 16 July 2012.* These locations indicate sensitive receivers potentially affected by the project.

Receptor ID	NOISE LIMITS dB(A)			
	Day	Evening	Night	
	$L_{Aeq\ (15\ minute)}$	$L_{Aeq\ (15\ minute)}$	$L_{Aeq\ (15\ minute)}$	$L_{A1\ (1\ minute)}$
386	35	35	35	45
387	36	36	35	45
399	38	38	37	47
390	40	40	38	48
398	39	39	38	48
400	36	36	36	46
401	37	37	37	47
402	39	39	39	49
403	39	39	39	49
411	40	40	40	50
418	39	39	39	49
419	38	38	38	48
420E	37	37	37	47
420W	38	38	38	48
421	39	39	39	49
423	39	39	39	49
424	37	37	37	47
425	38	38	38	48

14.2 For the purpose of condition 14.1;

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.
- Evening is defined as the period 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holidays.

14.3 The noise limits set out in condition 14.1 apply under all meteorological conditions except for the following:

a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
b) Temperature inversion conditions up to 3°C/100m and wind speeds greater than 2 metres/second at 10 metres above ground level; or
c) Temperature inversion conditions greater than 3°C/100m.

14.4 For the purposes of condition 14.3:

a) Data recorded by the meteorological station identified as EPA Identification Point (Point number to be specified in the Environment Protection Licence) must be used to determine meteorological conditions ; and
b) Temperature inversion conditions (vertical temperature gradient in degrees C) are to be determined by direct measurement by a method approved in writing by the EPA consistent with Part E2 of Appendix E to the NSW Industrial Noise Policy.

14.5 To determine compliance:

a) with the $L_{Aeq(15\ minute)}$ noise limits in condition 14.1, the noise measurement equipment must be located:

- approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
- within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
- within approximately 50 metres of the boundary of a National Park or a Nature Reserve.

b) with the $L_{A1(1\ minute)}$ noise limits in condition 14.1, the noise measurement equipment must be located within 1 metre of a dwelling façade.

c) with the noise limits in condition 14.1, the noise measurement equipment must be located:

- at the most affected point at a location where there is no dwelling at the location; or
- at the most affected point within an area at a location prescribed by conditions 14.5(a) or 14.5(b).

14.6 A non-compliance of condition 14.1 will still occur where noise generated from the premises in excess of the specified noise limit is measured:

- at a location other than an area prescribed by conditions 14.5(a) and 14.5(b); and/or
- at a point other than the most affected point at a location.

14.7 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

15. Monitoring Conditions

15.1 The meteorological weather station must be maintained so as to be capable of continuously monitoring the parameters specified in condition 3.1.

16. Requirement to Monitor Noise

16.1 To assess compliance with Condition 14.1, attended noise monitoring must be undertaken in accordance with Conditions 14.5 and:

a) at each one of the locations or at a location representative of the most-affected locations listed in Condition 14.1;
b) occur quarterly in a reporting period;
c) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of:

- 1.5 hours during the day;
- 30 minutes during the evening; and
- 1 hour during the night.

d) occur for three consecutive operating days.

17. Reporting Conditions

17.1 Noise Monitoring Report

A noise compliance assessment report must be submitted to the EPA with each Annual Return. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

a) an assessment of compliance with noise limits presented in Condition 14.1;
b) measurement and reporting of C-weighted noise levels; and
c) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition 14.1.

Additions to Definition of Terms of the licence

- NSW Industrial Noise Policy - the document entitled "New South Wales Industrial Noise Policy published by the Environment Protection Authority in January 2000."

- Noise - sound pressure levels' for the purposes of conditions 14.1 to 14.6