

## **APPENDIX F:**

### **ADDITIONAL INFORMATION PROVIDED BY THE APPLICANT**



21 March 2017

Department of Planning and Environment  
Att: Anthony Ko  
Level 22, 320 Pitt Street  
Sydney NSW 2000

Our ref: 21/25109  
Your ref: 219507

Dear Anthony

### **Springvale Water Treatment Project Response to additional submissions**

The Springvale Water Treatment Project development application (DA) was recently amended to include the transfer to Thompsons Creek Reservoir and remove the treated water discharge pipeline and associated infrastructure to Wangcol Creek. An environmental assessment for the amended DA and response to submissions on the overall Water Treatment Project was issued to the Department of Planning and Environment (DP&E) in December 2016.

This letter provides additional clarification to issues raised following the government authority review of the amended DA and submissions report.

## **1 Department of Primary Industries**

### *Details on waterway crossings*

Springvale Coal is committed to sustainable environmental practices during the construction activities in the vicinity of all waterways. This includes the preparation of progressive erosion and sediment control plans (ESCPs) in advance of construction of the transfer pipeline as part of the overall Construction Environmental Management Plan for the Project.

Key waterway crossings including the Coxs River and Sawyers Swamp Creek have been identified and appropriately assessed within the EIS. The Coxs River will be traversed using horizontal directional drilling (HDD), which is anticipated to result in minimal potential for any impacts upon geomorphology as a result of the outcropping of sandstone bedrock on the bed and banks of the river.

Elsewhere open cut trenching will typically be undertaken perpendicular to any minor waterway crossings and appropriate stabilisation and rehabilitation techniques will minimise the potential for ongoing erosion or disturbance to stream geomorphology. A particular focus on erosion and sediment controls will be required for an approximately 650 metre section of the transfer pipeline following a tributary of Sawyers Swamp Creek through a narrow valley floor with controls required to protect against the initiation of gully erosion.

Detailed construction planning will be undertaken by the contractor selected to complete the installation of the proposed water infrastructure and it is considered that the prescribed level of detail in the DPI Water submission is more appropriate to be documented as part of the CEMP for the Project. It is also noted that the application of Section 89J of the EP&A Act precludes the need for a controlled activity approval under the Water Management Act, 2000 for state significant development projects. Despite this

the DPI's Water's Guidelines for Controlled Activities will be referenced during development of the ESCPs for the transfer pipeline. Appropriate scour calculations and monitoring requirements will be included in the ESCPs.

#### *Ongoing macro-invertebrate monitoring*

Macro invertebrate monitoring was proposed to be undertaken in Wangcol Creek and Coxs River for an initial period of two years following the discharge of treated water to Wangcol Creek as part of the original EIS. However, the DA has been amended to include the transfer of excess treated water to Thompsons Creek Reservoir effectively eliminating discharges to Wangcol Creek. Additional water or macro-invertebrate monitoring to confirm the impact of treated water discharges from the Project is therefore not considered to be required. Existing surface and groundwater monitoring programs undertaken by EnergyAustralia and Centennial Coal in the vicinity of Wangcol Creek will continue in accordance with respective Mount Piper Power Station and Western Coal Services consent requirements.

#### *Consultation regarding Crown Roads*

The proponent will continue to liaise with Department of Industry – Lands in regards to legal occupations of crown roads intersected by transfer pipelines included in the Project.

Both Centennial Coal and EnergyAustralia have commenced discussions with DPI in regards to the need for an easement or other legal entitlements for existing and proposed water infrastructure traversing crown roads in the locality.

## **2 Department of Industry**

#### *Rehabilitation management plans*

Springvale Coal acknowledge the requirement for preparation of a Rehabilitation Management Plan for and maintaining existing RMPs and Mine Operating Plans for existing mining lease areas to ensure consistency with rehabilitation requirements for the Water Treatment Project.

## **3 Office of Environment and Heritage**

#### *Caesia Parviflora*

Pre-construction surveys for *C. parviflora* var. *minor* will be conducted in all areas of suitable habitat to determine the size and extent of the local population and determine the number of individuals that may potentially be impacted.

It is anticipated that the three existing individuals and any others identified in the pre-construction surveys can be avoided by micro-siting the pipeline within the Project footprint. If the *Caesia parviflora* var. *minor* cannot be avoided then the size of the local population will be estimated as an adjunct to the pre-construction surveys and reported to the Office of Environment and Heritage (OEH) and DP&E within 5 days of identifying that the impacts cannot be avoided.

### *Public access*

Access prevention measures will be implemented during construction to ensure no unauthorised access by the public occurs. However, sections of the proposed water transfer pipeline are located within the Newnes State Forest and will be subject to occupation permit conditions.

Public access is permissible within the Newnes State Forest area and it is not considered appropriate to restrict access along a buried section of transfer pipeline. This is consistent with existing management practices on the Newnes State Forest.

Existing access restrictions will remain in place for locations where the water infrastructure is located on private land holdings.

### *Biodiversity Offsets*

A draft Western Region Biodiversity Offset Package, incorporating proposed offsets for the Springvale Water Treatment Project, was submitted to the OEH for consultation on 8 October 2016. A meeting was held on 2 November 2016 between representatives from Centennial Coal and the OEH to discuss the draft Western Region Biodiversity Offset Package.

OEH indicated their preference for like for like offsets to be provided to offset impacts from projects, however acknowledged that this was not always possible and that the offsets proposed in the Western Region Biodiversity Offset Package potentially provide for the conservation of higher value land than was proposed to be impacted by the various projects.

OEH also requested:

- Minor amendments to the document be made to allow the Department to better determine what offsets were being provided for what projects;
- That the biobanking calculations used in the development of the Western Region Biodiversity Offset Package be submitted through the Office of Environment and Heritage online submission tool; and
- That site verification of proposed biodiversity offset sites be undertaken to confirm the presence the values of the sites as offset sites.

Subsequent to the meeting, the revisions to the Western Region Biodiversity Offset Package were made and the biobanking calculations were submitted online. A revised Western Region Biodiversity Offset Package was provided to OEH on 23 December 2016 along with a commitment to complete the site verification of proposed offset land in 2017 in accordance with the Framework for Biodiversity Assessment. Site verification monitoring has commenced.

On 2 February 2017, the OEH provided a submission on the revised Springvale Water Treatment Project Development Application requesting that, prior to verification rules being accepted by the Department for the offset land proposed by the Springvale Water Treatment Project, reasonable steps are undertaken to identify like for like offsets by:

- a) Placing on BioBanking Register expression of interest for a period of six months
- b) Liaising with OEH and local councils to identify potential sites
- c) Research properties for sale in the local area
- d) Where sites are identified demonstrate why they are not feasible

The above process has commenced to identify any potential like for like offsets that would satisfy the variation rules under the Framework for Biodiversity Assessment for the Springvale Water Treatment Project.

The OEH review of the Western Region Biodiversity Offset Package is continuing and will be finalised following completion of the site verification monitoring of the offset lands and following the completion of the six month expression of interest being placed on the Biobanking Register.

#### **4 Roads and Maritime Services**

##### *Roads Act 1993*

Springvale Coal acknowledge the requirement for consent under Section 138(2) of the Roads Act and preparation of the required construction traffic management plans for the transfer main crossing of the Castlereagh Highway.

The transfer pipeline is planned to be installed within an existing culvert structure running beneath the highway and is not anticipated to result in any substantial disruption to traffic on the local road network. Detailed construction planning will be undertaken by the contractor to complete the pipeline installation, who will be responsible for development of scale drawings, management plans and liaison with RMS regarding the need for a road occupancy licence.

#### **5 Water NSW**

##### *LDP006 Discharges*

Detailed water and salt balance modelling has been undertaken to assess the impacts associated with disposal of residuals on the volume and salinity of water released to the catchment from the Springvale Coal Services site via LDP006. The modelling adopted conservative assumptions and has demonstrated negligible impacts to both the immediate receiving waters of Wangcol Creek and wider Cocks River catchment.

A detailed analysis of viable alternatives to disposal of a liquid residuals stream was considered as part of the Submissions Report for Modification 1 of the Western Coal Services Project (SSD 5579). Alternatives included a liquid transfer system as currently proposed as part of the Water Treatment Project, dedicated sludge lagoons/drying beds, or use of mechanical dewatering systems to reduce the liquid content in the residuals stream in conjunction with the use of a polymer to produce a dewatered sludge prior to disposal to the new REA. Consideration of the use of geotextile bags has also recently been included in the options analysis as a response to initial feedback on the submissions report.

A description of each alternative with the associated environmental and operational constraints is summarised in Table 1.

**Table 1 Residuals management alternatives**

<b>Alternative</b>	<b>Liquid Transfer</b>	<b>Sludge Lagoons / drying beds</b>	<b>Geotextile sludge dewatering bags</b>	<b>Mechanical dewatering</b>
Residuals solids content by weight	1.5 to 2%	30 to 40%	20% - 30%	10 to 25%
Infrastructure requirements	As proposed in Springvale Water Treatment Project EIS	Lined sludge lagoons, lined drying beds, sludge lagoon pumping system, Supernatant return pipeline from the sludge lagoons to the head of the WTP  Excavator and truck access to remove dried material from drying beds, transfer of dewatered sludge to REA.	Lined residuals balancing storage pond, sludge transfer pipeline with pumping facility to fill geobags.	Mechanical dewatering system, polymer chemical storage and dosing facilities, residuals storage tank, centrate return pipeline, transfer of dewatered sludge to REA.
			Polymer chemical storage and dosing facility.	
			Lined and banded area with sump pump to lay out the geotextile bags, and collect drainage.	
			A number of geotextile bags in operation for filling/ draining/removal/ spare, and ongoing replacement bags.	
Transfer system	Residuals transfer pipeline as proposed in the Springvale Water Treatment Project EIS	Supernatant return pipeline from the sludge lagoons to the head of the WTP, excavator access truck loading and vehicle haulage or conveyor system for dewatered sludge	Leachate/supernatant transfer pipeline to the head of the WTP.	Centrate return pipeline, vehicle haulage or conveyor system for dewatered sludge
			Excavator and truck access to remove dewatered material and bags, transfer of dewatered sludge to REA.	

Alternative	Liquid Transfer	Sludge Lagoons / drying beds	Geotextile sludge dewatering bags	Mechanical dewatering
Environmental consequences		Slight reduction in discharge from LDP006 compared to base case	Slight reduction in discharge from LDP006 compared to base case.	Slight reduction in discharge from LDP006 compared to base case.
		Vegetation clearance, noise and dust impacts for sludge transfer system or additional heavy vehicle movements on public road.	Potential release of polymer to receiving waters	Potential release of polymer to receiving waters;
	Base case	Significant increased disturbance on the WTP site to accommodate lagoons.	Vegetation clearance, noise and dust impacts. Additional heavy vehicle movement on public roads. Increased disturbance on the WTP site.	Vegetation clearance, noise and dust impacts for sludge transfer system or additional heavy vehicle movement on public road.
Site constraints	No significant site constraints	Significant site constraints due to available land and ground subsidence due to old mine workings	Potential site constraints due to available land and ground subsidence due to old mine workings	No significant site constraints
Capital estimate	Base case	Potential addition of \$6 to \$12 million capital cost		
Operational cost / GHG	Base case	Similar to base case	Higher operational cost due to chemical addition, and due to need to frequently excavate, remove and replace Geobags.	Higher energy consumption = higher operational cost due to chemical addition and ongoing dewatering system operation Greater GHG impact.

The residuals stream represents less than 0.5% of the total mine water inflows and is a necessary step in the treatment process for the Water Treatment Project which results in a considerable overall benefit for the catchment.

Dewatering systems would produce a thickened sludge ranging from around 10 to 40% solids by weight, so will retain the potential for infiltration of liquid through the REA to local groundwater. The dewatering systems would also be subject to a range of operational and environmental constraints which limit the feasibility and would add an estimated \$6 to 12 million capital cost to the Project for limited environmental benefit.

The Western Coal Services Project (SSD 5579) response to submissions also investigated potential mitigation measure to cease the infiltration of the residuals into groundwater aquifers from occurring once they were emplaced within the reject emplacement area (REA) at the Springvale Coal Services Site (SCCS). This consideration included lining of the new REA and A-Pit REA. These REAs are currently unlined and retrospectively lining these REAs would be impractical and inefficient given that the REAs are currently operational and due to the extent of surface to groundwater connectivity known to exist.

The current emplacement methodology in the REAs uses coarse rejects around the perimeter of the emplacement area with the deposition of fine rejects within the centre and is designed to progressively reduce the hydraulic conductivity of the emplacement as coarse reject voids are filled with fine coal slurry and material consolidation occurs.

Coal reject emplacement would need to cease to allow retrospective lining of the REA, resulting in significant interruption and cost to the business. Around 18 months of reject material that has already been emplaced and would need to be excavated and stored at an alternate location whilst the lining was undertaken. There are no other current storage options for coal reject material and any expansion to the footprint would result in considerable clearance and disturbance to the surrounding landscape.

Springvale Coal is committed to investigations to explore the viability of a range of beneficial reuse options to provide a long term solution to minimising discharges from LDP006. Springvale Coal will also continue to progress with investigations to better understand the existing surface and groundwater environments at the SCCS and make progressive improvements in water management outcomes for the Springvale Coal Services site. A work plan has been developed to provide an adaptive management approach to water management over the next 18 months.

#### *Monitoring*

Additional surface water monitoring was proposed to be undertaken to assess the impact of treated water discharges on Wangcol Creek. However, the DA has been amended to include the transfer of excess treated water to Thompsons Creek Reservoir effectively eliminating discharges to Wangcol Creek. Additional monitoring to confirm the impact of treated water discharges from the Project is therefore not considered to be required.

Existing surface and groundwater monitoring programs undertaken by Energy Australia and Centennial Coal in the vicinity of Wangcol Creek will continue in accordance with respective Mount Piper Power Station and Western Coal Services Project consent requirements.



*Development Program*

The concept design and procurement activities required for the delivery of the Water Treatment Project been progressing in parallel to the development approvals program and three shortlisted consortiums are currently finalising tenders for the construction and operation of the water treatment plant. The procurement process is well advanced for such a complex and high value project and will be finalised to ensure construction and commissioning will be completed to meet the long term salinity reduction targets of 30 June 2019 in the Springvale MEP SSD\_5594 consent. It is not considered realistically achievable to develop a solution in advance of this date.

Please do not hesitate to contact the undersigned if you have any further queries or clarifications

Regards



Karl Rosen