



Our reference: EF13/3625 and EF13/3933;
DOC14/50035-01; DOC14/50063-01.
Contact: Darryl Clift (02) 6332 7602

Mr Howard Reed
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Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Margaret Kirton

3 June 2014

Dear Ms Kirton

I refer to the Environmental Impact Statements (EIS) for the Centennial Angus Place (SSD-5602) and Springvale Coal (SSD-5594) Extension Projects received by the Environment Protection Authority (EPA) on 10 April 2014.

The EPA wishes to provide the Department of Planning and Environment ("Department") with its comments on these two EISs. These are provided in Attachment One. However, the EPA also wishes to provide the Department with its previous advice on the Draft EISs and provide some background on its ongoing programs for Springvale and Angus Place collieries for handling their mine water to either improve the quality before discharging to the environment or achieve beneficial re-use (eg. for industrial purposes).

Previous EPA Advice on the Draft EISs

On 18 December 2013, after reviewing the draft EISs for the Angus Place and Springvale coal mine extensions, the EPA advised the former Department of Planning and Infrastructure that the proponent had not adequately assessed the potential environmental impacts of the proposed discharge of saline mine water to the Coxs River system.

Further, the EPA explained that the NSW Water Quality Objectives (WQOs) identifies "aquatic ecosystem protection" as a relevant environmental value for the Coxs River catchment, and that the Australian and New Zealand Environment Conservation Council (ANZECC) Guidelines recommend that guideline trigger values for slightly-moderately disturbed systems be applied to highly disturbed ecosystems wherever possible to eventually restore a disturbed system to a slightly to moderately disturbed condition. The Guideline states that it is not acceptable to allow poor environmental performance or water pollution simply because a waterway is degraded.

In summary, the EPA did not support the public exhibition of the EISs in their current form until an appropriate assessment of impacts to the water quality of the Coxs River was completed.

Despite this advice, the EISs prepared by the proponent have still not adequately assessed or addressed the environmental impacts associated with the proposed discharge of saline mine water into the Coxs River system. This is a major concern to the EPA.

The EPA's Ongoing Programs to Improve the Handling and Quality of Mine Water at Springvale and Angus Place Collieries

In reviewing the EPA's comments on the EISs, it is important that the Department be briefed on the EPA's ongoing work to improve water quality in the Coxs River and how these efforts relate to Springvale and Angus Place collieries.

The EPA has an ongoing program of improving the handling of mine water to either improve the quality before discharging to the environment or implementing an option of beneficial re-use, in order to protect the local aquatic environment. The EPA supported and licensed Centennial and Delta Electricity's Springvale Delta Water Transfer Scheme and in 2006 after it commenced; Springvale no longer permanently discharged mine water into a Newnes Plateau Shrub Swamp, an Endangered Ecological Community. However, given the changed circumstances at Wallerawang Power Station (see below for further explanation) the future of the scheme may become unreliable as an option for some re-use.

In 2012 the EPA negotiated with Centennial Coal to add a Pollution Reduction Program (PRP) to its Environment Protection Licence (EPL – No. 3607) for Springvale to submit to the EPA by 30 September 2013 a report outlining options to treat mine water generated from the colliery prior to any discharge to the environment. Centennial complied with this legal requirement by the due date and the EPA has sought expert advice to review Centennial's report. This expert advice is due by the end of June this year.

Also, for Angus Place (EPL – No. 467), Centennial currently has a PRP requiring Centennial by 1 July 2014, among other things, to provide a report identifying all reasonable and feasible options to either cease the discharge of mine water from the mine, or treat it prior to discharge.

Overall Comments

The EISs for the expansion of these two mines are being reviewed at a time when circumstances involving the main industrial water user in the upper Coxs River, Energy Australia, have changed and the EPA is awaiting the outcome of two important PRPs for each mine.

Centennial has multiple operations in the Upper Coxs Catchment all with a need to discharge varying and often large volumes of mine water. Since 2010 the company has previously advised the EPA on several occasions during negotiations of PRPs, that it was working towards a Regional Solution to its mine water. Given that the proposed expansion of its Springvale and Angus Place mines will extend the life of these mines for 13 and 25 years respectively, and most importantly substantially increase the volumes of mine water, Centennial should have included in its EISs a commitment to implement by a set date a strategic approach to the treatment or beneficial re-use of its mine water.

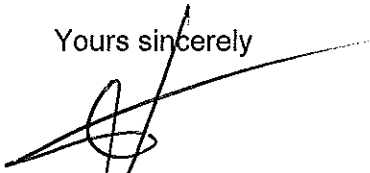
The EPA is unable to support the Springvale and Angus Place expansions in their current form given the absence of any commitment in the EISs to address the handling/treatment of the mine water, in either the short or long term.

It is important to the EPA that any approval by the Department, if granted, aligns with the ongoing programs of the EPA. The EPA recommends that treatment to significantly reduce the salt and contaminant levels of this mine water, or achieve beneficial re-use (or a combination of both) by a set date should be a condition of consent if the extension project(s) are approved.

As a matter of priority in this planning process, given the complexity of the issues in dealing with the mine water, and the ongoing programs of the EPA, and especially the timing of its report on the Pollution Reduction Program (PRP) for Springvale mine water and the soon to be completed PRP for Angus Place, the EPA would be willing to meet with you to discuss these matters in order to achieve a good environmental outcome for the upper Coxs River.

The Department should view the EPA's comment in relation to the above and should you have any enquiries regarding this matter please contact Darryl Clift or myself at the Central West Regional Office of the EPA by telephoning (02) 6332 7600.

Yours sincerely

A handwritten signature in black ink, appearing to be 'R. Whyte', written over a horizontal line.

RICHARD WHYTE
Manager Central West
Environment Protection Authority

Enclosed: Attachment One – EPA Comments

ATTACHMENT ONE – EPA COMMENTS ON THE EISs FOR THE SPRINGVALE AND ANGUS PLACE MINE EXTENSION PROJECTS

Mine Water Usage For Electricity Generation

Firstly, much of the proponent's reasoning for discharging the large volumes of untreated mine water is based on a stated demand for mine water which currently does not exist, and any future use is subject to changes to the operation of the nearby power stations. The EISs state that the primary use of the mine is for industrial purposes in the Wallerawang and Mount Piper Power Stations. The EISs suggest water demand by the power stations to be in the order of 70 Megalitres per day (ML/day), divided between approximately 30 ML/day by Wallerawang and 40 ML/day by Mount Piper, which is greater than the 30-50 ML/day of mine water produced. The EIS maintains that mine water is provided to the Wallerawang Power Station by the Springvale to Delta Mine Water Transfer Scheme (SDWTS). When the SDWTS is not operating (and it currently is not operating), the EISs maintains mine water continues to be provided for use by the Power Station by discharging the mine water to Lake Wallace and Lake Lyell via the Coxs River for use by both Power Stations.

The EIS actually states:

As part of this development consent, the discharge limit at Springvale LDP009 is required to be increased from the current value of 30ML/d to 50ML/d to cover the circumstance that the SDWTS is unavailable and all transfer from the SDWTS will be directed to Lake Wallace via Sawyers Swamp Creek/Coxs River. This discharge limit encompasses the cumulative impact of both the extension at Springvale Mine and extension of the adjacent project at Angus Place Colliery.

However, the recent situation at Wallerawang Power Station, with one electricity generation unit being closed permanently and the other one mothballed until further notice, has resulted in about a halving of the demand for water usage by Energy Australia for use by this power station. The 40 ML/day requirement for Mount Piper is less than the daily maximum volume of mine water to be produced by the proposed mine expansion.

Mine water until recently was only transferred to the Wallerawang Power Station via the dedicated mine water transfer pipeline SDWTS. As the SDWTS does not continue on to Mount Piper, mine water cannot be transferred directly to Mount Piper Power Station. In addition, the EPA understands that Energy Australia has expressed no interest at present in utilising the mine water and no interest in extending the SDWTS to the Mount Piper Power Station.

With Wallerawang Power Station currently not operating the SDWTS is now no longer being utilised and most mine water (all Springvale and a portion of Angus Place) is now currently discharged through the Springvale Colliery licensed discharge point LDP009 (up to approximately 30 ML/day) to the Coxs River catchment with a very low level of treatment (ie. for suspended solids).

The EISs have not been updated to reflect this major and highly significant change to operations and mine water disposal for Springvale and Angus Place mines. The EISs can be considered to be highly misleading because the overwhelming bulk of the water impact assessment assumes the SDWTS is operating when it currently is not, and its future is dependent on the operational capacity of Wallerawang Power Station. Both the Angus Place and Springvale EISs have sections detailing water balance and salt balance modelling for mine water discharges. However, since both models have assumed that there are transfers via the SDWTS which is either not happening or based on changed circumstances at Wallerawang Power Station, the modelling and subsequent conclusions are flawed. Water and salt balances for the Coxs River catchment need to be redone under the real proposed scenario which is direct discharge of 30ML/day (rising to 50ML/day if both mine projects are approved) of poorly treated, high salinity mine water into the Coxs River catchment.

Springvale Colliery Mine Water

The EISs also do not adequately consider the environmental health effects of discharging 30ML/day (rising to 50ML/day if both mine projects are approved) of poorly treated mine water into the Coxs River catchment.

The surface water impact assessment provides a very poor characterisation of the effluent discharged through Springvale's Licenced Discharge Point 9 (LDP009). There is no time series for water quality or flow for LDP009 discharges provided in the EIS for Springvale. Of note, though based on the limited data that is available, is that LDP009 already exceeds ANZECC (2000) default water quality criteria for Conductivity and Aluminium (for protection of 95% of species).

Based on the data presented and EPA/OEH data on previous LDP discharges, the poorly treated mine water is also potentially toxic to aquatic biota. Toxicity assessments have not been done for the Springvale and Angus Place expansion EISs. On 8 May 2014, the EPA/ Office of Environment and Heritage (OEH) collected water samples from the LDP009 discharge and the preliminary toxicity screening results indicate toxicity to at least one species (cladoceran). Earlier toxicity testing by Delta Electricity also raised concerns about the toxicity of the Springvale mine water and the EPA will be following up these matters with Centennial to assess the likely causes and measures to reduce any toxicity.

There is also a major issue with contaminant load because all the mine water flows to the Coxs River and then into Lake Wallace and Lake Lyell. Some of this water also ultimately flows to Warragamba Dam. The potential salt load alone (7,500 to 13,000 tonnes per annum) is extremely large for a freshwater system. The EIS has not appropriately considered the potential impacts of the very large contaminant loads proposed to be discharged to the receiving environment.

The monitoring of flows at the NSW Office of Water (NOW) gauging station on the Coxs River upstream of Lake Wallerawang indicate that median flow in the Coxs River at this point is approximately 13.3 ML/day. The proposed discharge from LDP009 (30ML/day rising to 50ML/day if both mine projects are approved) means that the discharge is approximately twice the median flow in the Coxs River at this point and is projected to increase to almost 4 times the median flow in the Coxs River at this point. Further, some of the flows measured at the NOW gauge actually already include discharges from Centennial's other operations in the Upper Coxs River catchment (i.e. Angus Place).

Angus Place Mine Water

The discharge from Angus Place LDP001 to Kangaroo Creek (a tributary of the Coxs River) actually represents the first major impact of mine water discharges on the Coxs River. Conductivity in Kangaroo Creek is increased from a median level of 51 micro- Siemens per centimetre ($\mu\text{S}/\text{cm}$) Electrical Conductivity upstream of LDP001 to 900 $\mu\text{S}/\text{cm}$ downstream of LDP001 (GHD 2010; Figures of 65 $\mu\text{S}/\text{cm}$ upstream and 770 $\mu\text{S}/\text{cm}$ downstream are given in the EIS Table 3.9). This represents a 12-fold to 18-fold increase in median conductivity in Kangaroo Creek as a result of the Angus Place LDP001 discharge, and as previously mentioned in the cover letter currently the subject of a PRP.

Upstream of the confluence of Kangaroo Creek and the Coxs River the median concentration for conductivity was 107 $\mu\text{S}/\text{cm}$ while median concentration in the Coxs River downstream of this confluence was 513 $\mu\text{S}/\text{cm}$ (Angus Place (Angus Place EIS Table 3.9). This represents an almost 5-fold increase in median conductivity in the Coxs River likely to be due in large part to the Angus Place LDP001 discharge. The EIS for Angus Place does not assess other environmental impact of the Angus Place mine or its proposed extension.

The Angus Place EIS acknowledges (Volume 1; page 315) that salinity in the Coxs River is currently in excess of ANZECC guidelines for the protection of aquatic ecosystems and that modelling indicates that salinity will increase due to the extension of Angus Place Colliery. However, the EIS maintains (as presented in Section 10.3.3.2) that aquatic and riparian ecosystems are adapted to this environment and predicated salinity is within the range experienced historically in the Coxs River catchment. These conclusions are not supported by the research work of Department of Environment, Climate Change and Water scientists in September to October 2009 that had found that salinity levels in the Coxs River had increased since the 1980's, and that the aquatic ecosystems were now dominated by pollution tolerant taxa, and that Kangaroo Creek downstream of the Angus Place discharge at LDP001 was found to have an impoverished diversity of macroinvertebrate fauna.

In addition, if the median flow rate from Angus Place LDP001 (3.29 ML/day) when put in context of the median flows in the Coxs River at the NOW Wallerawang gauging station (13.3 ML/day NOW gauge data; notes in the EIS that the median flow figure is quoted lower at 12.2 ML/day), LDP001 potentially represents close to 25% of the median flow in the Coxs River recorded at Wallerawang. Such a potential impact is not discussed in the EIS for either Springvale or Angus Place Mine expansions. A combined discharge of 30-50 ML/day would see untreated mine water comprise the bulk of the median flow in the Coxs River upstream of Lake Wallace.

Final Comments

The EISs wrongly assume that the discharge limits currently applied to mine water licence discharge points (in particular LDP009 of Springvale and Angus Place LDP001) indicates "an acceptability" of the current mine water discharge quality.

The discharge limits that have been applied to mine water discharges (LDP001 and LDP009) to the Coxs River by the EPA, were established on an interim basis to enable the mines to continue to operate while undertaking works identified in pollution reduction programs (PRPs) attached to both licences to identify and implement a solution to the mine water discharge quality. The PRPs have required either the development of options to cease water discharges (such as redirecting mine water at Angus Place backed into old underground workings) or to develop options to treat mine water to ensure any discharge can meet the ANZECC (2000) trigger value for upland rivers of 350 $\mu\text{S}/\text{cm}$.

To date no option(s) to cease or treat the mine water has been developed by Centennial Coal.

Centennial's approach to mine water is to continue and to increase the discharge from LDP001 and LDP009 to the environment for the next 3 decades without treating the mine water to an appropriate standard. The EPA's ongoing programs are not based on the continuation of the discharging of high volumes of potentially toxic, saline mine water often containing high (relative to ANZECC) levels of metal contaminants to the receiving environment of the Upper Coxs River catchment. Furthermore, it is misleading to suggest that a discharge of this magnitude and poor quality directly into Coxs River tributary streams will have a neutral or beneficial effect on water quality in Sydney's drinking water catchment or the upper Coxs River and its tributaries in terms of hydrology and aquatic health.

The EPA's ongoing programs have always been aimed at achieving environmental improvements over time. In 2014, the Department needs to be made aware that Centennial's proposed expansion of the Springvale and Angus Place mines, based on the status quo of disposing of mine water into the upper Coxs River, is at odds with the EPA's approach and is not supported in its current form.