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Department of Planning and Environment
GPO BOX 39
SYDNEY NSW 2001

Attention: lauren.evans@planning.nsw.gov.au

Dear Ms Evans

HUNTER VALLEY OPERATIONS SOUTH MP 06_0261 MOD 5
REQUEST FOR MORE INFORMATION

I refer to your email dated 8 February 2017 regarding Hunter Valley Operations South Modification 5 (MP 06_0261 Mod 5) and the document titled *"Hunter Valley Operations South – Modification 5 Environmental Assessment Prepared for HV Operations Pty Ltd"* dated February 2017 and prepared by EMM ("the EA")

The Environment Protection Authority ("EPA") notes that the modification is for:

- Extraction to the base of the Bayswater seam in the Riverview Pit;
- Extraction to the base of the Vaux seam in the South Lemington Pit 2;
- Increasing the maximum rate of extraction and processing from 16 Mtpa to 20 Mtpa of run of mine coal (ROM) during peak production;
- Increasing the height of selected overburden emplacement areas and
- Altering the statement of commitments.

The EPA has reviewed the EA and provides comments as Attachment 1.

Recommended Conditions of Approval

The EPA has reviewed the EA and advises the Department of Planning and Environment ("DPE") that the EA does not provide adequate noise, air and water impact assessment. At this stage the EPA cannot provide Recommended Conditions of Approval until further information is provided in relation to:

- noise tonality, low frequency noise and noise monitoring;
- air quality impact assessment; and
- surface water assessment and management.

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We have provided further information with respect to these issues in Attachment 1. If you require any further information regarding this matter please contact Natasha Ryan on (02) 4908 6833.

Yours sincerely

17.3.17

BILL GEORGE
A/Head Regional Operations Unit - Hunter
Environment Protection Authority

Contact officer: NATASHA RYAN
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Encl: Attachment 1: EPA review of EA

ATTACHMENT 1

ENVIRONMENT PROTECTION AUTHORITY – REVIEW OF ENVIRONMENTAL ASSESSMENT
MP 06_0261 MOD 5
HV OPERATIONS PTY LTD

The EPA has undertaken an assessment of the document titled *"Hunter Valley Operations South – Modification 5 Environmental Assessment Prepared for HV Operations Pty Ltd*" dated February 2017 and prepared by EMM ("the EA").

The following comments are provided to Department of Planning and Environment ("DPE) in determination of the project proposal.

NOISE AND BLASTING REVIEW

The Environment Protection Authority ("EPA") has reviewed the Noise Impact Assessment ("NIA") and advises DPE that we can provide noise, vibration and blasting conditions for the project.

However prior to issuing these conditions, we require more information to demonstrate that the Industrial Noise Policy's modifying factor adjustments will not apply to the project. We also require more information about proposed compliance monitoring methods in order that we can have certainty that compliance with the limits can be measured and that the source noise can be isolated to the proponent's activities.

We advise DPE that noise level predictions include 4^0C/100m inversion, but inversion conditions are monitored at the site using the sigma theta method. As a result we recommend that noise limits apply during inversion conditions up to F class. The proponent should confirm that they can comply.

The NIA stated that no modifying adjustments would apply to the project. We request that the proponent demonstrate the modifying factor adjustments do not apply. This could be achieved by:

- providing third octave sound power levels for significant pieces of equipment used on the premises;
- modelled or measured noise contributions, in third octaves, from the site at sensitive receivers; and
- C-weighted sound power levels for significant pieces of equipment used on the premises, or predicted C-weighted versus A-weighted noise contributions at sensitive receivers.

The EA states that the proponent has an existing noise monitoring regime that will continue for the project which includes continuous monitoring at Maison Dieu, directional monitoring at Jerrys Plains and attended monitoring. We request that the proponent provide more detail about how monitoring is undertaken, where it will be undertaken and to demonstrate how it will detect and remedy non-compliances with noise limits. Additionally we require information about how source noise can be isolated to the proponents activities, compared to adjoining mining operations.

We would also expect that low frequency noise assessment monitoring and tonal noise monitoring at the narrow band analysis of at least 1/3 octave be undertaken and reported in any noise monitoring compliance report in order to provide evidence that the INPs modifying factors do not apply.

The EPA Requires More Information to Assess Noise Impacts

The EPA requests that the proponent:

1. Provides the location of the five blast monitoring sites proposed as these have not been provided in the EA;

2. Confirms that they can comply with noise limits during inversion conditions up to F class;

3. Demonstrate that the EPA's Industrial Noise Policy (INP) modifying factor adjustments do not apply. This could be achieved by providing an analysis of:
   a) third octave sound power levels for significant pieces of equipment used on the premises;
   b) modelled or measured noise contributions, in third octaves, from the site at sensitive receivers; and
   c) C-weighted sound power levels for significant pieces of equipment used on the premises, or predicted C-weighted versus A-weighted noise contributions at sensitive receivers.

4. Provide more detail about how noise monitoring is undertaken, where it will be undertaken, and how it will detect and remedy non compliances with noise limits, including how source noise can be isolated to the proponents activities, compared to adjoining mining operations.

SURFACE WATER MANAGEMENT REVIEW

Sediment Dams May Contravene HRSTS Regulation

The EPA has reviewed the EA and advises DPE that it does not adequately characterise discharges from sediment basins or assess their potential impacts on waterways. Furthermore, if DPE approve the EA and water management as is, it is likely that the proponent would contravene the Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002 ("HRSTS Reg") by discharging saline water from sediment dams.

We advise DPE that 1185 ML/year is predicted to be discharged from sediment dams whilst 780 ML/year is predicted to be discharged during high flows under the Hunter River Salinity Trading Scheme. The EA indicates that sediment basins will be sized to capture and treat water up to five-day 90th percentile rainfall event. However it does not provide details of the expected quality of controlled discharges and managed overflows from the sediment basins or considers whether there are practical measures that could be implemented to minimise pollutant discharges. We believe that the proponent must manage these discharges better than what is recommended in the design guidelines *(Landcom 2004, DECC 2008)* discussed in the EA because of the likelihood of salinity. Dam monitoring demonstrates that only one dam had maximum electrical conductivity levels below 400µs/cm, defined as saline water under HRSTS Reg.

We believe there are practical measures that can be put in place to mitigate the cumulative impact of sediment dam discharges on the environment by increasing the capacity of sediment dams in pre-strip areas and out of dump areas, incorporating pumping arrangements to return water to the mine water system. This is consistent with s45 of the *Protection of the Environment Operations Act 1997* ("POEO Act") and the objects of the POEO Act.

We advise DPE that all discharges from the mine must meet s120 of the POEO Act and the HRSTS Reg. This means that, additional to meeting s120 of the POEO Act all water with a salinity greater than 400µs/cm (defined as saline water under the HRSTS Reg) must be managed as part of the mine water system and can only be discharged through the licensed HRSTS discharge point in accordance with the HRSTS Reg. It is the EPA's experience through investigation of sediment dam failures and discharge events in the Hunter Valley recently that most of these discharges from sediment dams have exceeded 400µs/cm.

Sediment Dam Discharges Environmental Impact Not Assessed Adequately

The proponent is licensed to discharge to the Hunter River under the HRSTS Reg and does not propose to exceed current licensed volumetric limits. The proponent has discussed electrical conductivity of on-site dams and receiving waters and compared those values with the NSW Water Quality Objectives and the Hunter River Salinity Trading Scheme targets. However the proponent has incorrectly referred to the NSW Water Quality Objective for conductivity in lowland rivers of between 125 to 2,200 µs/cm. The Australian New Zealand Environment Conservation Council ("ANZECC") 2000 conductivity trigger for NSW coastal rivers is more appropriately 200 to 300 µs/cm.

The proponent has failed to provide monitoring data for other pollutants present in the discharge that potentially pose a risk of non-trivial harm to human health or the environment such as dissolved metals and bicarbonate. Table A.2 of Appendix H includes water quality monitoring data for some sediment basins for a limited suite of parameters. It is unclear how this data relates to the expected quality of discharges from the sediment basins. This suite of parameters is not likely to represent all pollutants present that potentially pose a risk of non-trivial harm to human health or the environment. Table A-3 of Appendix G of the EA summaries the quality of leachate for inter-burden, coal and spoil. Concentrations of some metals were elevated in the leachates indicating that these could also be elevated in dam waters and discharges from dams.

Any EA should include some description of the receiving waters and environment likely to be impacted including the aquatic assemblages that may be impacted. The assessments have only included sulfate, total suspended solids, electrical conductivity and pH which are only a few of the potential pollutants

Water Balance Model Unclear

The Water Balance Model Schematic Figure 6.1 was illegible and Table 11.1 did not include units of measure. However it appears to indicate that up 780 ML/yr would be discharged from the mine water system through the HRSTS discharge points and up to 1,185 ML/yr will be discharged from sediment basins. There has been no assessment of pollutants present in the discharge that potentially pose a risk of non-trivial harm to human health or the environment or an assessment of the impact on those receiving waters and their environment.

Section 11.2.3 ii says that a Water Management Plan was prepared in consultation with the EPA and approved in May 2014. The EPA encourages the development of such plans to ensure that proponents have met their statutory obligations and designated environmental objectives. However, EPA does not review or approve these documents as our role is to set environmental objectives for environmental/conservation management, not to be directly involved in the development of strategies to achieve those objectives.

The EPA Requires More Information to Assess Impacts

The EPA requests that the proponent:

1. Characterise the expected quality of discharges from sediment dams in terms of concentrations of all pollutants present that pose a risk of non-trivial harm to human health or the environment and compare these against relevant ANZECC 2000 trigger values including those for irrigation, stock water and aquatic ecosystems;

2. Estimate annual loads of pollutants expected to be discharged from the sediment dams;

3. Consider practical measures to minimise pollutant discharges from sediment dams such as increasing dam capacity and pump back and reuse in mine water system;

4. Assess the risks potentially to environmental values of the receiving waters by discharges from sediment dams;

5. Provide details of management of saline water and other pollutants held in sediment dams; and

6. Provide details of ongoing monitoring of mine water system, sediment basins and receiving waters, including all pollutants present in discharges that pose a risk of non-trivial harm to human health or the environment.

AIR IMPACT ASSESSMENT REVIEW

The EPA has reviewed the Air Quality Impact Assessment ("AQIA") and advise DPE that assessment of potential impacts to the air environment has been conducted broadly in agreement with the approach set out in the EPA's *Approved Methods for the Modelling and Assessment of Pollutants in New South Wales 2016* but there are some gaps in the analysis that we require in order to assess the impacts and provide recommended conditions of approval.

We advise DPE that assessment of cumulative impacts appears to have deviated from guidance in the EPA's *Approved Methods for the Modelling and Assessment of Pollutants in New South Wales 2016* by allowing up to five additional exceedance days of 24 hour PM^{10} impact assessment criterion. Section 5.1.3 of the methods requires that where elevated background concentrations exist "*a licensee must demonstrate that no additional exceedances of the impact assessment criteria will occur as a result of the proposed activity and that best management practices will be implemented to minimise emissions of air pollutants as far as practicable".*

There are significant air quality impacts at four non-mine receptors (102, 264 ,77, 471) that meet DPE's *Voluntary Land Acquisition and Mitigation Policy* acquisition rights and two of these have existing acquisition rights from other mining operations (77, 471).

The cumulative assessment is incomplete. It must list all non-mine receptors assessed as experiencing additional exceedances of any impact assessment criterion. Cumulative assessment showed additional days exceeding the 24-hour PM_{10} impact assessment criterion of 50μg/m^3 at seven of the nine receptors characterising this impact. The assessment fails to identify all non-mine houses assessed as experiencing additional exceedances of this criterion. Assessment also found exceedances of the annual impact assessment criterion for PM_{10} of 25μg/m^3 at six receptors (307, 308, 309, 310, 312, 472) with one receptor found to exceed the annual impact assessment criterion for PM2.5 of 8μg/m^3.

The EPA Requires More Information to Assess Air Impacts

The EPA requests that the proponent:

1. Provide analysis showing that calendar year 2014 is an appropriately representative year for dispersion modelling by comparison to a least five years of data, preferably contiguous and recent;
2. Provide an explanation of how current operations were accounted for in the cumulative assessment;
3. Provide an explanation of the reason for background reductions represented by orange barts in Figures 5-5 and 6-6;
4. Provide a label for receptor 471 in Figure 6-4;
5. Provide cumulative assessment for receptor 471;
6. Identifies all non-mine receptors assessed and experiencing one or more additional exceedances of cumulative impact assessment criteria;
7. Provide assessment of the efficacy of proposed approaches to mitigate the identified additional exceedances of cumulative impact assessment criteria; and
8. Provide, if necessary, assessment of the efficacy of additional mitigation measures to ensure no additional exceedances of cumulative impact assessment criteria.