Tasman Extension Project

Environmental Impact Statement

ATTACHMENT 6

WATER LICENSING REQUIREMENTS

Resource Strategies

DONALDSON COAL

Part of Gloucester Coal

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A6 WATER LICENSING REQUIREMENTS

This Attachment provides further discussion on the requirements and application of water licensing and associated approvals under the *Water Management Act, 2000* and *Water Act, 1912* to the Tasman Extension Project (the Project).

References to Sections 1 to 7 in this Attachment are references to the Sections of the Main Report of the Environmental Impact Statement (EIS). Internal references within this Attachment are prefixed with "A6".

A6.1 WATER MANAGEMENT ACT, 2000

Consideration of the Project against the objects, water management principles and the applicability of access licence dealing principles under the *Water Management Act, 2000* and a discussion of the licences and approvals required for the water sources associated with the Project are provided below.

A6.1.1 Objects of the Act

Section 3 of the *Water Management Act, 2000* outlines the objects of the Act:

> *The objects of this Act are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations and, in particular:*
>
> *(a) to apply the principles of ecologically sustainable development, and*
>
> *(b) to protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and their water quality, and*
>
> *(c) to recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water, including:*
>
> *(i) benefits to the environment, and*
>
> *(ii) benefits to urban communities, agriculture, fisheries, industry and recreation, and*
>
> *(iii) benefits to culture and heritage, and*
>
> *(iv) benefits to the Aboriginal people in relation to their spiritual, social, customary and economic use of land and water,*
>
> *(d) to recognise the role of the community, as a partner with government, in resolving issues relating to the management of water sources,*
>
> *(e) to provide for the orderly, efficient and equitable sharing of water from water sources,*
>
> *(f) to integrate the management of water sources with the management of other aspects of the environment, including the land, its soil, its native vegetation and its native fauna,*
>
> *(g) to encourage the sharing of responsibility for the sustainable and efficient use of water between the Government and water users,*
>
> *(h) to encourage best practice in the management and use of water.*

The Project would be consistent with the principles of ecologically sustainable development (Section 6).

Project subsidence performance measures and the adaptive management process for management of significant surface features (including streams) are described in Section 2.6.3 and Table 2-3.

A cumulative assessment of potential impacts of the Project on groundwater and surface water has been conducted as part of this EIS (Appendices B and C). Potential groundwater inflows and surface water containment requirements are described in Sections 2.9, 4.4 and 4.6. Groundwater and surface water licensing and approval requirements and the Project's use of fractured rock aquifer extraction entitlements under the *Water Act, 1912* are described below.

Mitigation measures, management and monitoring would be implemented to minimise potential impacts on downstream surface water flows, aquifers, water quality, soils, groundwater dependent ecosystems and biodiversity (Sections 2.6.3, 2.9 and 4). Sections 4.8, 4.9 and 7 summarise the Project offset and compensatory measures that would assist in maintaining the biodiversity of the region. Project water management measures, including the implementation of best practice, are described in Appendix C and Sections 2.9 and 4.6.

The benefit cost analysis in the Socio-Economic Assessment (Appendix M) indicates net production benefit of approximately $87 million (M), and a net benefit of between $57M and $94M would be forgone if the Project's use of water resources was not to occur. No material adverse impacts on urban communities, agriculture, fisheries, industry or recreation would arise due to the Project water use or water management.

Water Management Plans completed under the Extraction Plans and the revised Site Water Management Plan for the surface facilities (Sections 4.4 and 4.6) would describe measures/procedures to respond to potential exceedances of water-related criteria and contingent mitigation/compensation/offset options that would be enacted in the event that downstream surface or groundwater users are adversely affected by the Project.

Community consultation regarding the Project is described in Section 3, including where relevant any feedback from the community regarding Project water use and water management.

A6.1.2 Water Management Principles

Clause 5 of the *Water Management Act, 2000* outlines the principles of water management:

5 Water management principles

(1) The principles set out in this section are the water management principles of this Act.

(2) Generally:

(a) water sources, floodplains and dependent ecosystems (including groundwater and wetlands) should be protected and restored and, where possible, land should not be degraded, and

(b) habitats, animals and plants that benefit from water or are potentially affected by managed activities should be protected and (in the case of habitats) restored, and

(c) the water quality of all water sources should be protected and, wherever possible, enhanced, and

(d) the cumulative impacts of water management licences and approvals and other activities on water sources and their dependent ecosystems, should be considered and minimised, and

(e) geographical and other features of indigenous significance should be protected, and

(f) geographical and other features of major cultural, heritage or spiritual significance should be protected, and

(g) the social and economic benefits to the community should be maximised, and

(h) the principles of adaptive management should be applied, which should be responsive to monitoring and improvements in understanding of ecological water requirements.

(3) In relation to water sharing:

(a) sharing of water from a water source must protect the water source and its dependent ecosystems, and

(b) sharing of water from a water source must protect basic landholder rights, and

(c) sharing or extraction of water under any other right must not prejudice the principles set out in paragraphs (a) and (b).

As described above cumulative assessments for groundwater and surface water have been conducted (Appendices B and C) as part of this EIS.

Performance measures would be implemented to achieve negligible environmental consequences for third order and above streams and endangered ecological communities that are groundwater dependent (Section 2.6.3).

Section 5 presents Donaldson Coal's rehabilitation strategy for the Project. Incidental surface disturbance areas associated with the Project would be progressively rehabilitated and revegetated as they become available for rehabilitation.

Sections 4.8, 4.9 and 7 summarise the Project offset and compensatory measures that would assist in maintaining the biodiversity of the region, including consideration of native vegetation and fauna species.

The Project would involve mining in the Permian coal measures, which have elevated salinity and are not considered significant exploitable aquifers (Appendix B). Excess groundwater inflows that accumulate in the underground workings would be pumped to historic workings in the same coal measures in close proximity to the workings. This is considered a preferred disposal method for this water over release to the surrounding environment.

In addition, the Project is predicted to have negligible impact on baseflow to Surveyors Creek and no impacts are predicted for any private registered groundwater bore or well (Appendix B). RPS Aquaterra also concluded that it is very unlikely that there would be any impact on groundwater dependent ecosystems associated with Surveyors Creek (Appendix B).

As a result of the implementation of the performance measures and associated subsidence control zones beneath creeks (Section 2.6.3), any impacts of subsidence on creeks are expected to be minimal, and overall, the Project is predicted to result in no measurable change in the flow regime in Surveyors Creek or to have any material impacts on surface water quality, existing surface water users or environmental flows (Section 4.6 and Appendix C).

Mitigation measures, management and monitoring to minimise potential impacts on water quality are described in Sections 4.4 and 4.6.

An Aboriginal Cultural Heritage Assessment has been conducted for the Project in consultation with the Aboriginal community which has identified some sites of particular cultural significance (Section 4.10 and Appendix K). A Heritage Management Plan would be prepared as a component of the Extraction Plans and would include consultation with the Aboriginal community and the New South Wales Office of Environment and Heritage (OEH) to specify management and mitigation measures relevant to the management of Aboriginal heritage at the Project (Section 4.10).

The benefit cost analysis in the Socio-Economic Assessment (Appendix M) indicates net production benefit of approximately $87M, and a net benefit of between $57M and $94M would be forgone if the Project is not implemented.

Donaldson Coal would implement an adaptive management approach to achieve the subsidence performance measures (Section 2.6.3). Water Management Plans would be implemented under the Extraction Plans, while the revised Site Water Management Plan would address the surface facilities (Sections 4.4 and 4.6).

These plans would describe measures/procedures that would be implemented over the life of the Project to respond to potential exceedances of water-related criteria. They would also describe the contingent mitigation/compensation/offset options that would be enacted in the event that downstream surface or groundwater users are adversely affected by the Project (Sections 4.4 and 4.6).

Mitigation and management measures and monitoring would be implemented to minimise potential impacts on water sources, floodplains and dependent ecosystems (Sections 2.6.3, 2.9, 4.4, 4.5, 4.6, 4.7 and 4.8). With the proposed management and monitoring measures in place, the Project is not expected to adversely affect the ability of a person to exercise their basic landholder rights.

A6.1.3 Access Licence Dealing Principles

The *Access Licence Dealing Principles Order 2004* outlines the access licence dealing principles which prevail over the access licence dealing rules to the extent of any inconsistency.

As described below it is not anticipated that the Project would require any dealings under the *Water Management Act, 2000* and hence the access licence dealing principles are not applicable to the Project.

A6.1.4 Hunter Unregulated and Alluvial Water Sources, 2009

Under the *Water Management Act, 2000,* the Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources (the Water Sharing Plan) commenced on 1 August 2009.

Applicable Waters

Clause 4(3) of the Water Sharing Plan provides that the plan applies to the following waters:

> *(3) Subject to subclause (4), these water sources include:*
>
> *(a) all water occurring naturally on or below the surface of the ground shown on the registered plan for these water sources, and*
>
> *(b) all water in rivers, lakes and wetlands in these water sources, and*
>
> *(c) all water contained within all alluvial sediments below the surface of the land shown on the registered plan for these water sources (hereafter the alluvial sediments in these water sources), including any water contained in those unconsolidated alluvial sediments underlying the waterfront land within 1 metre of works taking water pursuant to licences issued under Part 5 of the* Water Act 1912 *or their equivalent aquifer access licence issued under the Act, that are not part of the Hunter Regulated River Water Source.*

Due to catchment divides, the surface waters and any alluvial aquifers associated with the Project area fall within the Wallis Creek and Newcastle Water Sources within the broader Hunter Extraction Management Unit and the North Lake Macquarie Water Source in the broader Lake Macquarie Extraction Management Unit of the Water Sharing Plan.

Clause 4(4)(c) of the Water Sharing Plan provides that the plan does not apply to any water contained in fractured rock aquifers and basement rocks in the water sources. Discussion of the licensing requirements for the proposed extraction of water from fractured rock aquifers under the *Water Act, 1912* as a component of the Project is provided in Section A6.2.

Requirement for Access Licences under the Water Sharing Plan

No extraction of surface water from an unregulated stream is proposed for the Project.

Water supply for the existing and new pit top facilities is sourced from rainfall runoff collected from disturbed areas and groundwater that accumulates in the mine workings. Any minor shortfall in water supply would be met through the transfer of water from other Donaldson Coal operations (i.e. the Abel Underground Mine) or purchase of additional potable water supply.

Surface Water Containment

The Project incorporates water storages that would be utilised as component of the site water management system (Section 2.9).

Clause 12(1) of Part 1 of Schedule 5 of the *Water Management (General) Regulation, 2011* provides access licence exemptions under the *Water Management Act, 2000* for certain excluded works.

Schedule 1 (clauses 1 to 3) of the *Water Management (General) Regulation, 2011* describes relevant excluded works as follows:

1 *Dams solely for the control or prevention of soil erosion:*
   - (a) *from which no water is reticulated (unless, if the dam is fenced off for erosion control purposes, to a stock drinking trough in an adjoining paddock) or pumped, and*
   - (b) *the structural size of which is the minimum necessary to fulfil the erosion control function, and*
   - (c) *that are located on a minor stream.*

2 *Dams solely for flood detention and mitigation:*
   - (a) *from which no water is reticulated or pumped, and*
   - (b) *that are located on a minor stream.*

3 *Dams solely for the capture, containment and recirculation of drainage and/or effluent, consistent with best management practice or required by a public authority (other than Landcom or the Superannuation Administration Corporation or any of their subsidiaries) to prevent the contamination of a water source, that are located on a minor stream.*

The water management infrastructure at the existing Tasman Underground Mine pit top includes clean water diversion banks and two pollution control dams (Section 2.1.5). No major modifications to the water management infrastructure are proposed as part of the Project prior to decommissioning of the pit top.

The new pit top facility for the Project would include a mine water dam for the storage of groundwater inflows to the underground workings and a surface runoff storage dam (Section 2.9.2). No runoff would be captured at the new pit top from undisturbed areas and runoff from areas where handling of coal and/or hydrocarbons does not occur (e.g. administration office area) would be directed off-site via sediment traps/bio-retention systems (Appendix C).

The primary purpose of the water storages at the existing and new pit top facilities is pollution control as no water is captured from undisturbed areas. Therefore, the Project water storages would be relevant excluded works under Schedule 1 (clauses 1 to 3) of the *Water Management (General) Regulation, 2011* and unregulated river access licences are not required for the Project pit tops.

Notwithstanding, a detailed assessment of the potential impacts of the Project on surface water flows, including surface water catchment excisions is provided in Section 4.6 and Appendix C.

Subsidence Effects on Streams

Performance measures would be implemented to achieve negligible connective cracking to underground workings (Section 2.6.3).

The implementation of the Project subsidence control zones is predicted to minimise the potential for surface cracking that might lead to a loss of baseflow in creeks (Appendix C).

Impacts on flows and groundwater levels within the colluvium associated with the Surveyors Creek catchment are predicted to be insignificant, both during mining and in the post-mining condition (Appendix B). There is no alluvium present within the Project area (Appendix B).

The Groundwater Assessment (Appendix B) indicates there is expected to be trivial loss of baseflow from two small headwater creeks and no other baseflow stream losses from other tributary creeks in the underground mining area.

Total losses from baseflow are predicted to be negligible (i.e. approximately 1.9 megalitres (ML) per year) (Appendix B) and on this basis it is not anticipated that these potential impacts on local streams would require licensing under the *Water Management Act, 2000.*

This is consistent with recent NSW Government draft policy documentation and press releases that indicate that activities that involve extraction of more than 3 ML of water per year will require licences.

A6.1.5 Water Use and Water Management Works

Section 89J (1) of the NSW *Environmental Planning and Assessment Act, 1979* provides that water use approvals under section 89, water management work approvals under section 90, or an activity approval (excluding an aquifer interference approval) under section 91 of the *Water Management Act, 2000* are not required for an approved State Significant Development project (Section 6.2.3).

Aquifer Interference Approvals

An aquifer interference approval under section 91 of the *Water Management Act, 2000* confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities. Under the *Water Management Act, 2000* an aquifer interference activity includes the taking of water from an aquifer in the course of carrying out mining (and the disposal of this water).

As described in Section 2.9, the Project would involve both the extraction of groundwater and the pumping of excess contained surface and groundwater to historical working in the West Borehole Seam.

Under Clause 33 of the Water *Management (General) Regulation, 2011* a person who is engaged in an aquifer interference activity in connection with mining is exempt from section 91A(1) of the *Water Management Act, 2000* in relation to the using of water from an aquifer, if the water is used in accordance with an aquifer interference approval.

In the event that a proclamation in the NSW Government Gazette pursuant to section 88a of the *Water Management Act, 2000* requires an aquifer interference approval for relevant Project activities in the Wallis Creek, Newcastle or North Lake Macquarie Water Sources (or the relevant part of NSW, or the whole State of NSW) the Project would require an aquifer interference approval granted by NSW Office of Water (NOW) in accordance with section 91(3) of the *Water Management Act, 2000*.

It is noted that at the time of writing a *Draft NSW Aquifer Interference Policy - Stage 1* (NSW Department of Trade and Investment, Regional Infrastructure and Services, 2012) was on public exhibition. The finalisation of the NSW Aquifer Interference Policy is expected to provide direction on whether mining developments such as the Project will require aquifer interference approvals in the future.

A6.2 WATER ACT, 1912

Clause 4(4)(c) of the Water Sharing Plan excludes any water contained in fractured rock aquifers and basement rocks in the water sources. Because no separate water sharing plan applicable to these aquifers has yet commenced, the *Water Act, 1912* remains the relevant Act for approval of groundwater extraction from aquifers other than alluvial aquifers within the Project area.

There is currently an embargo order under section 113 of the *Water Act, 1912* that applies to alluvial groundwater within coastal NSW. However, due to the commencement of the Water Sharing Plan under the *Water Management Act, 2000,* this embargo does not apply to alluvial groundwater within the Project area.

There is currently no embargo that applies to fractured or porous rock aquifers in the Project area under section 113 of the *Water Act, 1912.*

Donaldson Coal (Newcastle Coal Company) holds an existing groundwater licence under Part 5 of the *Water Act, 1912* for the Tasman Underground Mine to a total of 75 ML per annum (20BL171792).

The peak Project inflows are predicted to be approximately 1.35 ML per day or approximately 493 ML per year (Appendix B).

Donaldson Coal would apply to NOW for additional groundwater licences under Part 5 of the *Water Act, 1912* as required to address groundwater inflows to the Project underground mining operations.

A6.3 REFERENCES

Department of Trade and Investment, Regional Infrastructure and Services (2012) *Draft Aquifer Interference Policy – Stage 1. NSW Government Policy for the licensing and approval of aquifer interference activities.* NSW Government.