Environmental Assessment Requirements

State Significant Development

Section 78A(8A) of the *Environmental Planning and Assessment Act 1979*

Application Number	SSD 16_7592
Proposal	The Springvale Water Treatment Project, which includes: • establishing a water transfer pipeline from existing Springvale Coal Mine dewatering facilities on the Newnes Plateau to the Mount Piper Power Station; • transferring up to 36 megalitres per day (ML) of water for treatment and reuse at the Mount Piper Power Station; and • a discharge pipeline to transfer any excess treated water to Wangcol Creek in the Upper Coxs River catchment.
Location	Western Coalfields, Lithgow to Mt Piper Power Station, Portland
Applicant	Springvale Coal Pty Limited and EnergyAustralia Pty Ltd
Date of Issue	06 May 2016
General Requirements	The Environmental Impact Statement (EIS) for the development must comply with the requirements in Clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.* In particular, the EIS must include: • a full description of the development, including: – details of construction, operation and rehabilitation; – a site plan showing all surface infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process); – a water management plan, having regard to the requirements and recommendations from EPA, WaterNSW and DPI Water (see Attachment 2); – the likely interactions between the development and any other existing, approved or proposed development in the vicinity of the site; • analysis of any feasible alternatives to the carrying out of the development and justification as to why they have been rejected in the proposal • a list of any approvals that must be obtained before the development may commence; • an assessment of the likely impacts of the development on the environment, focusing on the specific issues identified below, including: – a description of the existing environment likely to be affected by the development, using sufficient baseline data; – an assessment of the likely impacts of all stages of the development, including any cumulative impacts, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice; – a description of the measures that would be implemented to mitigate and/or offset the likely impacts of the development, and an assessment of: o whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented; o the likely effectiveness of these measures, including performance measures where relevant; and o whether contingency plans would be necessary to manage any residual risks; – a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it

	is approved; • a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS; • consideration of the development against all relevant environmental planning instruments; and • the reasons why the development should be approved, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development. While not exhaustive, Attachment 1 contains a list of some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of this development. In addition to the matters set out in Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*, the development application must be accompanied by a signed report from a suitably qualified and experienced person that includes an accurate estimate of the capital investment value (as defined in Clause 3 of the *Environmental Planning and Assessment Regulation 2000*) of the development, including details of all the assumptions and components from which the capital investment value calculation is derived.
Specific Issues	The EIS must address the following specific issues: • **Water** – including an assessment of the likely impacts of the development on the quantity and quality of the region's surface and groundwater resources, particularly having regard to *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011* and the requirements and recommendations from EPA, DPI, OEH and WaterNSW (see Attachment 2); • **Noise** – including an assessment of the construction noise impacts of the development in accordance with the *Interim Construction Noise Guideline* (ICNG) and water treatment plant noise impacts in accordance with the NSW *Industrial Noise Policy (INP)*; • **Biodiversity** – including an assessment of the likely biodiversity impacts of the development, in accordance with the *Framework for Biodiversity Assessment*, by a person accredited in accordance with s142(B)(1)(c) of the *Threatened Species Conservation Act 1995*, and having regard to requirements and recommendations from OEH and DPI (see Attachment 2); • **Land** – including an assessment of the compatibility of the development with other land uses in the vicinity of the development in accordance with the requirements from DRE (see Attachment 2), paying particular attention to the agricultural and forestry and future exploration land uses in the region; • **Heritage** – including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, having regard to requirements from the OEH (see Attachment 2); • **Transport** – including an assessment of the likely construction traffic impacts of the development on the capacity, condition, safety and efficiency of the local and State road network, having regard to requirements from Transport for NSW and RMS (see Attachment 2); • **Waste –** including an assessment of the likely impacts associated with disposal of the additional brine and sludge produced and whether existing infrastructure at MPPS has sufficient capacity to store the waste; • **Visual** – including an assessment of the likely visual impacts of the development on private landowners in the vicinity of the development and key vantage points in the public domain; and • **Air** – including an assessment of the likely air quality impacts of the development, having regard to requirements from the EPA (see Attachment 2).

Consultation	During the preparation of the EIS, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. The EIS must describe the consultation that was carried out, identify the issues raised during this consultation, and explain how these issues have been addressed in the EIS.

ATTACHMENT 1

Environmental Planning Instruments, Policies, Guidelines & Plans

Land	
	Soil and Landscape Issues in Environmental Impact Assessment (NOW)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC)
Water	
Water Sharing Plans	Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011; and any other relevant Water Sharing Plans
Groundwater and Surface Water	NSW State Groundwater Policy Framework Document (NOW)
	NSW State Groundwater Quality Protection Policy (NOW)
	NSW State Groundwater Quantity Management Policy (NOW)
	NSW Aquifer Interference Policy 2012 (NOW)
	Australian Groundwater Modelling Guidelines 2012 (Commonwealth)
	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	Guidelines for the Assessment & Management of Groundwater Contamination (EPA)
	NSW State Rivers and Estuary Policy (NOW)
	NSW Government Water Quality and River Flow Objectives (EPA)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (EPA)
	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (EPA)
	Managing Urban Stormwater: Treatment Techniques (EPA)
	Managing Urban Stormwater: Source Control (EPA)
	Technical Guidelines: Bunding & Spill Management (EPA)
	Environmental Guidelines: Use of Effluent by Irrigation (EPA)
	A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)
	NSW Guidelines for Controlled Activities (NOW)
Flooding	Floodplain Development Manual (OEH)
	Floodplain Risk Management Guideline (OEH)

Biodiversity	
	Framework for Biodiversity Assessment (OEH)
	NSW Biodiversity Offsets Policy for Major Projects (OEH)
	Threatened Species Assessment Guidelines (OEH)
	Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (Fisheries NSW)
	NSW State Groundwater Dependent Ecosystem Policy (NOW)
	Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW)
Heritage	
	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
	Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DP&E)
	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (OEH)
	Code of Practice for Archaeological Investigations of Objects in NSW (OEH)
	Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (OEH)
	NSW Heritage Manual (OEH)
	Statements of Heritage Impact (OEH)
Noise	
	NSW Industrial Noise Policy (EPA)
	Interim Construction Noise Guideline (EPA)
	NSW Road Noise Policy (EPA)
	Assessing Vibration: a Technical Guideline (EPA)
Air	
	Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (EPA)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA)
Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RMS) & relevant Austroads Standards
Public Safety	
	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Hazardous and Offensive Development Application Guidelines – Applying SEPP 33
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
Waste	
	Waste Classification Guidelines (EPA)
Environmental Planning Instruments - General	
	State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
	State Environmental Planning Policy (State and Regional Development) 2011
	State Environmental Planning Policy (Infrastructure) 2007
	State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011
	State Environmental Planning Policy No. 44 – Koala Habitat Protection
	Lithgow Local Environmental Plan 2014

ATTACHMENT 2

AGENCIES' CORRESPONDENCE

NSW GOVERNMENT | Department of Primary Industries

OUT16/16542

Mr Paul Freeman
Resource Assessments
NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Paul.Freeman@planning.nsw.gov.au

Dear Mr Freeman

Centennial Coal/Energy Australia Water Treatment Project (*SSD 7593*)
Request for Secretary's Environmental Assessment Requirements

I refer to your email dated 6 April 2016 to the Department of Primary Industries in respect to the above matter. Comment has been sought from DPI Water, Fisheries, and Agriculture. DPI Fisheries and Agriculture have no issues. DPI Water comments are as follows. Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

Comment by DPI Water
DPI Water has reviewed the supporting documentation accompanying the request for Secretary's Environmental Assessment Requirements (SEARs) and provides the following comments below, and further detail in **Attachment A**.

It is recommended that the EIS be required to include:

- Annual volumes of surface water and groundwater proposed to be taken by the activity (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan.
- Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project).
- The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an assessment of the current market depth where water entitlement is required to be purchased.
- A detailed and consolidated site water balance.
- A detailed assessment against the NSW Aquifer Interference Policy (2012) using DPI Water's assessment framework.
- Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.
- Full technical details and data of all surface and groundwater modelling, and an independent peer review.

- Proposed surface and groundwater monitoring activities and methodologies.
- Proposed management and disposal of produced or incidental water.
- Details of the final landform of the site, including final void management (where relevant) and rehabilitation measures.
- Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts.
- Consideration of relevant policies and guidelines (as outlined in Attachment A).
- A statement of where each element of the SEARs is addressed in the EIS (i.e. in the form of a table).

Should you require further clarification of the details of this response please contact Ramona Blacklock, Water Regulation Officer (Advisory Services), 02 8838 7538, ramona.blacklock@dpi.nsw.gov.au.

Comment by DPI Lands

The proponent should identify any Crown land affected by the proposal. Prior to preparation of the EIS it is recommended that the proponent undertake a Crown Land Status search available through Crown Lands.

For further information please contact Rebecca Johnson, Co-ordinator Client Services, (Newcastle Office) on 4920 5040 or at rebecca.johnson@lands.nsw.gov.au.

Yours sincerely

Mitchell Isaacs
Director, Planning Policy & Assessment Advice
22/4/2016

Attachment A

Centennial Coal/Energy Australia Water Treatment Project (*SSD 7593*)
Request for Secretary's Environment Assessment Requirements
Detailed comments – DPI Water

The following detailed assessment requirements are provided to assist in adequately addressing the assessment requirements for this proposal.

For further information visit the DPI Water website, www.water.nsw.gov.au

Key Relevant Legislative Instruments

This section provides a basic summary to aid proponents in the development of an Environmental Impact Statement (EIS), and should not be considered a complete list or comprehensive summary of relevant legislative instruments that may apply to the regulation of water resources for a project.

The EIS should take into account the objects and regulatory requirements of the *Water Act 1912* (WA 1912) and *Water Management Act 2000* (WMA 2000), and associated regulations and instruments, as applicable.

Water Management Act 2000 (WMA 2000)
Key points:

- Volumetric licensing in areas covered by water sharing plans
- Works within 40m of waterfront land
- SSD & SSI projects are exempt from requiring water supply work approvals and controlled activity approvals as a result of the *Environmental Planning & Assessment Act 1979 (EP&A Act)*.
- No exemptions for volumetric licensing apply as a result of the *EP&A Act*.
- Basic landholder rights, including harvestable rights dams
- Aquifer interference activity approval and flood management work approval provisions have not yet commenced and are regulated by the *Water Act 1912*
- Maximum penalties of $2.2 million plus $264,000 for each day an offence continues apply under the *WMA 2000*

Water Act 1912 (WA 1912)
Key points:

- Volumetric licensing in areas where no water sharing plan applies
- Monitoring bores
- Aquifer interference activities that are not regulated as a water supply work under the *WMA 2000*.
- Flood management works
- No exemptions apply to licences or permits under the *WA 1912* as a result of the *EP&A Act*.
- Regulation of water bore driller licensing.

Water Management (General) Regulation 2011
Key points:

- Provides various exemptions for volumetric licensing and activity approvals
- Provides further detail on requirements for dealings and applications.

Water Sharing Plans – these are considered regulations under the *WMA 2000*

Access Licence Dealing Principles Order 2004

Harvestable Rights Orders

Water Sharing Plans

It is important that the proponent understands and describes the ground and surface water sharing plans, water sources, and management zones that apply to the project. The relevant water sharing plans can be determined spatially at www.ourwater.nsw.gov.au. Multiple water sharing plans may apply and these must all be described.

The *Water Act 1912* applies to all water sources not yet covered by a commenced water sharing plan.

The EIS is required to:

- Demonstrate how the proposal is consistent with the relevant rules of the Water Sharing Plan including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection (including groundwater dependent ecosystems), water quality and surface-groundwater connectivity.
- Provide a description of any site water use (amount of water to be taken from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.
- Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP, including:
    - Sufficient market depth to acquire the necessary entitlements for each water source.
    - Ability to carry out a "dealing" to transfer the water to relevant location under the rules of the WSP.
    - Daily and long-term access rules.
    - Account management and carryover provisions.
- Provide a detailed and consolidated site water balance.
- Further detail on licensing requirements is provided below.

Relevant Policies and Guidelines

The EIS should take into account the following policies (as applicable):

- NSW Guidelines for Controlled Activities on Waterfront Land (NOW, 2012)
- NSW Aquifer Interference Policy (NOW, 2012)
- Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW, 2012)
- Australian Groundwater Modelling Guidelines (NWC, 2012)
- NSW State Rivers and Estuary Policy (1993)
- NSW Wetlands Policy (2010)
- NSW State Groundwater Policy Framework Document (1997)
- NSW State Groundwater Quality Protection Policy (1998)
- NSW State Groundwater Dependent Ecosystems Policy (2002)
- NSW Water Extraction Monitoring Policy (2007)

DPI Water policies can be accessed at the following links:
http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/default.aspx
http://www.water.nsw.gov.au/Water-licensing/Approvals/Controlled-activities/default.aspx

An assessment framework for the NSW Aquifer Interference Policy can be found online at: http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/Aquifer-interference.

Licensing Considerations

The EIS is required to provide:

- Identification of water requirements for the life of the project in terms of both volume and timing (including predictions of potential ongoing groundwater take following the cessation of operations at the site – such as evaporative loss from open voids or inflows).
- Details of the water supply source(s) for the proposal including any proposed surface water and groundwater extraction from each water source as defined in the relevant Water Sharing Plan/s and all water supply works to take water.
- Explanation of how the required water entitlements will be obtained (i.e. through a new or existing licence/s, trading on the water market, controlled allocations etc.).
- Information on the purpose, location, construction and expected annual extraction volumes including details on all existing and proposed water supply works which take surface water, (pumps, dams, diversions, etc).
- Details on all bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring. All predicted groundwater take must be accounted for through adequate licensing.
- Details on existing dams/storages (including the date of construction, location, purpose, size and capacity) and any proposal to change the purpose of existing dams/storages
- Details on the location, purpose, size and capacity of any new proposed dams/storages.
- Applicability of any exemptions under the *Water Management (General) Regulation 2011* to the project.

Water allocation account management rules, total daily extraction limits and rules governing environmental protection and access licence dealings also need to be considered.

The Harvestable Right gives landholders the right to capture and use for any purpose 10 % of the average annual runoff from their property. The Harvestable Right has been defined in terms of an equivalent dam capacity called the Maximum Harvestable Right Dam Capacity (MHRDC). The MHRDC is determined by the area of the property (in hectares) and a site-specific run-off factor. The MHRDC includes the capacity of all existing dams on the property that do not have a current water licence. Storages capturing up to the harvestable right capacity are not required to be licensed but any capacity of the total of all storages/dams on the property greater than the MHRDC may require a licence.

For more information on Harvestable Right dams, including a calculator, visit:
http://www.water.nsw.gov.au/Water-licensing/Basic-water-rights/Harvesting-runoff/Harvesting-runoff

Dam Safety

Where new or modified dams are proposed, or where new development will occur below an existing dam, the NSW Dams Safety Committee should be consulted in relation to any safety issues that may arise. Conditions of approval may be recommended to ensure safety in relation to any new or existing dams.

See www.damsafety.nsw.gov.au for further information.

Surface Water Assessment

The predictive assessment of the impact of the proposed project on surface water sources should include the following:

- Identification of all surface water features including watercourses, wetlands and floodplains transected by or adjacent to the proposed project.

- Identification of all surface water sources as described by the relevant water sharing plan.
- Detailed description of dependent ecosystems and existing surface water users within the area, including basic landholder rights to water and adjacent/downstream licensed water users.
- Description of all works and surface infrastructure that will intercept, store, convey, or otherwise interact with surface water resources.
- Assessment of predicted impacts on the following:
    - flow of surface water, sediment movement, channel stability, and hydraulic regime,
    - water quality,
    - flood regime,
    - dependent ecosystems,
    - existing surface water users, and
    - planned environmental water and water sharing arrangements prescribed in the relevant water sharing plans.

Groundwater Assessment

To ensure the sustainable and integrated management of groundwater sources, the EIS needs to include adequate details to assess the impact of the project on all groundwater sources including:

- Works likely to intercept, connect with or infiltrate the groundwater sources.
- Any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- Bore construction information is to be supplied to DPI Water by submitting a “Form A” template. DPI Water will supply “GW” registration numbers (and licence/approval numbers if required) which must be used as consistent and unique bore identifiers for all future reporting.
- A description of the watertable and groundwater pressure configuration, flow directions and rates and physical and chemical characteristics of the groundwater source (including connectivity with other groundwater and surface water sources).
- Sufficient baseline monitoring for groundwater quantity and quality for all aquifers and GDEs to establish a baseline incorporating typical temporal and spatial variations.
- The predicted impacts of any final landform on the groundwater regime.
- The existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.
- An assessment of groundwater quality, its beneficial use classification and prediction of any impacts on groundwater quality.
- An assessment of the potential for groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).
- Measures proposed to protect groundwater quality, both in the short and long term.
- Measures for preventing groundwater pollution so that remediation is not required.
- Protective measures for any groundwater dependent ecosystems (GDEs).
- Proposed methods of the disposal of waste water and approval from the relevant authority.
- The results of any models or predictive tools used.

Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Any proposed monitoring programs, including water levels and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- An assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

Groundwater Dependent Ecosystems

The EIS must consider the potential impacts on any Groundwater Dependent Ecosystems (GDEs) at the site and in the vicinity of the site and:

- Identify any potential impacts on GDEs as a result of the proposal including:
  - the effect of the proposal on the recharge to groundwater systems;
  - the potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections; and
  - the effect on the function of GDEs (habitat, groundwater levels, connectivity).
- Provide safeguard measures for any GDEs.

Watercourses, Wetlands and Riparian Land

The EIS should address the potential impacts of the project on all watercourses likely to be affected by the project, existing riparian vegetation and the rehabilitation of riparian land. It is recommended the EIS provides details on all watercourses potentially affected by the proposal, including:

- Scaled plans showing the location of:
  - wetlands/swamps, watercourses and top of bank;
  - riparian corridor widths to be established along the creeks;
  - existing riparian vegetation surrounding the watercourses (identify any areas to be protected and any riparian vegetation proposed to be removed);
  - the site boundary, the footprint of the proposal in relation to the watercourses and riparian areas; and
  - proposed location of any asset protection zones.
- Photographs of the watercourses/wetlands and a map showing the point from which the photos were taken.
- A detailed description of all potential impacts on the watercourses/riparian land.
- A detailed description of all potential impacts on the wetlands, including potential impacts to the wetlands hydrologic regime; groundwater recharge; habitat and any species that depend on the wetlands.

- A description of the design features and measures to be incorporated to mitigate potential impacts.
- Geomorphic and hydrological assessment of water courses including details of stream order (Strahler System), river style and energy regimes both in channel and on adjacent floodplains.

Drill Pad, Well and Access Road Construction

- Any construction activity within 40m of a watercourse, should be designed by a suitably qualified person, consistent with the NSW *Guidelines for Controlled Activities on Waterfront Land* (July 2012).
- Construction of all wells must be undertaken in accordance with the *Minimum Construction Requirements for Water Bores in Australia* (3rd edition 2012) by a driller holding a bore drillers' licence valid in New South Wales.
- The length of time that a core hole is maintained as an open hole should be minimised.

Landform rehabilitation (including final void management)

Where significant modification to landform is proposed, the EIS must include:

- Justification of the proposed final landform with regard to its impact on local and regional surface and groundwater systems;
- A detailed description of how the site would be progressively rehabilitated and integrated into the surrounding landscape;
- Outline of proposed construction and restoration of topography and surface drainage features if affected by the project;
- Detailed modelling of potential groundwater volume, flow and quality impacts of the presence of an inundated final void (where relevant) on identified receptors specifically considering those environmental systems that are likely to be groundwater dependent;
- An outline of the measures to be put in place to ensure that sufficient resources are available to implement the proposed rehabilitation; and
- The measures that would be established for the long-term protection of local and regional aquifer systems and for the ongoing management of the site following the cessation of the project.

Consultation and general enquiries

General licensing enquiries can be made to Advisory Services: water.enquiries@dpi.nsw.gov.au, 1800 353 104.

Assessment or state significant development enquiries, or requests for review or consultation should be directed to the Strategic Stakeholder Liaison Unit, water.referrals@dpi.nsw.gov.au.

A consultation guideline and further information is available online at:
www.water.nsw.gov.au/water-management/law-and-policy/planning-and-assessment

End Attachment A

Our reference:
DOC16/178709;
EF13/3625.

Mr Paul Freeman
Acting Team Leader, Resource Assessments
NSW department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

15 April 2016

Dear Mr Freeman,

I refer to your email of 6 April 2016 and the attached *Centennial Coal/Energy Australia Water Treatment Project (Project) – Preliminary Environmental Analysis (PEA) Final* dated April 2016, and the Department of Planning and Environment's (DPE) request for comments so that the Environmental Assessment Requirements (EARs) can be prepared for the Environmental Assessment (EA) for this Project.

The Environment Protection Authority (EPA) has reviewed the PEA for the project and wishes to submit its EARs for inclusion in the EA. These are in Attachment One. Should the Project be approved, the treatment and use of the mine water at MPPS represents beneficial re-use of this water which would lead to acceptable environmental outcomes for the upper Coxs River catchment.

The EPA notes (1.1 Overview, page 1) that the Project is aiming to achieve improved environmental outcomes for the upper Coxs River catchment and meet the water quality performance measures, being reductions in salinity by 30 June 2017 and 30 June 2019, respectively, for mine water discharges required under the Springvale Mine Extension Project and State Significant Development Consent of 21 September 2015.

The EPA expects that DPE will be requiring that these performance measures and consent conditions be met by Springvale Coal Pty Ltd by the required dates. As you are aware the EPA has identical requirements of Springvale Coal Pty Ltd for salinity, under a condition of the Environment Protection Licence (EPL 3607) held by the company.

It is the expectation of the EPA that Springvale Coal Pty Ltd will meet these respective deadlines for reductions in salinity, and the elimination of toxicity by 30 June 2017, as required by EPL 3607.

Should you have any questions please contact me at the EPA's Central West Regional Office on 63 327 601.

Yours sincerely

RICHARD WHYTE
Manager Central West
Environment Protection Authority

Attachment One: Environmental Assessment Requirements (EARs) of the Environment Protection Authority.

PO Box 1388 Bathurst NSW 2795
Level 2, 203 – 209 Russell Street Bathurst NSW 2795
Tel: (02) 63 327 600 Fax: (02) 63 327 630
ABN 30 841 387 271
www.environment.nsw.gov.au

Attachment One: Environmental Assessment Requirements (EARs) of the Environment Protection Authority.

Development Consent Conditions – SSD_5594

The EA needs to provide a timetable for works for Package 1 (Transfer System) and Package 2 (Water Treatment System) to ensure compliance with Development Consent Condition 12 – Water Management Performance Measures.

Environment Protection Licence 3607 (EPL 3607)

Similarly, the abovementioned timetable for works for Package 1 (Transfer System) and Package 2 (Water Treatment System) is also required to ensure compliance with Condition U1 (U1.1) – Pollution Studies and Reduction programs of EPL 3607.

Compliance with Condition U (U1.1) is required to achieve the salinity concentrations of the discharge from the Springvale Delta Mine Water Transfer Scheme (SDMWTS) specified by that condition by 30 June 2017 and 30 June 2019, respectively. This licence condition also requires the elimination of the toxicity of the mine water discharge from Licensed Discharge Point (LDP009) by 30 June 2017.

Western Coal Services and Licensed Discharge Point (LDP006)

The EPA notes the proposal to discharge treated mine water from the SDWTS, whenever it is excess to the requirements of Mt Piper Power Station (MPPS), through LDP006 of EPL 3607 located at the Western Coal services site. Currently, any discharge from LDP006 is either groundwater seepage, or a combination of groundwater seepage and rainfall runoff.

This proposal will involve the discharge of a blend of treated mine water with the current combination of both groundwater seepage and rainfall runoff which is now discharged through LDP006.

In order for the EPA to be able to assess this option for the discharge of excess treated mine water the EA needs to provide information on the following:

- The current quality of the discharge from LDP006 and the concentrations of water quality parameters.
- The characteristics of toxicity from the current discharge of LDP006.
- The concentration of water quality parameters and quality of the treated water to be directed to LDP006.
- The toxic characteristics of the treated water.
- The concentration of water quality parameters, quality and toxic characteristics of the blend of treated mine water with groundwater seepage and rainfall runoff that will be discharged through LDP006.
- Potential impacts on the aquatic ecology of Wangcol Creek and the upper Coxs River of (a) the blend of the water sources and (b) when the discharge is only groundwater seepage and/or (3) with rainfall runoff.
- An assessment of the groundwater and groundwater seepage that may be occurring within the general area of the Western Coal Services site and the Mt Piper ash emplacement area, that is not captured and discharged through LDP006, and has the potential to disperse off-site within the upper

Coxs River catchment and impact on the aquatic ecology of Wangcol Creek and the upper Coxs River.

In association, the EA needs to address the need to implement a reliable groundwater monitoring program between the Western Coal Services site and Wangcol Creek.

For the water quality parameters list above, they should be assessed, and expressed in both Total and Acid Extractable concentrations, for the following:

- Total suspended solids, turbidity, pH, salinity (Electrical Conductivity - EC), total oil and grease.
- Fluoride.
- Elements and metals: aluminium, arsenic, barium, beryllium, boron, cadmium, calcium, chromium (III and VI), cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, sodium, sulphur, uranium, zinc.
- Anions: chloride, sulphate.
- Alkalinity (carbonate, bicarbonate and total).
- Nitrogen and phosphorus: total nitrogen, total Kheljdahl nitrogen, nitrite, nitrate, total ammonium N, total phosphorus.
- Phenolic compounds (total).

The EA needs to compare the various proposed combinations of discharges from LDP006 with the ecosystem protection levels of the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (Australian and New Zealand Environment and Conservation Council 2000 – ANZECC 2000).

The EPA notes in Table 4.1 *Summary of NSW legislation* the proponent considers the need for a new EPL or amendments to the existing EPLs will be considered during the preparation of an Environmental Impact Statement (EIS) for the Project. The EPA has previously raised with Springvale Coal the need for separate licensing of the Western Coal Services operation, which would remove LDP006 from EPL 3607 for Springvale mine. Should this occur, the EPA would require a higher quality of discharge than is currently occurring, which could be delivered by this Project, should an acceptable combination of water sources be achieved. This matter would be a point of negotiation between the EPA and Springvale Coal based on the salinity targets of the Development Consent and the PRP on EPL 3607. However, depending on timeframes these negotiations, at least in part, may need to take place outside of the planning process for the Project.

Volume of Mine Water

The Development Consent for the Springvale Mine Extension Project does not allow the duplication of pipelines or an increase in capacity of the SDMWTS, effectively limiting the capacity at 30 Megalitres per day (ML/d).

The EA needs to provide the reasons why the volume of the pipeline needs to be increased to 36 ML/d, and the source of the additional mine water directed to the SDMWTS. For example, is the additional capacity required to include sources such as mine water from Angus Place Colliery, and mine water from the Renoun Workings which is currently discharged through LDP001 of EPL 3607.

Sludge Disposal

The EA needs to provide the following details of the sludge from the proposed water treatment process intended for disposal in the tailings dams at the Springvale coal services site:

- The quantities of sludge to be disposed per annum.
- The chemical composition of the sludge (eg. metals, elements, salts, pH etc).
- The classification of the sludge under the Protection of the Environment Operations Act 1997 (Waste Act and Regulations 2014).
- The suitability for co-disposal with tailings.

Brine Management and Disposal

The PEA states that the Reverse Osmosis (RO) reject by-product containing elevated salinity levels is to be directed to the existing MPPS cooling tower blowdown system for further treatment and processing. The EA needs to address brine management and disposal and specifically the points set out below:

- The volume of brine concentrate/crystals to be directed annually to the MPPS ash emplacement area.
- The potential the leakage of saline water from the MPPS ash emplacement area to link with the groundwater below this facility, and for dispersal via subsurface groundwater plumes towards the Coxs River.
- The need for a reliable groundwater monitoring program around the current ash dam (ie multiple piezometers with groundwater quality testing in between the ash dam wall and Coxs River).
- The need to include proper monitoring/estimation of wet weather flows with the potential to transport salt and ash over the dam wall.
- An assessment of the potential for prolonged, heavy rainfall to cause the capacity of the MPPS ash emplacement area to be exceeded, with the potential for brine concentrate and ash to be flushed into the Coxs River.
- The impact of the disposal of this additional brine concentrate on the capacity, and life, of the MPPS ash emplacement area.

Additionally, the brine concentrate in a crystallised slurry will be stored in dedicated crystallised salt ponds prior to disposal at the MPPS brine ash emplacement area. The EA needs to address:

- The leakage of salt from the salt ponds into the local groundwater.
- Measures to achieve compaction to prevent the leakage of salt to the local groundwater.

Construction of the Pipelines

The EA needs to include information about the construction of the pipelines to ensure the amenity of the local residents of Lidsdale, Wallerawang and Blackman's Flat is not impacted by either air (dust, fumes) or noise pollution.

The EA needs to provide information on the sediment and erosion control measures that will be implemented during the construction of the pipelines.

The EA needs to assess the potential for an increase in noise emissions from Mt Piper Power Station associated with the water treatment process.

Routine Maintenance and Contingency Operations

The EA needs to address the management strategies to be followed when there is either routine maintenance of the pipeline or water treatment system, or a failure of either system.

The EA needs to clearly address the procedures being proposed to handle untreated mine water in the case of either routine maintenance or an emergency situation, to avoid the discharge of untreated mine water into the upper Coxs River or other local surface waters within the catchment. Given the environmental gains that would be made by using the mine water at MPPS, the discharge of untreated mine water needs to be avoided.

Consideration of Alternative Options

Should the Project be approved, the treatment and use of the mine water at MPPS represents beneficial re-use of this water which would lead to acceptable environmental outcomes for the upper Coxs River catchment.

However, it is conventional for EAs/EISs to include the consideration of alternatives to the one being proposed, indicating why they were rejected. Therefore the EA/EIS needs to consider alternative options for ways of managing the mine water, still based on a treatment to remove salts (and by association other pollutants) and using the treated mine water for industrial purposes at MPPS. Two options which should be considered in the EA are set out below.

Use of Thompson's Creek Dam

The EA needs to consider options such as treating the mine water elsewhere and then delivering treated water to MPPS. One option is to treat the mine water at the former Wallerawang Power Station site, utilising the existing infrastructure for Reverse Osmosis (RO) and then:

- transferring the brine slurry using the existing pipeline to the Mt Piper brine concentrator; and,
- transferring the treated water via a pipeline to Thompson's Creek Dam, from where it can be transferred to the MPPS.

A benefit of this option is that by utilising Thompson's Creek Dam, the operators overcome the management constraints caused by the predicted variations to water demand at the MPPS thereby eliminating the need for a discharge of excess treated water to Wangcol Creek at the Western Coal Services site (LDP006), because water in excess to demand can remained stored in Thompson's Creek Dam, and be available for later use.

Furthermore, Thompson's Creek Dam would also act as storage during times of scheduled maintenance or malfunction of the system, avoiding the short-term need to potentially discharge untreated mine water into the upper Coxs River. This would represent an acceptable environmental outcome.

Use of De-alkalisation

The EA needs to consider de-alkalisation as an alternative to RO as a treatment option. The Springvale mine water has a high salinity because of the high sodium bicarbonate concentration of the mine water. It is understood that treatment to alter the water chemistry to reduce the sodium bicarbonate load which in turn lowers the salinity, instead of using micro-filtration of the mine water, can substantially reduce the amount of brine waste produced. Management of the brine waste is a key consideration of the Project.

Department of Industry
Resources & Energy

14th April 2016

Paul Freeman
A/Team Leader Resource Assessments
Department of Planning & Environment
GPO Box 39
Sydney NSW 2001

Your Reference: RM8: INW16/15048
Our Reference: OUT16/15954

Emailed: Paul.Freeman@planning.nsw.gov.au

Dear Mr Freeman

Re: Request for Secretary's Environmental Assessment Requirements – Centennial Coal/Energy Australia Water Treatment Works

I refer to your letter of 6th April 2016 requesting advice on issues concerning the preparation of Secretary's Environmental Assessment Requirements for the above project. Thank you for the opportunity to provide advice on the above matter. This is a response from the NSW Department of Industry – Geological Survey of NSW (GSNSW). The Department of Primary Industries (incorporating advice from Agriculture and Fisheries) and the Forestry Corporation of NSW may respond separately.

Mineral Resources Requirements

Identification and assessment of impacts on other land users is required as a critical component of the Environmental Assessment (EA) process. Specifically, the EA must consider the potential for the project to impact upon any significant mineral resources, including metallic minerals, industrial and extractive minerals, petroleum, gas and coal resources. A significant aspect of mineral resource evaluation and development in regards to land use planning is that the locations of mineable deposits cannot always be predicted. This makes it imperative that known resources are protected from sterilisation by inappropriate zoning or development, and that access to land for mineral exploration should be maintained over as much of the project area as possible.

As such, the GSNSW requires the proponent to conduct an assessment as part of the EA, regarding the potential impacts of the project on any significant mineral resources, including:

- **Any operating mines, extractive industries or known mineral or petroleum resources.**
- **Exploration activities in the vicinity of the proposed development.**
- **Access for future exploration in the area.**

Specific Issues

GSNSW notes that the proposal traverses through multiple Centennial Coal Pty Ltd titles. As Centennial Coal Pty Ltd is one of the proponents for the proposal there should be no issues concerning impacts on Centennial Coals titles.

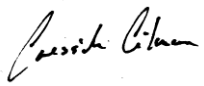
GSNSW notes that the proposal also traverses through Mining Lease (ML) 1637 held by Enhance Place Pty Ltd (**Figure 1**). Identification of the title is to make the consent authority aware that there are other stakeholders with interests in the region. The proponent should consult with the operator of ML1637 regarding potential impacts associated with the proposal, with a record of consultation included in the Environmental Impact Statement.

Contact details (that the GSNSW currently has on record) for the above title holder is as follows:

Mining Lease 1637 – Enhance Place Pty Ltd
Contact: Graham Goodwin (Technical Manager)
P: 0263590600
M: 0418830598
E: ggoodwin@cetresources

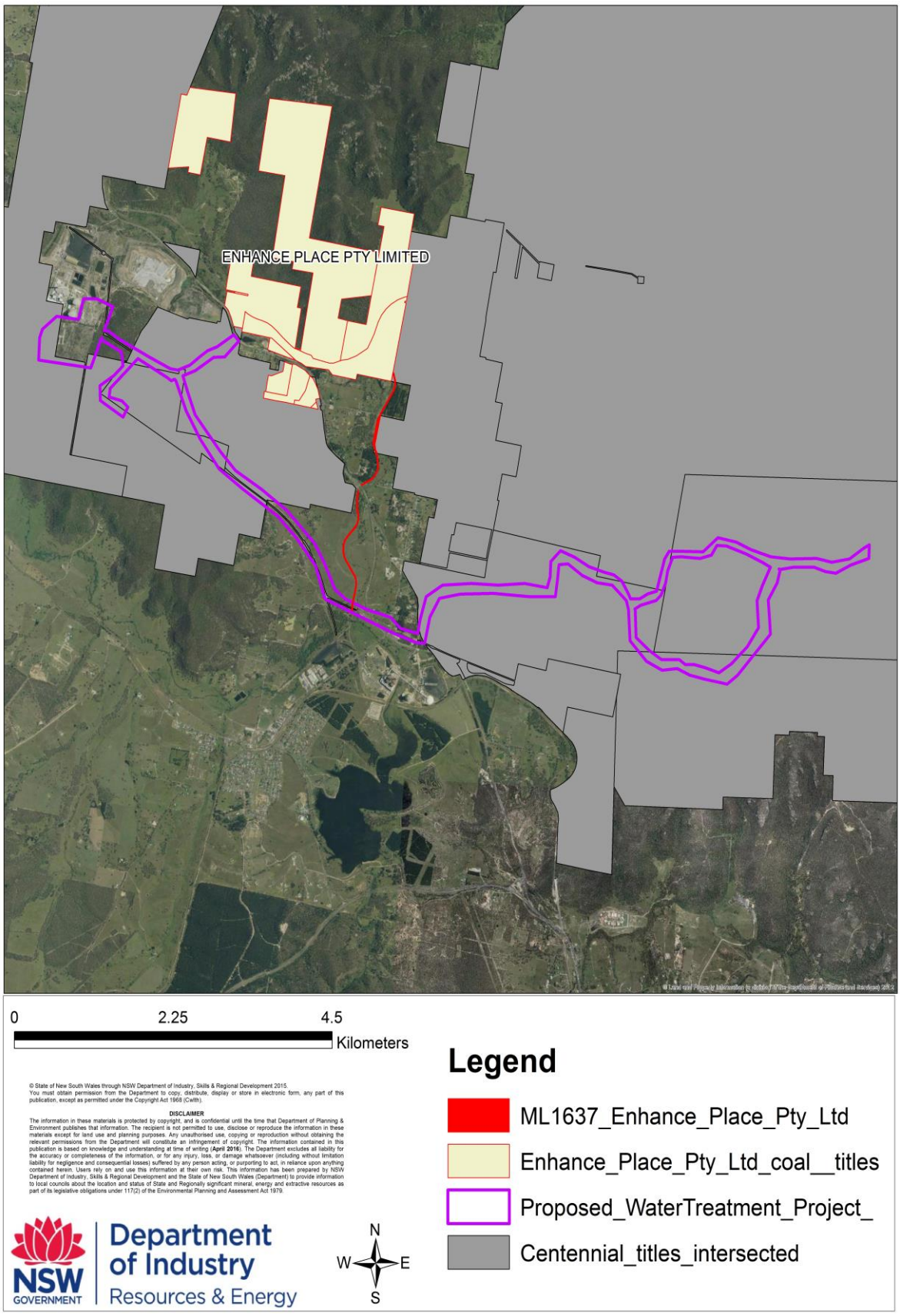
Queries regarding the above information, and future requests for advice in relation to this matter, should be directed to the GSNSW Land Use team at landuse.minerals@industry.nsw.gov.au.

Yours sincerely



Cressida Gilmore
Team Leader - Land Use

Figure 1: Proposed Water Treatment Project.



Environment and Development: LGS

19 April 2016

Paul Freeman
Paul.Freeman@planning.nsw.gov.au

Dear Paul

Centennial Coal/Energy Australia Water Treatment Project - Request for Advice on the Preliminary Environmental Assessment Requirements

I refer to your email received 6 April 2016 and your request for advice on the Preliminary Environmental Assessment Requirements for the Centennial Coal/Energy Australia Water Treatment Project.

Council considers the Preliminary Environmental Assessment describes the project in general terms. Council has no objection to the submission of the project and looks forward to a more detailed assessment when a formal application has been lodged.

Council would like to reserve the right to enter into discussions with the applicant to enter into a Voluntary Planning Agreement for this project.

Please do not hesitate to contact Miss Lauren Stevens who is available between 8.15 am and 10.30 am on (02) 6354 9975, Monday to Friday; in Council's Environment and Development Department should you require any additional information in relation to this matter.

Yours Sincerely

A Muir
GROUP MANAGER ENVIRONMENT AND DEVELOPMENT

The Bluett AWARD
LITHGOW CITY COUNCIL
2015 WINNER

PO Box 19, LITHGOW NSW 2790
Tel: (02) 6354 9999 Fax: (02) 63514259
Web: www.lithgow.nsw.gov.au Email: council@lithgow.nsw.gov.au

Our Ref. DOC16/173452
Your Ref.

Mr Paul Freeman
A/Team Leader, Resource Assessments
Department of Planning and Environment
GPO Box 39 SYDNEY 2001

Dear Paul

RE: Springvale Water Treatment SEARS

I refer to your e-mail dated 6 April 2016 seeking input into the Department of Planning and Environment Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Assessment (EIS) for a proposed water treatment project near Lithgow.

The Office of Environment and Heritage (OEH) understands that the proposal involves:

- a system to transfer up to 36 ML/day of dewatered mine water from the existing gravity tank forming part of the approved dewatering facilities on the Newnes Plateau, to a newer water treatment plant at the Mount Piper Power Station (MPPS) site. This pipeline alignment will predominantly use the existing Springvale Delta Water Transfer Scheme (SDWTS) pipeline on the newness Plateau up to the escarpment section. There will be either a full or partial replacement of the existing DWTS pipeline downstream of the escarpment section. An alternate "northern escarpment" alignment is under consideration for this section of pipeline and would follow the alignment of the previously proposed duplication of the SDWTS from Sunnyside Ridge Road to LDP009. This alignment would be fully trenched. The remainder of the pipeline alignment between LPD009 and the MPPS follows existing ash pipelines, haul roads and an overland conveyor.
- a new water treatment plant incorporating desalination processes to reduce the salinity in mine water to a standard suitable for either industrial reuse or environmental release
- transfer of treated water from the water treatment plant to the MPPS cooling tower
- discharge of any excess treated water to the Springvale Coal Services site for environmental release to Wangcol Creek
- transfer of the saline brine stream from water treatment plant to the NPPS cooling tower blowdown system for integration with existing treatment and brine disposal practices

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- installation of a crystalliser to provide further treatment of the additional salt load generated within the MPPS cooling tower blowdown system.

OEH notes that the Preliminary Environmental Analysis indicates that the majority of the project area has been previously cleared and substantially modified and features regrowth native vegetation of varying age and structure. The eastern portion of the project area, on the Newnes Plateau, features relatively intact sclerophyll forest and woodland.

OEH has considered your request and provides SEARs for the proposed development in Attachments A, B and C.

OEH recommends the EIS needs to appropriately address the following, if applicable:

1. Biodiversity and offsetting
2. Aboriginal cultural heritage
3. Water and soils
4. Flooding.

Please note that the NSW Biodiversity Offsets Policy for Major Projects http://www.environment.nsw.gov.au/resources/biodiversity/140672biopolicy.pdf is now being implemented. The policy provides a standard method for assessing impacts of major projects on biodiversity and determining offsetting arrangements. The policy is underpinned by the Framework for Biodiversity Assessment (FBA) http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf which contains the assessment methodology that is adopted by the policy to quantify and describe the impact assessment requirements and offset guidance that applies to Major Projects. The FBA must be used by a proponent to assess all biodiversity values on the development site.

If you have any questions regarding this matter further please contact myself on 02 6883 5335.

Yours sincerely,

PAUL HOUSTON
Acting Senior Team Leader Planning
North West Region

Attachment A - Standard Environmental Assessment Requirements
Attachment B - Project Specific Environmental Assessment Requirements
Attachment C – Species/Populations/Ecological Communities which require further consideration
Attachment D - Guidance material

Attachment A – Standard Environmental Assessment Requirements

Biodiversity
1. Biodiversity impacts related to the proposed Springvale Water Treatment Pipeline are to be assessed and documented in accordance with the Framework for Biodiversity Assessment, unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the *Threatened Species Conservation Act 1995.*
Aboriginal cultural heritage
2. The EIS must identify and describe the tangible and intangible Aboriginal cultural heritage values that exist across the whole area that will be affected by the Springvale Water Treatment Pipeline and document these in the EIS. This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011) and consultation with OEH regional officers.
3. Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.
4. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the EIS. The EIS must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment will be documented and notified to OEH.
Water and soils
5. The EIS must map the following features relevant to water and soils including: a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map). b. Rivers, streams, wetlands, estuaries (as described in Appendix 2 of the Framework for Biodiversity Assessment). c. Groundwater. d. Groundwater dependent ecosystems. e. Proposed intake and discharge locations.
6. The EIS must describe background conditions for any water resource likely to be affected by the Springvale Water Treatment Pipeline, including: a. Existing surface and groundwater. b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations. c. Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters. d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Gudielines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.

7. The EIS must assess the impacts of the Springvale Water Treatment Pipeline on water quality, including:
   a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the Springvale Water Treatment Pipeline protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.
   b. Identification of proposed monitoring of water quality.

8. The EIS must assess the impact of the Springvale Water Treatment Pipeline on hydrology, including:
   a. Water balance including quantity, quality and source.
   b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
   c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
   d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (eg river benches).
   e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.
   f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.
   g. Identification of proposed monitoring of hydrological attributes.

Flooding and coastal erosion

9. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
   a. Flood prone land
   b. Flood planning area, the area below the flood planning level.
   c. Hydraulic categorisation (floodways and flood storage areas).

10. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.

11. The EIS must model the effect of the proposed Springvale Water Treatment Pipeline (including fill) on the flood behaviour under the following scenarios:
   a. Current flood behaviour for a range of design events as identified in 8) above. The 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.

12. Modelling in the EIS must consider and document:
   a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.

b. Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.
c. Relevant provisions of the NSW Floodplain Development Manual 2005.

13. The EIS must assess the impacts on the proposed Springvale Water Treatment Pipeline on flood behaviour, including:

a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
b. Consistency with Council floodplain risk management plans.
c. Compatibility with the flood hazard of the land.
d. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
e. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
f. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
g. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council.
h. Whether the proposal incorporates specific measures to manage risk to life from flood.
i. Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.
j. Any impacts the development may have on the social and economic costs to the community as consequence of flooding.

Attachment B – Project Specific Environmental Assessment Requirements

Biodiversity

A. Impacts on the species/populations/ecological communities listed in Attachment C will require further consideration and provision of the information specified in s9.2 of the Framework for Biodiversity Assessment

B. The EIS must identify:

   d. In the case of a project that adjoins, is in the immediate vicinity of a park or upstream, the assessment of impacts must address the matters to be considered outlined in the *Guidelines for developments adjoining land and water managed by DECCW* (DECCW 2010) and include:

      i. The nature of the impacts, including direct and indirect impacts.

      ii. The extent of the direct and indirect impacts.

      iii. The duration of the direct and indirect impacts.

      iv. The objectives of the reservation of the land.

   e. Measures proposed to prevent, control, abate, minimise and manage the direct and indirect impacts including an evaluation of the effectiveness and reliability of the proposed measures.

   f. Residual impacts.

Aboriginal cultural heritage

C. The assessment of cultural heritage values must include a surface survey undertaken by a qualified archaeologist in areas with potential for subsurface Aboriginal deposits. The result of the surface survey is to inform the need for targeted test excavation to better assess the integrity, extent, distribution, nature and overall significance of the archaeological record. The results of surface surveys and test excavations are to be documented in the EIS.

D. The EIS must outline procedures to be followed if Aboriginal objects are found at any stage of the life of the Springvale Water Treatment Pipeline to formulate appropriate measures to manage unforseen impacts.

E. The EIS must outline procedures to be followed in the event Aboriginal burials or skeletal material is uncovered during construction to formulate appropriate measures to manage the impacts to this material.

Cumulative Impact

F. The cumulative impacts from all clearing activities and operations, associated edge effects and other indirect impacts on cultural heritage, biodiversity and OEH Estate need to be comprehensively assessed in accordance with the *Environmental Planning and Assessment Act 1979.*

This should include the cumulative impact of the proponent's existing and proposed development and associated infrastructure (such as access tracks etc) as well as the cumulative impact of other developments located in the vicinity. This assessment should include consideration of both construction and operational impacts.

Attachment C – Species/Populations/Ecological Communities which require further consideration

Class	Scientific Name	Common Name	NSW status	Comm. status
TEC	*Blue Mountains Swamps in the Sydney Basin Bioregion*	Blue Mountains Swamps in the Sydney Basin Bioregion	V	E
TEC	*Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions*	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	E	E
TEC	*Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion*	Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion	E	E
TEC	*White Box Yellow Box Blakely's Red Gum Woodland*	White Box Yellow Box Blakely's Red Gum Woodland	E	CE
Fauna	*Anthochaera phrygia*	Regent Honeyeater	CE	CE
Fauna	*Hoplocephalus bungaroides*	Broad-headed Snake	E	V
Fauna	*Petalura gigantea*	Giant Dragonfly	E	-
Flora	*Caesia parviflora* var. *minor*	Small Pale Grass-lily	E	-
Flora	*Eucalyptus aggregata*	Black Gum	V	V
Flora	*Eucalyptus pulverulenta*	Silver-leafed Gum	V	V
Flora	*Leucopogon fletcheri* subsp. *fletcheri*	Leucopogon fletcheri subsp. fletcheri	E	-
Flora	*Prasophyllum fuscum*	Slaty Leek Orchid	CE	V

Attachment D - Guidance material

Title	Web address
Relevant Legislation	
Coastal Protection Act 1979	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
Environmental Planning and Assessment Act 1979	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
Fisheries Management Act 1994	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N
Marine Parks Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N
National Parks and Wildlife Act 1974	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N
Protection of the Environment Operations Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
Threatened Species Conservation Act 1995	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N
Water Management Act 2000	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
Wilderness Act 1987	http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N
Biodiversity	
NSW Biodiversity Offsets Policy for Major Projects (OEH, 2013)	http://www.environment.nsw.gov.au/biodivoffsets/1480biofpolmp.htm
Framework for Biodiversity Assessment (OEH, 2013)	http://www.environment.nsw.gov.au/biodivoffsets/1480biofpolmp.htm
Fisheries NSW policies and guidelines	http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation
List of national parks	http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx
Revocation, recategorisation and road adjustment policy (OEH, 2012)	http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm
Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/parks/policyRevocations.pdf
Aboriginal Cultural Heritage	
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf

Title	Web address
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
Aboriginal Site Recording Form	http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf
Aboriginal Site Impact Recording Form	http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf
Aboriginal Heritage Information Management System (AHIMS) Registrar	http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm
Care Agreement Application form	http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf
Water and Soils	
Acid sulphate soils	
Acid Sulfate Soils Planning Maps	http://canri.nsw.gov.au/download/
Acid Sulfate Soils Manual (Stone et al. 1998)	Manual available for purchase from: http://www.landcom.com.au/whats-new/the-blue-book.aspx Chapters 1 and 2 are on DPI's Guidelines Register at: Chapter 1 Acid Sulfate Soils Planning Guidelines: http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf Chapter 2 Acid Sulfate Soils Assessment Guidelines: http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Assessment%20Guidelines.pdf
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	http://www.derm.qld.gov.au/land/ass/pdfs/lmg.pdf This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
Flooding and Coastal Erosion	
Reforms to coastal erosion management	http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm
Floodplain development manual	http://www.dnr.nsw.gov.au/floodplains/manual.shtml
Guidelines for Preparing Coastal Zone Management Plans	Guidelines for Preparing Coastal Zone Management Plans http://www.environment.nsw.gov.au/resources/coasts/101019GdlnsCZMPs.pdf
NSW Climate Impact Profile	NSW Climate Impact Profile
Climate Change Impacts and Risk Management	Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	http://www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

19 April 2016

SF2012/046018; WST12/00134/07

Mr Paul Freeman
Acting Team Leader
Resource Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Dear Mr Freeman

SSD 7592: Centennial Coal and Energy Australia Water Treatment Plant Project; Lithgow; Request for input into Secretary's Environmental Assessment Requirements (SEARs)

Thank you for your email on 6 April 2016 requesting input into SEARs from Roads and Maritime Services for a proposed water treatment plant north of Lithgow.

Roads and Maritime notes the proposal involves construction of a water treatment pant at the Mount Piper Power Station. The project also includes associated infrastructure to transfer water from Springvale Coal Mine to the treatment plant and then discharge excess water into nearby Wangcol Creek.

Roads and Maritime has reviewed the submitted documentation and has identified the following key issues to be addressed in the Environmental Impact Statement being prepared in support of the project:

- A traffic impact study prepared in accordance with the methodology set out in Section 2 of the *RTA's Guide to Traffic Generating Developments 2002* and including:
    - For the construction of the treatment plant and associated infrastructure, road transport volumes and vehicle types broken down into:
        - origin and destination
        - travel routes, including travel on both private and public roads.
        - peak hours.

- The study is to provide details of projected transport operations including:
    - traffic volumes
    - materials to be transported and vehicle types used for transport
    - physical constraints on the haulage route
    - access points to and from the Castlereagh Highway.
    - measures to be put in place to ensure a high level of safety for all road users interacting with construction traffic.
- Any over size and over mass vehicles and loads expected for the construction and operation of the project. The shortest and least trafficked route should be given priority for the movement of construction materials and machinery to minimise the risk and impact to other motorists so far as is reasonably practicable.
- Temporary and permanent staff numbers (including employees and contractors) and staff parking arrangements during construction and operation of the project.
- Measures to be employed to ensure traffic efficiency and safety on the public road network during construction and operation of the project.

- Access locations and treatments need to be identified and in accordance with *Austroads Guide to Road Design* and Roads and Maritime supplements, including safe intersection sight distance.

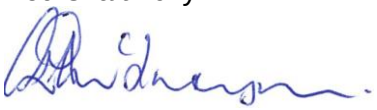
- Details of proposed new pipe crossings under the Castlereagh Highway. Any new work beneath the Castlereagh Highway will, in accordance with section 138(2) of the *Roads Act 1993*, require the concurrence of Roads and Maritime.

- Details of discharge of treated water into Wangcol Creek and identification of any impacts discharge will have on the existing stormwater management system adjoining the Castlereagh Highway.

Roads and Maritime appreciates the opportunity to contribute to the SEARs and requests that a copy of the SEARs be forwarded to Roads and Maritime at the same time they are sent to the applicant.

Should you require further information please contact me on 02 6861 1453.

Yours faithfully



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Our Ref: D2016/33675

Paul Freeman
A/Team Leader, Resource Assessments
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SYDNEY NSW 2001

Dear Mr Freeman

Centennial Coal/ EnergyAustralia Water Treatment Project
Request for Input into Secretary's Environmental Assessment Requirements

I refer to your email received 6 April 2016 seeking WaterNSW's input into the Secretary's Environmental Assessment Requirements (SEARs) for the Centennial Coal/EnergyAustralia Water Treatment Project. WaterNSW appreciates the opportunity and offers the following comments for consideration.

A key function of WaterNSW is to protect the quality and quantity of water in the Sydney drinking water catchment (the catchment). The project is located within the catchment and has the potential to impact Sawyers Swamp Creek, Wangcol Creek, Lake Lyell and the Coxs River, which ultimately drain into Lake Burragorang

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 supports the protection of water quality in the catchment. It is critical that the Environmental Impact Statement for the project addresses this SEPP. WaterNSW therefore requests that the SEARs include the following in the section titled 'key issues' under the subheading of 'water':

- an assessment of the project for consistency with the aims of State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 and demonstration of compliance with clauses 9 and 10 of the SEPP. In particular the assessment must describe how the project would have a neutral or beneficial effect on water quality during the construction, operational and decommissioning stages.

WaterNSW considers the EIS should also address a range of other matters (attached).

It is requested that WaterNSW is included as a stakeholder for the proposal and that a copy of this letter be attached to the SEARs. If a Planning Focus meeting is held, WaterNSW requests the opportunity to be included. Additionally, WaterNSW would appreciate being notified when the Department has issued the SEARs.

If you wish to discuss this matter further, please contact Nicole Wallwood on 4724 2458.

Yours sincerely,

MALCOLM HUGHES
Manager Environment and Planning

26/4/16

Attachment to WaterNSW letter regarding the SEARs for the Centennial Coal/ EnergyAustralia Water Treatment Project

Centennial Coal/ EnergyAustralia Water Treatment Project

The Environmental Impact Statement (EIS) should clarify the following:

- how the project will achieve 'improved environmental outcomes for the catchment and meet the water quality performance measures for salinity for mine water discharges required under the Springvale MEP SSD Consent (SSD 5594)'
- the expected water quality within the Coxs River downstream of Lake Lyell and in Lake Burragorang as result of the project and in comparison with the expected quality at these locations if the permitted discharges under the Springvale MEP SSD Consent (SSD 5594) occurred
- whether the construction of new salt ponds, Water Treatment Plant, installation of a crystalliser and any other infrastructure and disposal of additional brine at the MPPS site and increased impacts on groundwater will trigger a modification to the MPPS existing consent
- if treated water discharges to Wangcol Creek will be directed to LDP006 or whether a new licenced discharge point will need to be approved, and
- if a variation to the existing Springvale Mine Environment Protection Licence (EPL 3607) would be required for the changes to discharges at LDP006 (or new discharge point along Wangcol Creek) and LDP009.

The detailed description of the project should also address the following:

- those aspects of the project which have the potential to impact on the environment and should also address the quality and quantity of surface and ground waters at and adjacent to the project
- the location, mapping and geomorphology of all creeks and water resources in close proximity to the proposed discharge points
- the location, sizing and description of all existing and proposed water management measures including the proposed salt ponds at the MPPS site, and details of the existing structures, structural stability, integrity and ongoing maintenance and monitoring of all site water management measures over the life of the project
- specific details of the water treatment plant processes and the proposed quality of treated water including details of how the plant will achieve water quality improvements including salinity concentrations of 500us/cm EC (90%ile)
- specific details of the quantity and quality of the sludge, brine and other waste material generated from the water treatment process annually
- disposal of sludge, brine and other waste material from the water treatment process. In particular, the volume of sludge, brine and any other waste material proposed to be disposed of annually and justification that the existing and proposed infrastructure has capacity to receive this material
- consideration of alternative options and justification as to why they have been rejected in the proposal. Alternative options may include:
    - all treated water that is not received by the MPPS (where the power station is operating at reduced capacity) is directed to a discharge point located outside of the Sydney drinking water catchment or to the Thompson Creek Reservoir, with no treated water discharges to Wangcol Creek, and
    - all of the existing water discharges to LDP006 also redirected to the MPPS for treatment and reuse
- the location, management and storage of any chemicals and hazardous materials.

The environmental assessment should also address the following:

- within the water balance assessment:
  - predictions of the frequency, quantity and quality of mine water transfers to the proposed water treatment plant
  - predictions of the frequency, quantity and quality of treated water being transferred for use by the MPPS and predictions of the frequency and quantity of any water extractions from local waterways to meet additional make-up water demand at the MPPS when the treated water volumes are not enough
  - predictions of the frequency, quantity and quality of treated water being discharged to Wangcol Creek when the MPPS is operating at reduced capacity and is unable to take some or all of the treated water from the water treatment plant
  - predictions of the frequency, quantity and quality of mine water if and when it is not feasible to transfer to the water treatment plant including additional 6ML proposed to be transferred than the existing discharges of 30ML allowed in EPL for LDP009 and describe the scenarios and likelihood when this may occur
  - details of the measures to manage site water associated with transferring and treating mine water, general stormwater runoff and any human activities likely to affect water quality at the site, and how the neutral of beneficial effect on water quality test will be assessed and applied
- within the surface water assessment:
  - comparison of the pre and post development volumes of water extracted from and mine water discharged to the Coxs River catchment (treated and untreated)
  - provide estimates of the volume; quality and pollutant loads of discharges into the Coxs River catchment annually and shall make clear statement as to whether the project would have a neutral of beneficial effect on water quality
  - specific comparison of the quality and quantity of water currently being discharged from LDP006 with the total quality and quantity of discharges post development including from the Water Treatment Plant
  - the potential impacts of any discharges on the water quality of receiving waters and whether there would be any consequences on geomorphology or ecology (flora and fauna) of the receiving watercourses
  - the potential impacts to receiving waters from LDP009 (or any other discharge location) when mine water is not feasible to transfer to the water treatment plant and whether water quality performance measures required by the Springvale Mine Extension Project will be achieved if this does occur
  - clarification of the timeframes for the project with respect to meeting the timeframes for pollution reduction contained in the consent for the Springvale Mine Extension Project.
- impacts of increased brine and sludge production and disposal at MPPS on groundwater and whether existing infrastructure has capacity to receive and store the additional brine and sludge produced and the proposed management measures
- the location and description of all water monitoring points (surface and ground waters) including details of proposed monitoring of surface water flows, groundwater and surface water quality, along with information as to how the proposed monitoring will be used to monitor and, if necessary, mitigate impacts on surface water and groundwater resources beyond those predicted
- details of measures proposed to be adopted to offset impacts associated with construction activities e.g. earthworks, vegetation clearing, transfer pipeline construction etc.

The EIS should include concept plans, protocols and/or procedures for the following:

- Water Management Plan including surface water management plan, groundwater management plan and surface and ground water monitoring programs
- Soil and Water Management Plan which shall consider the principles outlined in the 'Managing Urban Stormwater - Soils and Construction - Installation of Services" Manual prepared by the Department of Environment and Climate Change (2008)
- Details of the practices proposed to ensure mine water and waste materials transported to and from the sites do not spill or otherwise cause soil or water pollution
- Procedures for managing spills and emergency situations
- Rehabilitation Plan.