



PCU057433

E-MAILED
10-12-14

Our reference: DOC14/237645-01, EF14/23995
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Department of Planning and Environment
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Department of Planning
Received
12 DEC 2014
Scanning Room

Attention: Thomas.watt@planning.nsw.gov.au

Dear Mr Watt

**CENTENNIAL NORTHERN COAL LOGISTICS PROJECT SSD 5145
RECOMMENDED CONDITIONS OF APPROVAL**

Reference is made to your email dated 14 October 2014 requesting review of SSD 5145 and Recommended Conditions of Approval.

The Environment Protection Authority (EPA) makes reference to your email and the supporting Environmental Impact Assessment titled "*Northern Coal Logistics Project Environmental Impact Statement Volume 1 – 5*" prepared on behalf of Centennial Northern Coal Services Pty Limited by SLR Consulting Australia Pty Ltd 15 September 2014.

The EPA understands that the proposal involves:

- continuing to use and upgrading the existing coal preparation and handling infrastructure at the Newstan Colliery surface site to enable the receipt, handling and processing of up to 8 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal, sourced from the Newstan Colliery (up to 4.5 Mtpa), the Awaba Colliery (up to 0.88 Mtpa) and Mandalong Colliery (up to 6 Mtpa);
- continuing to use and upgrading the coal processing facility at the Cooranbong entry site to enable the receipt and handling of up to 6 Mtpa of ROM coal from Mandalong Colliery;
- increasing the tonnage of coal transported:
 - from Cooranbong entry site to Newstan Colliery surface site via truck on private haul roads from 4 Mtpa to up to 6 Mtpa;
 - from Cooranbong entry site to Eraring Power Station via the overland conveyor from 4 Mtpa to up to 6 Mtpa;
 - from Newstan Colliery surface site to Eraring Power Station via truck on private haul roads from 2 Mtpa to up to 4.5 Mtpa; and
 - from Newstan Colliery surface site to the Port of Newcastle, Port Kembla and/or Vales Point Power Station by rail from 3 Mtpa to up to 8 Mtpa;
- transporting coal rejects from Newstan Colliery surface site to the Newstan Colliery northern reject emplacement area, southern reject emplacement area and/or the Hawkmount Quarry via private haul roads;
- increasing the volume of pollutants in waste water discharge via licensed discharge points at the Newstan Colliery surface site and Cooranbong entry site;
- employing up to 120 full-time staff; and
- operating 24 hours per day, seven days per week for up to 30 years.

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Currently Centennial has three premises with Environment Protection Licences (EPL) that would be involved in the Northern Coal Logistics project. The proponent has not clearly defined if the project would be covered by a new EPL for the whole of the project site or use the current EPLs. The EPA requires further information from the proponent with regards to transfers of coal rejects and emplacement to determine how the EPA will licence this and if it would be considered waste.

The Mandalong Colliery development consent DA 97/800 approved transport of coal rejects at Cooranbong entry site by truck to the Hawkmount Quarry for emplacement. At this stage Centennial Mandalong Pty Limited has not applied for variation to EPL 365 to enable this emplacement to occur or to licence the Hawkmount Quarry as a waste facility.

The EPA provided Department of Planning and Environment (DPE) advice dated 8 October 2014 about the adequacy of the Environmental Impact Statement (EIS). In support of that advice the EPA provide the following comments.

Recommended Conditions of Approval

Further discussion regarding the EPA's review of the proposal is provided at Attachment 1 and Recommended Conditions of Approval are also provided in Attachment 1.

If DPE grant consent for this proposal these conditions should be incorporated in the consent. The Recommended Conditions of Approval provided at Attachment 1 relate to the development as proposed in the EIS document provided to the EPA on 14 October 2014. In the event that the development is modified either by the applicant prior to the granting of consent or as a result of a condition proposed to be attached to the consent, it will be necessary to consult with the EPA about the changes. This will enable the EPA to determine whether a recommended condition of approval needs to be modified in the light of the changes.

If you wish to discuss this matter further please contact Natasha Ryan on 02 49086833.

Yours sincerely



10 DEC 2014

MARK HARTWELL
Head Regional Operations Unit - Hunter
Environment Protection Authority

Encl. Attachment 1: Review of EA and Recommended conditions of approval

ATTACHMENT 1

ENVIRONMENT PROTECTION AUTHORITY – REVIEW OF ENVIRONMENTAL ASSESSMENT AND RECOMMENDED CONDITIONS OF APPROVAL SSD 5145 CENTENNIAL NORTHERN COAL LOGISTICS PROJECT

The EPA has undertaken an assessment of the document titled “*Northern Coal Logistics Project Environmental Impact Statement Volume 1 – 5*” prepared on behalf of Centennial Northern Coal Services Pty Limited by SLR Consulting Australia Pty Ltd 15 September 2014 (EIS).

The EPA has determined through review of the EIS that the proponent would be required to apply for a variation of existing Environment Protection Licences (EPL) numbers 365 and 395 for the scheduled activities in relation to limit conditions for receipt of run of mine coal (ROM Coal), increases to pollutants discharged in waste water and Newstan emplacement areas. A licence may also be required for the emplacement of rejects at Hawkmount Quarry.

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

RECOMMENDED CONDITIONS OF APPROVAL

The EPA recommends the following conditions of approval for the Northern Coal Logistics Project.

Water Treatment

The EPA emphasises to DPE that variation of the EPLs or issue of an EPL to increase pollutants discharged in waste water would only be approved by the EPA if the proponent constructs and implements a reverse osmosis treatment plant (RO Plant) or an equivalent level of treatment that treats water such that it removes salinity (salts), total and dissolved metals to achieve the ANZECC guidelines for fresh and marine waters, to treat waste water discharged from Cooranbong entry site and Newstan Colliery to prevent further metals and other pollutant loading and the consequent degradation to receiving waters LT Creek, Stony Creek and Muddy Lake and therefore Lake Macquarie. The EPA advises DPE that a condition of approval of this project should include new water treatment facilities that are capable of treating wastewater to RO plant standards prior to discharge to the environment.

Water Discharges

Any water discharges from any emplacement areas must comply with section 120 of the *Protection of the Environment Operations Act 1997*.

Dust Management

EPA advise DPE that a condition of approval of the project and handling of greater volumes of ROM coal at Newstan Colliery should include automation of train loading at Newstan Colliery and automation of covered transfers between the coal preparation plant and rail loop stockpile and train loading operations once ROM coal handling, storage, transfer, loading exceeds 5 MtPa at Newstan Colliery to bring the colliery in line with best practice for control of coal dust and to minimise dust and to ensure that air impact criteria for PM₁₀ is met at the sensitive receivers.

Air Monitoring

EPA advises DPE that a condition of approval of the project should include establishment of an ambient continuous particulate monitoring site monitoring PM_{2.5} and PM₁₀ at or near Fassifern Public School as a close sensitive receiver.

Noise Impact Assessment

The EPA cannot provide DPE with any comments on the noise impact assessment (NIA) at this stage as review and analysis is still being undertaken. EPA will provide comments as soon as possible once expert advice is received.

Mandatory EPL Conditions

All other conditions on each sites current EPLs should be included in any consent.

The EPA provides the following additional comments to DPE in determination of the project and in relation to the EIS.

Air Quality Impact Assessment

The Air Quality Impact Assessment (AQIA) approach broadly meets the requirements of the EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* but it fails to assess the total environmental impact from the project and contains some errors that require correction.

Emission Sources

The AQIA does not identify rail transport as potentially impacting the environment and EPA recommends that the AQIA be amended to identify this source and to detail the site specific best management practice approaches to minimise emissions from coal loading and transport through all stages of the project.

The assessment identifies that PM₁₀ impact assessment criterion is likely to be exceeded at the Newstan Colliery Surface Site once operations reach 6 Mtpa. Measures to reduce emissions from coal handling were assessed and a combination that reduces PM₁₀ impact below the criterion was identified for both 6 and 8 Mtpa coal handling limits. EPA recommends that these measures be implemented once handling of more than 5 Mtpa of ROM coal is exceeded at the premises as these measures are considered best practice.

As a result the measures discussed within the EIS and in particular automation of coal transfers between the coal preparation plant and rail loop stockpile and train loading operations should be implemented when extraction and/or handling and/or storage of more than 5Mtpa of ROM coal occurs at Newstan colliery. This should be incorporated as a condition of approval as they are considered best practice to minimise dust.

Cumulative Impact

The AQIA summarises results from simulating meteorology over five years 2006-2010. Analysis notes a greater frequency of F-class stability in the years 2006-2008, but chooses the most recent year of 2010, for analysis. The AQIA states that "*this is not considered to have a significant impact on the results*" but provides no justification of explanation of this. The year 2010 has significantly lower concentrations than other years and less frequent incidence of very stable conditions (F-class). Analysis must be undertaken to justify that choosing 2010 does not significantly impact results.

Modelling Results

There appears to be an error in text and tables with text discussing results tabulated in tables 53 and 54 incorrectly referring to tables 51 and 52. Table 54 is titled "Predicted annual average TSP Concentrations – Cooranbong entry site" yet the header line reads "Maximum 24-hr average PM10" and the note providing the project criterion is for annual average PM2.5. The text (erroneously referring to table 52) discussed 24 hr average PM2.5 concentrations. This table needs replacing with one showing results for maximum 24 hour PM2.5.

EPA recommends that these tables be amended and the text reviewed to ensure it refers to the appropriate table. At the same time the content of the tables must be checked and should tables correctly have repeated values, a footnote added to note this oddity and confirm that this is correct.

Water Quality

The EPA advise DPE that at this stage, given the lack of appropriate mixing models and pollutant modelling and assessment of the impact of metal loads to receiving waters the EPA would be able to undertake a licence variation or a combination of surrendering licences and providing a new EPL for the project only if a reverse osmosis treatment plant (RO Plant) or an equivalent plant that treats water such that it removes salts, total and dissolved metals to achieve the ANZECC guidelines for fresh and marine waters was constructed and installed to treat pollutants in waste water discharged water from Cooranbong entry site and Newstan Colliery to prevent further metal and other pollutant loading in receiving waters of LT Creek, Stony Creek, Muddy Lake and therefore Lake Macquarie. This option would also provide for rehabilitation of the waterways and environments towards a more natural freshwater system which would have naturally prevailed. Given that mining will cease in the future in these areas, and the saline groundwater discharges are likely to also cease at that time as dewatering will no longer be required, this option provides for a gradual rehabilitation of the receiving environments during the lifetime of the mine, rather than legacy issues post closure with cessation dewatering.

This approach is consistent with the *NSW Water Quality Objectives* and *River Flow Objectives* and the objects of the POEO Act, namely:

- section 3 (a) *to protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development; and*
- section 3 (d) *to reduce risks to human health and prevent degradation of the environment by the use of mechanisms to promote the following:*
 - *(i) pollution prevention and cleaner production;*
 - *(ii) the reduction to harmless levels of the discharge of substances likely to cause harm to the environment; and*
 - *(iv) the making of progressive environmental improvement including the reduction of pollution at source.*

To support this recommendation the EPA refers DPE to the EPA's comments dated 8 October 2014 in relation to the test of adequacy of the EIS for the project. Additional to those comments the EPA also provide the following comments.

- Section 2.7.2 of the EIS states that an ecotoxicology study was undertaken by GHD in 2014 to assess the potential impacts of existing discharge to aquatic organisms downstream of Cooranbong Entry site. However evidence of this assessment was not provided in the EIS.
- The water quality data for Cooranbong entry site discharges appear to indicate that bicarbonate anion concentrations of 973 mg/L and or dissolved metals such as nickel at the licensed discharge point are likely to be the significant driver in observed toxicity effects on organisms. Given that target dilution factors are not met under annual average rainfall conditions at current discharge limits, the mixing zone, and associated toxicity is likely to extend downstream of the discharge site to Lake Macquarie meaning that muddy lake is not protected from any increase in discharge at the current likely concentrations. Bicarbonate SSTV appear to have been exceeded on numerous occasions at Cooranbong and Newstan licensed discharge points.
- The impact of combined increase in discharges into the two arms of LT Creek and Stony Creek and loads of pollutants going into Fennell Bay and Muddy Lake have not been considered, nor has the assimilative capacity and accumulation/potential toxic effects in the receiving environments (creeks, Fennell Bay, Muddy Lake and greater Lake Macquarie).

- It was unclear as to the capacity of the clean water diversions and dirty water diversions around the Newstan emplacement areas (NREA and SREA) before there is potential mixing of the two water streams downstream.
- Heavy rainfall results in overflows directly into receiving waters from a number of water treatment devices at Newstan and Cooranbong. These overflows have not been characterised and the impacts of these pollutant loads assessed in relation to acute or chronic effects on downstream environments. The receiving environments are poorly mixed and it is likely that contaminants may accumulate within these environments (Muddy Lake and Fennell Bay).
- It is noted that a water access licence (WAL) exists for take from Newstans by-wash dam at a rate of 9.5ML/d with an annual limit of 750ML for use in the coal preparation plant. The bywash dam is also used as a mixing zone for waste water discharges from the licensed discharge point, yet no discussion of the impact of this extraction from the 40ML dam on the mixing zone was undertaken.
- The discussion of the options for water treatment and any options for mitigating discharge impacts from the discharge of waste water were poor. The objects of the POEO Act as discussed above and matters to be considered in licensing under section 45 of the POEO Act require the EPA to assess '*practical measures that could be taken to prevent, control, abate or mitigate pollution*'. To that extent the EPA believe that the EIS has not demonstrated that the project will adequately mitigate and manage increased pollutant loads of metals and other pollutants. The current reports that the EPA has received from the Centennial Newstan Pty Limited in relation to the Clean Water Treatment Plant (CWTP) do not demonstrate that the CWTP has any capacity to reduce the pollutants present in the waste water as dissolved metals or salinity (salts).
- The derivation of SSTVs was undertaken by assessment reports referred to in this EIS, but documentation of assumptions and methods were not provided in the EIS. A full account of the reasoning and background to derivation of these values should be provided in the EIS for the community and other agencies to assess. On many occasions the derived SSTVs are very high compared to ANZECC default guidelines. It is also unclear if these derived SSTVs have taken into account the increased loads and concentration of pollutants that would occur as a result of the increase daily volumetric discharges at Cooranbong and Newstan sites or whether derivation of these SSTVs were in response to EPA requirements for current discharges and licensing conditions.
- In table 10-4 which refers to Newstan water quality data, the value for TSS median is higher than the maximum; the documented maximum electrical conductivity was very high and exceeded the 100th percentile current EPL limit, as did to the nitrogen, phosphorus, sulfate and bicarbonate concentrations.
- The size of the mixing zone for Cooranbong identified on page 172 extends for 2km. This is inconsistent with ANZECC/ARMCANZ 2000 guidelines for mixing zones and is not appropriate to manage impacts. The Cooranbong ecotoxicological study recommended a dilution factor of 1:6.25 is required to provide ecosystem protection at 95% species protection of 1.6 ML/day and mixing zone estimate calculations provided have used this dilution factor. The project has requested an increase to 8 ML/day discharge and as a result the mixing zone model must be updated to incorporate this maximum flow in order to assess impact. It is recommended that mixing calculations be done using mixing zone calculation software such as Cormix rather than the approach adopted within the EIS.

Licensing Requirements

There is insufficient information in the EIS for the EPA to determine the proponent's intention with respect to current EPLs specifically in relation to the generation of coal tailings, fines, rock and waste and their emplacement (disposal). EPA recommends that the proponent provide adequate information about the project in relation to whether the whole project will be covered by an EPL or whether individual premises based EPLs will remain and require variation. This may have implications for the proponent in relation to Protection of the Environment Operations (Waste Regulation) 2014.

**Environment Protection Authority
10 December 2014**