

27B DRAFT ENVIRONMENTAL MANAGEMENT PLAN (GAS SUPPLY PIPELINE)

27B.1 INTRODUCTION

27B.1.1 PURPOSE OF THIS EM PLAN

This Environmental Management Plan (EM Plan) has been prepared to support an application by the Wandoan Joint Venture (WJV) for an Environmental Authority (Petroleum Activities) in relation to the construction and operation of a gas supply pipeline running from the existing Peat-Scotia lateral pipeline to the WJV's mining leases (the petroleum activities). It is proposed to construct a gas fired power station on the mining leases to support the mining activities in accordance with section 103 of the *Environmental Protection Act 1994* (EP Act). The EM Plan aims to identify the Environmental Authority conditions that should be applied to this activity.

This EM Plan is part of the EIS prepared for the Wandoan Coal Project (the Project) under Part 4 of the *State Development Public Works Organisation Act 1971* (SDPWO Act).

Environmental Authority (EA) conditions are determined after considering the application documents, including the EIS of which this EM Plan is part, any relevant regulatory requirement, for example those contained in relevant Environmental Protection Policies and the standard criteria as outlined in Schedule 3 of the EP Act.

The Environmental Protection Agency's (EPA) draft guideline "Preparing an environmental management plan (EM Plan) for level 1 petroleum activities" was consulted during the preparation of this EM Plan. However, as explained in Section 27A.1.2, aspects discussed in detail elsewhere in the EIS, are not repeated in this chapter. In meeting the requirements of section 103 of the EP Act, this EM Plan will meet the substantive requirements of the Terms of Reference for an environmental management plan for the petroleum activities to be undertaken.

27B.1.2 THE PROJECT

The proposed gas supply pipeline to serve the Project, its location, the tenure description of land on which the petroleum activities are to be carried out, all petroleum activities proposed, the environmental values likely to be impacted by the petroleum activities and the assessed potential adverse or beneficial impacts of the mining activities on those environmental values, have been comprehensively described in earlier chapters of this EIS and are not repeated in this chapter. Where relevant, references are included in this chapter to earlier chapters of this EIS where relevant matters are described.

27B.1.3 THE PROPONENT

The proponent for the Project, and the applicant for the Environmental Authority, is the Wandoan Joint Venture (WJV), which includes Xstrata Coal Queensland Pty Ltd (XCQ) (75%), ICRA Wandoan Pty Ltd (12.5%), and Sumisho Coal Australia Pty Ltd (12.5%).

27B.1.4 PETROLEUM ACTIVITIES

The petroleum activities proposed include:

- construction of a high pressure gas supply pipeline between an existing gas plant and the location of the proposed power station
- site rehabilitation and stabilisation
- all other activities not described separately, but which are directly associated with or facilitate or support the described activities
- rehabilitating or remediating environmental harm because of any of the described mining activities
- actions to prevent environmental harm because of any of the described activities.

27B.1.5 REAL PROPERTY DESCRIPTIONS

Real property descriptions for properties traversed by the proposed pipeline are shown in Table 27B-1.

Table 27B-1: Land tenure details

RP description	Tenure
Lot 6 on FT801	Freehold
Lot 22 on FT801	Freehold
Lot 48 on FT815	Freehold
Lot 99 on FT815	Freehold
Lot 41 on FT603	Freehold
Lot 5 on FT1027	Leasehold
Lot 22 on FT746	Leasehold
Lot 2 on RP170076	Freehold
Lot 114 on FT884	Freehold
Lot 5 on FT349	Freehold
Lot 158 on FT990	State Land
Lot 40 on FT329	Freehold

27B.1.6 PROJECT STAKEHOLDERS

The EIS consultation process commenced in 2007 and is ongoing.

A program of stakeholder consultation was undertaken for those stakeholders directly effected by the proposed gas pipeline including:

- potentially affected property owners
- Federal, State and local government authorities, agencies and local elected representatives
- local utility and service providers
- environmental organisations
- local community organisations
- local industry groups
- indigenous groups/organisations
- the broader community.

27B.2 ENVIRONMENTAL PROTECTION COMMITMENTS, CONTROL STRATEGIES AND PROPOSED EA CONDITIONS

The broad environmental protection and other commitments which the Wandoan Joint Venture (WJV) has adopted for the Project (including the construction of the gas pipeline) have been summarised in Chapter 5 Project Construction and Chapter 6 Project Operations. Those commitments reflect the policies of the WJV in undertaking the Project. This chapter identifies the environmental protection commitments required by s 103 of the EP Act which will assist to determine both the EA conditions and the levels of impact from the petroleum mining activities on key environmental values to be authorised by the Environmental Authority.

27B.2.1 GENERAL CONDITIONS

There is a number of Environmental Authority conditions which may be required under the EP Act or which are of general application to the management of the environmental impacts for the Project. The proposed general conditions are set out below.

Schedule A – General

Financial assurance

- (A1-1) Provide a financial assurance to the Administering Authority as security for compliance with this Environmental Authority in the amount and form determined in accordance with the *Environmental Protection Act 1994* (EP Act) prior to the commencement of activities proposed under this Environmental Authority.
- (A1-2) The financial assurance is to remain in force until the Administering Authority is satisfied that no claim on the assurance is likely.

Maintenance of measures, plant and equipment

- (A1-3) The Environmental Authority holder must ensure:
- that all measures, plant and equipment necessary to ensure compliance with the conditions of this Environmental Authority are installed
 - that such measures, plant and equipment are maintained in a proper condition
 - that such measures, plant and equipment are operated in a proper manner.

Monitoring

- (A1-4) Record, compile and keep for a minimum of five years all monitoring results required by this Environmental Authority and make available for inspection all or any of these records upon request by the Administering Authority.
- (A1-5) Where monitoring is a requirement of this Environmental Authority, ensure that a competent person(s) conducts all monitoring.

Complaint response

- (A1-6) All complaints received relating to carrying out the mining activities shall be investigated with the following details to be recorded (and this may be done electronically):
- time and date of complaint
 - type of communication (telephone, letter, personal etc.)
 - name, contact address and contact number of the complainant if provided
 - response and investigation undertaken as a result of the complaint
 - name of person responsible for investigating complaint
 - action taken as a result of the complaint investigation.

Notice to Administering Authority

- (A1-7) As soon as is reasonably practicable after becoming aware of an emergency or incident which results in the release of contaminants not in accordance with the conditions of this authority, notice shall be given to the Administering Authority of such release by telephone, facsimile or email.

Definitions

- (A1-8) Words or phrases used in this Environmental Authority have the same meanings as the same words or phrases when used in the *Environmental Protection Act 1994*, its Regulations or Environmental Protection Policies but otherwise have the meanings stated in Schedule G.

27B.2.2 AIR

EIS Conclusions

The EIS has determined that air quality indicators (under the EPP (Air)) are unlikely to be adversely affected by the petroleum activities but has also determined that environmental nuisance may be contributed to by dust generated in carrying out the petroleum activities.

Dust generation will be associated with:

- clearing of the pipeline route
- general vehicle movements along the construction access road
- during the operational phase from inspection and maintenance activities involving vehicular access.

Modelling undertaken for the EIS has indicated that the Air Quality Goals in the EPP (Air) for those indicators will generally be met although in certain limited circumstances, the goals will not be met at some sensitive places outside the MLA areas.

The relevant chapter of the EIS is Chapter 13 Air Quality.

Environmental protection objectives

- (1) Not cause the dust deposition rate shown in Table 27-B1 to be exceeded at all existing sensitive places outside the pipeline route.

Table 27B-2: Air quality goals for Sensitive places outside the pipeline route

Pollutant	Averaging period	Concentration	Units
Dust Deposition Rate	Annual	120	mg/m ² /day

Proposed Environmental Authority conditions

Schedule B - AIR

- (B1-1) This authority authorises the release to the environment (air) of the contaminants generated in carrying out the petroleum activities only in accordance with the conditions of this Schedule B.
- (B1-2) The contaminants that may be released are those resulting from the activities listed in Schedule B Table 1.
- (B1-3) Such contaminants may only be released from the areas described in Schedule B Table 1.
- (B1-4) The Administering Authority may require the undertaking of, and the provision of a written report on, a reasonable and practicable monitoring program for dust generated by the petroleum activities (by way of investigation) where the Administering Authority has received a complaint, which is neither frivolous nor vexatious nor based on mistaken belief (in the reasonable opinion of an authorised officer), of unlawful environmental nuisance at any sensitive place (outside the pipeline route) caused by dust.

(B1-5) If the monitoring report prepared after request by the Administering Authority pursuant to clause B1-4 indicates that the parameters described in Schedule B Table 2 have not been met at a sensitive place outside the pipeline route, and that dust generated in undertaking the petroleum activities has significantly contributed to such exceedance, a dust management plan which describes reasonable and practicable measures to minimise the impact of dust releases at that sensitive place shall be prepared, implemented and updated on a regular basis while the activities are continuing.

Schedule B Table 1: Contaminant sources and activities – Release points or areas

Activities	Release areas
All petroleum activities	The areas in which the various activities are undertaken from time to time along the pipeline route and access tracks.

Schedule B Table 2: Contaminant parameters

No.	Sources/Activities	Contaminants	Parameters
2	All petroleum activities	Dust	Measured at any sensitive place outside the pipeline route and access tracks existing as at the date of granting of this Environmental Authority. Dust deposition of 120 milligrams per square metre per day, averaged over one year.

NOTE: Dust measurements to be in accordance with AS 3580.10.1 methods for sampling and analysis of ambient air – determination of particulates – deposited matter – gravimetric method of 1991.

27B.2.3 WATER

EIS Conclusions

The EIS has determined that waters potentially adversely affected by the petroleum activities are:

- Surface waters.

As described in Chapter 17B (Aquatic Ecology), the environmental values of aquatic ecosystems within the pipeline area are relatively low and consistent with those of the wider catchment. Environmental values are influenced primarily by the ephemeral nature of the waterways and the level of agricultural development within the region. It has also been determined that surface water quality is relatively poor and is characterised by high turbidity and variable dissolved oxygen levels. Biodiversity is relatively low and this is reflective of the poor water quality and often harsh conditions within the study area. Overall impacts to surface water are expected to be low given the nature and scale of the pipeline activities.

The shallow depth of the pipeline means that impacts to the deeper aquifer during construction are unlikely. Potential impacts to shallow groundwater within alluvial sediments along the main stream lines may be encountered during the installation of the proposed southern water supply pipeline. However:

- the alluvium is not considered to be a significant groundwater resource and the impact is likely to be low
- the impacts are short term impacts to the alluvium during the pipeline installation.

Overall, the EIS has concluded that groundwater is unlikely to be affected by petroleum activities:

- the EIS has indicated the risks which may adversely affect these waters as increased sedimentation due to stormwater runoff during construction or from disturbed unvegetated ground and that measure for turbidity are appropriate site specific indicators for the environmental values of these waters.

The relevant chapter of the EIS is Chapter 11 Water Supply and Management.

Environmental protection objectives

Not cause the goals for the water quality indicator (Turbidity) as shown in the Table 27B-3 to be exceeded at points outside the initial mixing zone (for surface water)

Table 27B-3: Water quality goals

Indicators	Goals	Nephelometric turbidity units
Turbidity	11.2 to 2000	NTU (Range)

Proposed Environmental Authority conditions

Schedule C - WATER

- (C1-1) This authority authorises the release to the environment (Water) of the contaminants generated in carrying out the petroleum activities only in accordance with the conditions of this Schedule C.
- (C1-2) The contaminants that may be released are those resulting from the activities listed in Schedule C Table 1.
- (C1-3) Such contaminants may only be released from the areas described in Schedule C Table 1.
- (C1-4) The release of contaminants must comply with the requirements and parameters for the contaminants described in Schedule C Table 2.

Schedule C Table 1: Contaminant sources and activities – Release points or areas

No.	Sources/activities	Release points or areas
1	All petroleum activities.	Surface waters in the vicinity of areas in which the activities are undertaken from time to time.

Schedule C Table 2: Contaminant Parameters

Indicators	Goals	Nephelometric Turbidity Units
Turbidity	11.2 to 2000	NTU (Range)

27B.2.4 NOISE AND VIBRATION

EIS Conclusions

Noise

The EIS has determined, that noise generated in carrying out the petroleum activities could potentially affect 11 properties the location of which are shown on Figure 15-2-V1.3 of Chapter 15 Noise.

The EIS has determined that operational noise generated in carrying out the petroleum activities should not be such as to cause noise at the identified sensitive places to exceed the acoustic objective of 55dB(A) nominated in the EPP (Noise).

The relevant chapter of the EIS is Chapter 15 Noise.

Environmental Protection Objective (Noise)

Not cause the acoustic objective of an ambient level of 55dB(A) stated in the EPP (Noise) to be exceeded at all existing sensitive places outside the pipeline route and access tracks.

Proposed Environmental Authority conditions

Schedule D - Noise

- (D1-1) This Environmental Authority authorises the release of noise generated in carrying out the petroleum activities only in accordance with the conditions of this Schedule D.
- (D1-2) The Administering Authority may require the undertaking of, and the provision of a written report on, a reasonable and practicable monitoring program for noise generated by the petroleum activities (by way of investigation) where the Administering Authority has received a complaint, which is neither frivolous nor vexatious nor based on mistaken belief (in the reasonable opinion of an authorised officer), of unlawful environmental nuisance at any sensitive place (outside the pipeline route and access tracks) caused by noise. Monitoring must include:
- (a) LA, max adj, T
 - (b) the level and frequency of occurrence of impulsive or tonal noise
 - (c) atmospheric conditions including wind speed and direction
 - (d) location, date and time of recording.

The method of measurement and reporting of noise levels must comply with the latest edition of the environmental Protection Agency's Noise Measurement Manual.

- (D1-3) Where, a monitoring report has been completed after request by the Administering Authority pursuant to clause D1-2 and the report indicates that the acoustic objective of an ambient level of 55dB(A) stated in the EPP (Noise) has been exceeded and that noise generated in carrying out the petroleum activities has significantly contributed to that exceedance, a noise management plan which describes reasonable and practicable measures to minimise the impact of such noise at the noise sensitive place shall be prepared, implemented and updated on a regular basis while the activities are continuing.

27B.2.5 WASTE

EIS Conclusions

The EIS has identified the range of wastes generated in carrying out the petroleum activities and has recognized that improper storage or disposal of waste may impact the environmental values recognized in the Environmental Protection (Waste Management) Policy 2000, namely:

- the life, health and well-being of people
- the diversity of ecological processes and associated ecosystems
- the land use capability.

The major sources of waste generated from the petroleum activities are listed below:

- Green waste
- Hydrocarbon wastes
- General wastes
- Regulated wastes
- Sewage
- Construction wastes.

The EIS has concluded that minimal amounts of wastes are expected to be generated by the petroleum activities and that impacts are only likely to occur because of inappropriate management or disposal of wastes.

The relevant chapter of the EIS is Chapter 18 Waste Management.

Environmental protection objective

In the management of waste generated in carrying out the petroleum activities, comply with the general environmental duty described in s.319 of the EP Act.

Proposed Environmental Authority conditions

Schedule E - Waste

No conditions are proposed.

27B.2.6 LAND REHABILITATION

EIS Conclusions

The EIS has determined that impacts on land associated with the petroleum activities will be minor and limited to impacts by way of disturbance of soil profiles during construction and soil compaction associated with access tracks and backfilling of the excavated pipeline area. Post construction impacts are expected to be limited to minor soil compaction due mainly to vehicular access.

The relevant chapters of the EIS are Chapter 8 Land Use and Chapter 25 Rehabilitation and Decommissioning.

Environmental protection objective

In carrying out the petroleum activities comply with the general environmental duty in section 319 of the EP Act in relation to any petroleum activities likely to impact land.

Proposed Environmental Authority conditions

Schedule F – Land

No conditions are proposed.

27B.2.7 DEFINITIONS

Schedule G – Definitions

“ $L_{A, \max \text{ adj, T}}$ ” means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

“**sensitive place**” has the same meaning as “noise sensitive place” in the Environmental Protection (Noise) Policy.