Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

Assessment Report under the

Environmental Protection Act 1994

on the

Environmental Impact Statement

for the

Sonoma Coal Project

proposed by

QCoal Pty Ltd

August 2006

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Glossary of Acronyms

EIS – Environmental Impact Statement, QCoal July 2006. Includes Appendices A to W.
SIR – Supplementary Information Report, QCoal June 2006 Includes Appendices A to K
AIR – Additional Information Response, QCoal July 2006
EM plan – Environmental Management Plan, QCoal July 2006

1. Introduction

This report provides an evaluation of the Environmental Impact Statement (EIS) process pursuant to Chapter 3 of the *Environmental Protection Act 1994* (EP Act) for the Sonoma Coal Project proposed by QCoal Pty Ltd. The Environmental Protection Agency (EPA) as the administering authority of the EP Act coordinated the EIS process. This assessment report has been prepared pursuant to Sections 58 and 59 of the EP Act.

The objective of this assessment report is to:

(a) summarise key issues associated with the potential adverse and beneficial environmental, economic and social impacts of the Sonoma Coal Project and the management, monitoring, planning and other measures proposed to minimise any adverse environmental impacts of the project; and

(b) make recommendations on the suitability of the project to proceed and where so, to make recommendations on necessary conditions for any approval required for the project.

Section 58 of the EP Act lists the criteria that the EPA must consider when preparing an EIS assessment report, while section 59 of the Act states what the content must be. In summary, this assessment report addresses the adequacy of the EIS in addressing the final terms of reference (TOR), the suitability of the draft environmental management plan (EM plan) and other prescribed matters.

This report provides a summary and assessment of the key issues identified through the EIS process, and discusses in greater detail those issues of particular concern that were either not resolved or required specific conditions for the project to proceed.

Delivery of this EIS assessment report to the proponent completes the EIS process under the EP Act.

1.1 Project details

QCoal Pty Ltd is the proponent for an open-cut coal mine known as the Sonoma Coal Project. The Sonoma Coal Project is located in Bowen Shire, approximately six kilometres south of Collinsville at the northern limit of Queensland's Bowen Basin coalfields. Collinsville has a population of 2000 and also services the Collinsville Open Cut Coal Mine and the Collinsville Power Station. The project site is 94 kilometres southwest of Bowen and 270 kilometres northwest of Mackay.

The project area will comprise three mining leases (ML 10325 Belmore West, ML 10326 Sonoma West, ML 10327 Sonoma East) which were applied for on 21 November 2005. The Bowen Developmental Road and the Newlands Railway Line run between ML 10326 and ML 10327. The total project site area is approximately 2586 hectares and overlays two private landholdings: Sonoma Station and Belmore Downs Station. Access to the project site is via Bowen Developmental Road.

The measured and indicated open-cut coal resource within the project area is calculated to be approximately 50 million tonnes (Mt). The initial production rate of washed coal will be 2 Mt per annum (24 hour per day, 5 days per week operation), and will increase to 4 Mt per annum (24 hour per day, 7 day per week operation) once rail and port capacity becomes available. The expected mine life is 15 years.

The Sonoma Coal deposit is primarily made up of two economically viable coal seams which are located predominantly on the Sonoma West mining lease. Four open pits are planned for the Sonoma Coal Project site. The main Sonoma pit will be mined from years 1 to 15. The other three pits will be mined from Year 5 onwards

depending on plant scheduling, mining equipment and capacity of the coal handling and processing plant (CHPP). The main Sonoma Pit is constrained to the north by Coral Creek, to the east by the railway line, to the west by the subcrop limits and to the south by the economics of extraction. A levee will be constructed to the north of the main Sonoma pit to protect it from flooding of Coral Creek (based on a 100 year rainfall event).

The ROM stockpile will comprise an area of approximately 35000m^2. Both coking and thermal coals will be extracted and treated through the CHPP. The capacity of the CHPP will be 800 t per hour. The mine plan includes a co-disposal area of 3 square kilometres for rejects and tailings from the CHPP.

QCoal plan to progressively backfill the voids throughout the mine life to cover and seal off the coal seam faces. Two voids will be completely filled - Belmore West pit – 15ha, Belmore South pit – 5ha while the final Sonoma pit of 90ha and Sonoma East pit – 8 ha, will be partially filled.

One major overburden dump is proposed to be located to the west of the main Sonoma pit. It will be constructed in 10m lifts to a maximum height of 40m above ground level. It will have a nominal capacity of 46 million cubic metres. The dumping strategy will allow for progressive rehabilitation of the overburden dump. The overburden material has very low pyrite content and is not expected to present a risk of acid generation. In-pit dumping will also occur and will be blended into the out of pit dump profile. Overburden from the smaller pits will be used for capping co-disposal dams and will also be dumped in-pit.

Approximately 710 hectares of land disturbance will result on site from construction and commissioning of the CHPP, office buildings, workshops, vehicle wash down areas, co-disposal dams, sedimentation dams, haulage and access roads, pit developments, overburden dumps, rail spur and balloon loop and sewage treatment plant. Construction workforce will vary with a maximum of 175-200 personnel at any given time. Approximately 110 personnel will be required for the operational phase.

The project requires the development of a new rail spur and balloon loop approximately 3.8 kilometres in length. The train load out facility will have a design capacity of 4000 t/h. Existing rail traffic on the Newlands rail corridor will increase by approximately eight trains per week as a result of this project. Export will be from the Abbott Point Coal Terminal and result in an increase of approximately 20 ships per year based on an average load of 100,000 tonnes.

During the latter stages of the mine (after year 10), the main Sonoma pit will extend over tributaries of Two Mile Creek. A diversion channel from the railway culverts beside Bowen Developmental Road in the east to Two Mile Creek in the west will be constructed to divert water away from the open pit. The channel will be designed for a 1 in 50 year storm event and will remain post-mining.

It has been estimated that two construction sized water trucks will be required in continuous operation over 6 months during the construction phase, increasing by another large mining water truck during the three months leading up to CHPP commissioning. The total water requirement during construction is expected to be between 150Ml and 180Ml. During mine operation, the annual water demand for mine production of 4 Mtpa ROM is estimated to be 1080 Ml. QCoal has a water allocation from Sunwater for 1500Ml/year but this has certain conditions attached. Process water collected from the decant systems of the co-disposal dams will be recycled in the CHPP. Potable water will be sourced from Bowen Shire Council or produced onsite. Sewage will be treated onsite in a package sewage treatment plant and effluent disposal system.

1.2 Approvals

The following approvals are required for the Sonoma Coal Project:

Approval	Legislation (Administering Authority)
Environmental authority (mining activities)	*Environmental Protection Act 1994* (EPA)
Water Licences (diverting Two Mile Creek and pit dewatering which interferes with the flow of water in an aquifer)	*Water Act 2000* (Natural Resources, Mines and Water)
Development approval (DA) for works to be undertaken off the mining lease (constructing a water pipeline). The DA should include approval for clearing native vegetation for the water pipeline. Ancillary Works and Encroachment Approval (for construction of a water supply pipeline across the Bowen Developmental Road)	*Integrated Planning Act 1999* (Bowen Shire Council) *Vegetation Management Act 1999* (Natural Resources, Mines and Water) *Transport Infrastructure Act 1994*
Road Impact Assessment (for construction of the rail balloon and yards)	*Transport Infrastructure Act 1994*

1.3 Impact assessment process

1.3.1 The EIS process

The EIS for the Sonoma Coal Project was conducted under Chapter 3 of the EP Act. This process is described in the EPA's guideline "*Preparing terms of reference and environmental impact statements*".

The EIS process was initiated by QCoal on 16 May 2005 by application to the EPA to prepare a voluntary EIS under section 70 of the EP Act. The EPA approved the application to undertake a Voluntary EIS on 17 May 2005.

The EPA issued a notice of publication of the draft TOR to QCoal on 23 June 2005. The EPA placed a public notice on the EPA's website and in the Bowen Independent newspaper on 24 June 2005 and in The Courier-Mail on 25 June 2005. The draft TOR were available for public comment from 27 June to 5 August 2005. QCoal issued copies of the public notice to affected and interested persons.

Eleven submissions were received by the EPA on the draft TOR within the public comment period. These submissions, together with one from the EPA, were forwarded to QCoal on 18 August 2005 to which QCoal responded on 29 August 2005. The EPA considered all submissions received on the draft TOR and QCoal's responses prior to issuing the final TOR on 22 September 2005.

QCoal submitted the draft EIS on 14 November 2005 to the EPA for review prior to public notification. The EPA compared the draft EIS to the final TOR and advised QCoal that further work was required before the draft EIS could proceed. On 2 February 2006 the EPA issued to QCoal a notice of decision to proceed with the amended draft EIS. The public notification and submission period was set at the minimum 30 business days.

A public notice was placed on the EPA's website and advertised in The Bowen Independent on 3 February 2006 and in The Courier Mail on 4 February 2006. The draft EIS was available for public comment from 6 February to 17 March 2006. QCoal also issued copies of the public notice to affected and interested persons.

Fifteen submissions were received by the EPA on the draft EIS within the submission period. Submissions were received from seven State government departments and agencies, one Queensland government owned corporation, three non-government organisations, and four members of the public. A late submission was accepted from another State government department. These submissions, together with one from the EPA were forwarded to QCoal for consideration and response on 31 March 2006 and the 4 April 2006. QCoal submitted a

response to submissions (Supplementary Report) to the EPA on 5 June 2006 and a Notice of Amendment of Environmental Impact Statement.

On 6 June 2006, copies of the Supplementary Report were issued for review to members of the advisory body who requested additional information.

Seven submissions were received on the Supplementary EIS.

A request for further information was issued to QCoal on 3 July 2006. QCoal provided this information on 12 July 2006. A notice of the decision to allow the submitted EIS to proceed was issued on 1 August 2006.

The EPA in the preparation of this EIS assessment report considered comments from the advisory body and other interested parties. Copies of this EIS assessment report are to be forwarded to all members of the advisory body, interested and affected persons and is to be available on the EPA's website (www.epa.qld.gov.au).

1.3.2 Consultation program

Public consultation

In addition to the statutory requirements for public notification of the TOR and draft EIS and identification of interested and affected parties, QCoal prepared a community consultation plan. Implementation of the plan included media coverage, public meeting presentations in Bowen and Collinsville, and community information bulletins/newsletters.

Advisory Body

The EPA invited the following organisations to assist in the assessment of the TOR and EIS by participating as members of the advisory body for the Sonoma Coal Project:

- Bird Observers Club of Australia, Mackay Chapter;
- Bowen Shire Council;
- Burdekin Dry Tropics Board;
- Central Queensland Land Council Aboriginal Corporation;
- Department of Communities;
- Department of Emergency Services;
- Department of Housing;
- Department of Local Government, Planning, Sport and Recreation;
- Department of Main Roads;
- Department of Natural Resources, Mines and Water;
- Department of Primary Industries and Fisheries;
- Mackay Conservation Group;
- Education Queensland;
- Queensland Health;
- Queensland Transport; and
- The Coordinator-General.

Advisory body briefings were held in Collinsville on 8 March 2006 and in Brisbane on 10 March 2006 during the draft EIS stage of the EIS process.

Public notification

In accordance with the statutory requirements, advertisements were placed in The Courier-Mail and The Bowen Independent to notify the availability of the draft TOR and draft EIS for review and public comment as stated in Section 1.3.1 above. In addition, notices advising the availability of the draft TOR and the draft EIS for public comment were displayed on the EPA website.

The draft TOR and draft EIS were placed on public display at the following locations during their respective public notification/submission periods:

- EPA website (draft TOR and Initial Advice Statement only);
- Customer Service Centre, EPA Central Office, Brisbane;
- EPA District Office, Mackay;
- Bowen Shire Council;
- QCoal, The Gap, Brisbane; and
- Environmental & Licensing Professionals, Brisbane.

Copies of the draft EIS were available for purchase from QCoal and Environmental & Licensing Professionals.

Site visit

An advisory body briefing and site visit was held on 8 March 2006 in Collinsville during the public notification period for the draft EIS.

1.3.3 Environment Protection and Biodiversity Conservation Act 1999

The Sonoma Coal Project was referred by QCoal to the Commonwealth Department of Environment and Heritage (DEH) on 14 April 2005 for consideration under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The DEH decided on 10 May 2005 that the Sonoma Coal Project was not a controlled action and therefore would not require approval under that Act.

Subsequently, Wildlife Whitsunday has taken the DEH to court over its decisions for both the Sonoma Coal Project and the Isaac Plains Project. Wildlife Whitsunday contend that the impacts of greenhouse gases on matters of national environmental significance qualify these projects as controlled actions under the EPBC Act. The matter was dismissed by the court on 15 June 2006. The Court found that in this case there was insufficient connection between the mining and transportation of coal and emissions of greenhouse gases and dismissed the application by the Wildlife Preservation Society. The Court also said that it "was far from satisfied that the burning of coal at some unidentified place in the world, the production of greenhouse gases from such combustion, its contribution towards global warming and the impact of global warming upon a protected matter, can be … described" as having an effect on a protected matter.

In addition, the DEH have advised that they are reconsidering the Sonoma Coal Project referral on the basis of the possible presence of bluegrass species (a species listed under the EPBC Act) on the Sonoma Coal Project site.

2. Matters considered in the EIS assessment report

Section 58 of the EP Act requires, when preparing this EIS assessment report, the consideration of the following matters:
(a) the final TOR for the EIS;
(b) the submitted EIS;
(c) all properly made submissions and any other submissions accepted by the chief executive;
(d) the standard criteria;
(e) another matter prescribed under a regulation.

These matters are addressed in the following subsections.

2.1 The final TOR

The final TOR document, issued on 22 September 2005, was considered when preparing this EIS assessment report. While the TOR were written to include all the major issues associated with the project that were required to be addressed in the EIS, they were not exhaustive, nor were they to be interpreted as excluding all other matters from consideration. The TOR stated that if significant matters arose during the course of preparation of the EIS that were not incorporated in the TOR (e.g. currently unforeseen issues that emerge as important or significant from environmental studies) then these issues should also be fully addressed in the EIS.

Where matters outside of those listed in the final TOR were addressed in the EIS, those matters have been considered when preparing this EIS assessment report.

2.2 The submitted EIS

The “submitted EIS” was considered when preparing this EIS assessment report. The “submitted EIS” comprised the:

(i) draft EIS that was publicly released on 6 February 2006;

(ii) the submissions response report (Supplementary Report) received by the EPA on 6 June 2006 that was provided to relevant advisory body members; and

(iii) an 'Additional Information Response' provided on 12 July 2006 in response to matters raised by EPA and NRMW on the submissions response report.

2.3 Properly made submissions

Fifteen submissions were received by the EPA on the submitted EIS. Seven submissions were received by the EPA on the submitted Supplementary EIS. All were properly made and all were considered when preparing this EIS assessment report.

2.4 The standard criteria

Section 58 of the EP Act requires that, among other matters, the standard criteria listed in Schedule 3 of the EP Act must be considered when preparing the EIS assessment report. The standard criteria are:

(a) *the principles of ecologically sustainable development as set out in the* National Strategy for Ecologically Sustainable Development*;*
(b) *any applicable environmental protection policy;*
(c) *any applicable Commonwealth, State or local government plans, standards, agreements or requirements;*
(d) *any applicable environmental impact study, assessment or report;*
(e) *the character, resilience and values of the receiving environment;*
(f) *all submissions made by the applicant and submitters;*
(g) *the best practice environmental management for activities under any relevant instrument, or proposed instrument, as follows—*
  (i) an environmental authority;
  (ii) an environmental management program;
  (iii) an environmental protection order;
  (iv) a disposal permit;
(h) *the financial implications of the requirements under an instrument, or proposed instrument, mentioned in paragraph (g) as they would relate to the type of activity or industry carried out, or proposed to be carried out, under the instrument;*
(i) *the public interest;*
(j) *any applicable site management plan;*
(k) *any relevant integrated environmental management system or proposed integrated environmental management system;*
(l) *any other matter prescribed under a regulation.*

The EPA has considered the standard criteria when assessing the project. With regard to criterion (l), there was no other matter prescribed under a regulation that required consideration.

3. Adequacy of the EIS in addressing the TOR

The submitted EIS adequately addressed most components of the TOR. These sections considered adequate are generally not discussed in this assessment report except where they were of particular importance in the assessment of the project, such as requiring modification of, or addition to, the streamlined conditions.

However, a number of sections in the TOR were inadequately addressed by the submitted EIS and/or EM plan including issues relating to:

- regional infrastructure requirements;
- rehabilitation acceptance criteria;
- sediment dams;
- co-disposal dams;

- dust and Greenhouse Gas;
- noise and vibration;
- flora and fauna surveys;
- nature conservation; and
- hazard and risk.

and these sections have been discussed below.

Note: All references made to the Supplementary Information Report (SIR), the EM plan and the Additional Information Response (AIR) in Part 3 of this EIS Assessment Report, refer to the *Supplementary Information Report June 2006* submitted 4 June 2006 and the *Enviromental Management Plan July 2006 and Additional Information Response July 2006* submitted on 12 July 2006.

Regional Infrastructure Requirements (Section 3.8 of the TOR)

Roads

What the TOR required

The TOR required the proponent to provide site layout plans for each stage of the project with descriptions of the facilities proposed and their arrangement within and adjacent to the site, including:

- exit and entry locations;
- haul roads, easements and access roads;
- areas to be used for handling, storage, treatment and disposal of wastes; and
- facilities to be used for the transport, handling and storage of processed and raw materials.

The TOR also required the proponent to provide sufficient information for the Department of Main Roads (DMR) and local government to make an independent assessment of how the state-controlled and local road networks would be affected. Details of corrective measures necessary to address adverse road impacts and costs involved are required.

Adequacy of this section of the EIS

While the EIS was adequate in its description of the upgrade required of the two intersections to meet access requirements, the DMR considers that the traffic analysis was inadequate to support the proposed intersection improvements. Following the receipt of advice from MRD, QCoal redesigned the proposed mine access road intersection with the Bowen Development Road south of Collinsville to a design Type CH. QCoal have committed to installing two CH-mod intersections form the Bowen Development Road to the Belmore West Pit and the future Sonoma East Pit. DMR have indicated that an Ancillary Works and Encroachment notice will be needed for the construction, but this will not be required until after the ML is granted. DMR request that discussions continue with their district office in Mackay regarding a traffic analysis to support the proposed intersection improvements.

Details of the arrangement fro carting of material for the ‘top 600mm’ for the rail loop are inadequate. While the EIS reported that Queensland Rail had approved the design and construction of the rail loop and details of the cartage of the ‘top 600mm’ material are provided in the SIR, DMR have indicated more information is required to determine if a Road Impact Assessment is necessary for this activity.

QCoal have indicated that approximately an additional eight trains per week would be using the Newlands Rail Corridor. However, insufficient information has been provided to enable DMR to determine if the additional rail traffic is likely to affect sound operation of relevant State –controlled roads and any possible impacts on the safety of road users.

Assessment

While the information required by DMR to condition the project is inadequate, DMR have indicated that agreement has been reached on the basic design of the road access intersections between QCoal and DMR, and that further discussions will resolve outstanding inadequacies. As the proponent will need to obtain an Ancillary Works and Encroachment permit for the construction, the outstanding information will need to be acquired prior to the granting of this permit.

In regards to the outstanding inadequacy concerning the impacts of rail transport on road traffic and safety, DMR considers it is the responsibility of QCoal to provide this information. QCoal argue that it is the responsibility of Queensland Rail to administer the road/rail interface as part of their operational policies. According to the TOR responsibility for the provision of information on impacts and mitigation measures rests with the proponent. To address this requirement, the proponent should prepared an assessment of traffic and road impacts using the MR Guidelines for the Assessment of Road Impacts of Development (2006).

Recommendations:

That QCoal continue to liase with DMR in Mackay regarding the road access intersections on the Bowen Development Road. Also an Ancillary Works and Encroachment Notice would be obtained prior to construction of the intersections.

QCoal comply with the request from MRD for an assessment of the implications of increased road and rail traffic on the Bowen Development road and the rail crossings between Sonoma and Abbot Point. This assessment should be undertaken by QCoal using DMR's Guidelines for the Assessment of Road Impacts of Development (2006).

Land (Section 4.1 of the TOR)

Rehabilitation acceptance criteria

What the TOR required

Amongst other things, the TOR (section 4) required the EIS to provide a description of the measures to ensure stability of the dumps and impoundments. Also details on the rehabilitation of any voids remaining after mining should be described including land use, void water quality, suitability for use by stock, safety of access, and stability of void walls.

Adequacy of this section of the EIS and EM plan[1]

Generally the requirements of the TOR regarding progressive and final rehabilitation of areas disturbed by mining have been adequately addressed in the submitted EIS. With regard to rehabilitation acceptance criteria, QCoal proposes in the EM plan (section 6.6.4) that the final voids would be water filled with water quality suitable for stock watering. However, the Additional Information Report states that water quality in the final Sonoma Pit void will be brackish over time due to evaporation. No quantative estimate of water quality is provided, as it was not modelled due to lack of characterisation of the groundwater in the coal seam aquifer. It is unclear whether this water would be suitable for stock watering as proposed in the EM plan. Monitoring is proposed to better characterise the quality of water in the void.

The text (Table 6) of the EM plan proposes a final land form design at a slope range of 9% to 17% for the ex pit overburden dumps while the proposed conditions (Schedule F – Table 2) proposes slopes between 9 degrees and 17 degrees (16% and 31%).

[1] QCoal Pty Ltd Environmental Management Plan, July 2006.

Assessment

While it has been shown that it is not likely that void water will infiltrate the ground water either in the coal seam aquifer, or the upper alluvial aquifer, and that the void is not likely to discharge, on going monitoring and assessment is required during the life of the mine to establish criteria for final void water quality. A condition to this effect is required in the EA.

There are a number of discrepancies in slope angles quoted in the EIS, EM plan and Supplementary Report for the ex pit dumps and voids which need to be resolved. All slopes should be quoted in percent. Figures of 17 degrees for a slope of unconsolidated material stabilised with vegetation is not sustainable in central Queensland. While an ACARP report in 2003 recommends a maximum slope of 13% is sustainable on waste rock dumps and other residual mine landforms in Central Queensland[2], it is acknowledged that QCoal are committed to limiting slopes to up to 17%, a level commonly used as an industry standard for coal mines in Central Queensland. The Supplementary Report indicates that QCoal anticipates achieving something less than 17% which would likely to be sustainable.

Recommendations:

The slopes of all mining and post-mining areas be revised and the EM plan to be amended. All slopes should be presented in percent. The maximum slope on unconsolidated material[3] should be 17% but only if topsoiling and appropriate vegetative cover is used to stabilise the slope.

Changes to draft EA conditions:

In the proposed conditions, the units in Schedule F – Table 2 (Landform Design – unconsolidated material*), be as follows:

Disturbance Type	Slope Range %	Projective Surface Area ha
Co-disposal dam top	**<5**	**300**
Co-disposal dam wall	**9 to 17**	
Sediment ponds	**9 to 17**	**25**
Waste rock dumps	**9 to 17**	**522**
Infrastructure	**<5**	**73**
ROM areas	**9 to 17**	**7**
Roads and Tracks	**As required**	**25**

*means material that has been disturbed and is not in situ.

Add the following condition regarding the final void

Residual voids must comply with the following outcomes:

a) **residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority; and**

b) **residual voids must comply with Schedule F – Table 3 (Residual Void Design)**

[2] O.G. Nichols (May 2004). ACARP Project C12045 Final Report – Development of Rehabilitation Completion Criteria for Native Ecosystem Establishment on Coal Mines in the Bowen Basin.

Table 3 (Residual void design)

Void Identification	Void wall – competent rock max slope %	Void wall – incompetent rock max slope %	Void maximum surface area (ha)
Sonoma	**High wall – maximum slope of 70% (top 10m reduced to 45% including a 1m bund)**	**Low wall 17% to 37%**	**90 ha**
Sonoma East			**8 ha**

Water Resources (Section 4.2 of the TOR)

Sediment dams

What the TOR required

In Section 4.2.2.1, the TOR required that releases or discharges from the mine site be described. It was also necessary to demonstrate how any releases or discharges would maintain instream environmental values and water quality objectives.

Adequacy of this section the EIS and EM plan

The Department of Natural Resources, Mines and Water (NRMW) and EPA considered that the information provided in the EIS, EM plan and the Water Management Plan of June 2006 were inadequate in demonstrating that discharges from the sediment dams around the Sonoma ex-pit overburden dump would protect water quality in Two Mile Creek. Information on discharge water quality and the frequency and quantity of discharge was either not provided or was inadequate to make an assessment.

Assessment

In response to the concerns raised by NRMW and EPA regarding the lack of information on the frequency and quantity of discharge from the sediment dams, QCoal in the AIR (July 2006) examined various combinations of design and management of the sediment dams surrounding the Sonoma ex- pit dump to determine a practical way of retaining any sediment in runoff on site from the ex-pit dump before and after rehabilitation. Of the four dams that collect runoff from the dump, only SD3 discharges off site, the discharge from the other three flows to SD3. The analysis showed that by increasing the capacity of SD3 by 243% to contain a 1 in 100 yr 24hr rainfall event and retaining sediment dams 1,2 and 4 at a design capacity of a 1 in 10 yr, 24 hr rainfall event while extracting water from these dams for dust control at a rate of 0.76ML/day (280ML/yr), the frequency of discharge is halved (to 10 per year) and the quantity of discharge is reduced by 60ML/yr to 459ML/yr.

On the basis of this additional information provided in the AIR, the EPA and NRMW now consider this frequency and quantity of discharge acceptable.

According to the EM plan, discharge water qualities, including turbidity from SD3, will meet the limits proposed to protect water quality downstream of the mine site.

NRMW raised concerns that sediment-laden runoff from for the overburden area has the potential to enter into Coral Creek. In the AIR report, QCoal reported that the levee to be constructed on the southern side of Coral Creek would be designed to contain a 1 in 100 year flood plus one metre freeboard. Hence it is unlikely this water would flow to Coral Creek. Also, QCoal have provided proposed water quality discharge limits which would protect instream water quality in the EM plan.

Recommendations

To protect water quality downstream of the mine, it is recommended that the dams collecting runoff from the Sonoma ex-pit dump be designed and managed as follows:

- **SD1, SD2 and SD4 be designed and constructed to a volume that would contain at least a 1 in 1 in 10 year, 24 hr storm.**

- **280ML/yr of water is extracted for dust suppression purposes from SD1, SD2 and SD4.**
- **SD3 be designed and constructed to a volume that would contain at least a 1 in 1 in 100 yr, 24 hr runoff event.**

Section 6.3.3.1 Control of Contaminant Releases to Surface Water of the EM plan should be amended to be consistent with the above parameters.

Co-disposal Dams

What the TOR required

The TOR required that in relation to water supply, usage and wastewater disposal, that the EIS should assess the quality of water contained in dams and the quality of water discharged.

Adequacy of this section of the EIS

The EIS documents are inadequate in not describing the chemical nature of the material going to the co-disposal dams. The EIS states that some 300 ha of co-disposal dams are to be constructed on the site. It also states that reject material from the desliming screen and desliming cyclones as well as MIBC will go to the dams. The EIS contains little detail on these structures or the nature of their contents.

Assessment

In the absence of data on the nature of the material in the co-disposal dams, it is recommended that they be treated as containing hazardous material. In the EM plan, it is stated that the co-disposal dams will contain some acids and heavy metals but they are not quantified. It is also stated that the decant ponds will contain small amounts of acid and metals, but may be high in sediments.

To minimise the risks these dams pose, they will have to comply with the "Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste" (the Code) and must be designed by an appropriately qualified engineer. All co-disposal dams will have to be considered to be in the high hazard category and should be recognised as such in the conditions of the environmental authority.

In order to comply with the Code, a design plan will be required. Amongst other matters, this plan would need to address:

- *The use of a separate decant storage with each co-disposal dam*: While this is considered good practice, experience elsewhere has demonstrated that there is a risk of build up of flowable substances in the co-disposal storage if not managed properly resulting in overflows and/or excessive seepage.
- *Risks of contamination from the decant ponds*: It is accepted that in cases of the decant ponds and other polluted sources overspilling in an extreme rainfall event, it is preferable to direct this polluted water into the pit rather than into natural surface water drainage systems. To minimise this risk, NRMW recommends the decant ponds be constructed to a hold a 1 in 500 yr, 24 hour rainfall event
- *Management of the quantity of coarse rejects from the CHPP*: One of the objectives of using the co-disposal method is to create an immediately trafficable surface. This can be achieved by ensuring that the ratio of fines to coarse rejects is kept below a certain critical level. If this level is exceeded then flowable slimes are generated. Several mines have had problems because the ratio of slimes to coarse rejects was high because the amount of available coarse reject was insufficient to achieve the critical ratio.
- *Means of managing material with higher sulfide content and decommissioning of the co-disposal ponds*: Compared to other disposal methods, co-disposal facilitates progressive decommissioning and rehabilitation. This is particularly important if there is any concentration of sulfide materials in the waste. Generally there is a concentration of sulfide materials in coarse rejects, as has been experienced at many mines. In the EIS (s 3.8.1.1) it is stated that material with higher sulfide content occurs immediately adjacent to the coal seams. Hence it is likely that this material will go to the co-disposal dams yet the management of this material is not discussed.

- *How the co-disposal dams will be designed and constructed*: While these actions are mentioned in the Water Management Plan, few details are provided on how to minimise any seepage into the ground water both during their use and following capping at the completion of mining. .

Provided, the co-disposal dams are designed, constructed and managed according to the Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste, they would be considered a low environmental risk.

Recommendations:

In the absence of information that would allow a determination of the hazard posed by the co-disposal dams, it recommended that they be required to comply with the Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste.

Section 6.3 of the EM plan and proposed EA conditions should be revised accordingly.

Air

Dust

What the TOR required

The TOR required that the performance objectives for air emissions should be stated in respect of relevant standards (ambient and ground level concentrations), relevant emission guidelines and any relevant legislation.

Adequacy of this section in the EM plan

While the information provided in the EIS adequately meets the requirements of the TOR, the proposed EA conditions in the EM plan are inadequate as the proposed performance level for dust deposition is greater than the standard in the Environmental Protection (Air) Policy (EPP(Air)). No information is provided to support this higher level.

Assessment

The criteria level for dust deposition is 120mg/m^2/day (EP(Air)Policy) while the proposed condition is 130mg/m^2/day. The EM plan indicates a worst location daily average of 48.2mg/m^2/day may occur at Sonoma Station while potential cumulative levels may be up to 88.2mg/m2/day. (Note the EIS states this figure as gms while the EM plan uses mg. . The results of modelling of dust generated by activities on site and its dispersion by wind indicate that no levels higher than the standard levels in the EPP(Air) would occur at any of the receptor locations considered. One of these criteria, dust deposition rate, is mis-quoted as 130mg/m^2/day not 120mg/m^2/day as in the EPP(Air).

Mackay Conservation Group raised concerns that PM2.5 size dust particles were not being monitored. It was argued that this provides a better measure of particulate impacts on public health. The EIS correctly states that PM2.5 size dust particles are usually measured where there is evidence that a large proportion of the material making up the dust generated is likely to be this size. Usually, this occurs with emissions from engines or fuel burning, both of which are only occurring to a limited extent on site. Based on experience from other mining operations, the EPA does not consider that the levels of PM2.5 are unlikely to be significant concern on or off the site.

Recommendation

The EIS and EM plan be amended to incorporate a maximum cumulative dust deposition level of 120mg/m^2/day.

Changes to draft EA conditions:

Replace draft condition (B1-3) with

(B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):

(a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991; and

(b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (PM10) suspended in the atmosphere of 150 micrograms per cubic metre over a 24 hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with:

- **Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet - Gravimetric method, when monitored in accordance with AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM (sub) 10 high volume sampler with size-selective inlet - Gravimetric method of 1990; or**

- **Any alternative method of sampling PM10, which may be permitted by the `Air Quality Sampling Manual' as published from time to time by the administering authority.**

  NOTE: The proponent must decide which monitoring method is appropriate in accordance with condition (B1-3) (a) or (b) or both].

Greenhouse Gas

What the TOR required

The final TOR required QCoal to provide an assessment of greenhouse gas emissions from the proposal including a description of methodologies by which estimates were made. Information on abatement measures, alternatives to the release of greenhouse gas, benchmarking, offsets, and consideration of other voluntary initiatives were also required.

Adequacy of this section of the EIS and EM plan.

While the information provided in the EIS is somewhat brief, it does address the main requirements of the TOR in respect to documenting contribution of the project to GHG, methods used in calculating GHG output, and describing proposed mitigation and management strategies. However, the EIS is inadequate in addressing considerations of alternatives to the release of GHG to the atmosphere, benchmarking against other similar or compatible facilties to indicate whether the most efficient technologies are being adopted, and a consideration of opportunities for offsetting greenhouse gas emissions such as through forestry plantations or support for relevant research.

The consistency of the methodology used to determine the contribution of the project to global greenhouse gas emissions with that described in the TOR was also queried.

Assessment

In submissions on the EIS and SIR, the Wildlife Preservation Society Queensland Proserpine/Whitsunday Branch (Wildlife Whitsunday) sought to have the greenhouse gas emissions due to the use of the coal from the project factored into the consideration of the impacts of climate change, particularly on nationally environmentally significant features regulated under the *Enviromental Protection and Biodiversity Conservation Act 1999* (Cwth). QCoal, in the EIS, restricted their consideration of greenhouse gases to those directly generated by the mining and washing of coal, transportation, production of waste methane, synthetic gas release and land clearing.

In terms of the methodology used to determine the greenhouse gas from the project, in the EIS, a spreadsheet (Table 6.5) itemises the greenhouse gas contribution from the various activities associated with the construction and operation of the mine. The EPA queried this methodology. In response, a revised contribution rate is provided in the AIR which is based on the *AGO Factors and Methods Workbook* for the production of coal. However, the two methods produce with very dissimilar results. The EIS spreadsheet (Table 6.5) estimates greenhouse gas production as 150,000t$CO_{2\text{-eq}}$ per annum, while the AGO formula (as used in the AIR) estimates emissions at 69,000t$CO_{2\text{-eq}}$ per annum.

While the spreadsheet approach to calculating contributions to greenhouse is more transparent, the preferred methodology is that outlined in the *AGO Factors and Methods Workbook*. The use of this approach also allows comparisons between mines and mines and other activities, although none were provided in the EIS documentation.

QCoal states that it is a member of the Australian Coal Association and through this association. QCoal is supporting research into initiatives for reducing greenhouse gas emissions from the mining and use of coal. QCoal have also committed to a number of mitigation and management measures to reduce CO_2 emissions from both direct generation and indirect generation though efficient energy useage. They have also committed to developing a Greenhouse Challenge agreement with the Australian Greenhouse Office. Hence, while these matters were not specifically addressed in the EIS documentation, overall, the response by QCoal to matters concerning greenhouse gas is considered adequate.

Noise and Vibration

What the TOR required

The TOR required the proponent to provide information on the magnitude, duration and frequency of any vibration. Measures to prevent or minimise environmental harm, including nuisance, should be discussed.

Adequacy of this section of the EIS and EM plan

The EIS adequately describes the major sources and impacts of noise and vibration likely to occur due to the project. However, the EM plan is inadequate, as the performance level for the vibration does not take into account the receiving environment, particularly roads, in the vicinity of the mining operation.

Assessment

The EIS and EM plan acknowledge possible impacts from vibration from blasting on the Bowen Developmental Road. QCoal will be required to obtain a permit from DMR before temporary closure and blasting in the vicinity of the road can occur if vibration levels are likely to exceed 10mm/sec. SunWater also raised concerns regarding possible adverse impacts from blasting on the Nedlands water pipeline which traverses the site.

In the EIS, QCoal described a range of blasting techniques (with various levels of noise and vibration) that can be applied depending on the situation, particularly in relation to the location of sensitive sites.

According to Table 25 of the EM plan, a vibration level[4] of 10mm/s can be achieved using *blast design 1* at distances of 140m or greater. This level of vibration is also the trigger level for the DMR to require a permit to close the Bowen Development Road during blasting. While the current Enviromental Protection Act regulations provide for PPV of 25mm/s, due to the location of sensitive infrastructure (roads, water pipelines) it would necessary to limit the peak particle velocity to 10mm/s.

According to the performance figures in Table 8.10 of the EIS, the project can achieve the standard vibration limits if the appropriate blasting technique is used and the receptive site is greater than 140 m away.

Recommendations:

In consideration of the sensitivity to vibration of some of the built environment (roads, pipelines) in the vicinity of the project, a limit of 10mm/s PPV from blasting is required at those sensitive sites. According to the EIS, this level of vibration performance can be achieved with the use of appropriate blasting methods. A vibration level of 10mm/s is also consistent with current best practice performance as documented by the EPA.

[4] Vibration is described in terms of Peak Particle Velocity (PPV)

Recommended Conditions

Schedule D Table 3 (Vibration Limits) be amended to:

1. **ground-borne vibration must not exceed a peak particle velocity of 5mm/s for nine out of any 10 consecutive blasts initiated, regardless of the interval between blasts; and**
2. **the ground-borne vibration must not exceed a peak particle velocity of 10mm/s or any blast.**

Definitions

"**commercial place**" means a work place used as an office or for business or commercial purposes, which not part of the mining activity and does not include employees accommodation or public roads.

"**sensitive place**" means:

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel, or
- an educational institution; or
- a medical centre or hospital; or
- a protected area under the Nature Conservation Act 1992, the Marine Parks Act 1992 or a World Heritage Area; or
- a public park or gardens.

Nature Conservation (Section 4.6 of the TOR)

Flora and fauna surveys

What the TOR required

The TOR required the proponent to describe the existing environmental values for nature conservation that may be affected by the project in the context of environmental values defined by the EP Act, environmental protection policies, *Vegetation Management Act 1999* and the *Nature Conservation Act 1992*. The TOR required the definition and description of objectives for protecting and enhancing nature conservation values and to describe how nominated quantative standards and the objectives will be monitored, audited and managed.

Adequacy of this section of the EIS and EMP

While an adequate desk top study was undertaken (Chapter 9 EIS) to identify any listed species that may be present at the site, overall, information provided in the EIS and subsequent documentation was inadequate in describing the flora and fauna of the site.

Assessment

Comments by NRMW, EPA, Proserpine/Whitsunday Branch of WPSQ and Mackay Conservation Group on the EIS and SIR queried the differences in vegetation mapping undertaken for the EIS and the Regional Ecosystem (RE) mapping by the Queensland Herbarium[5]. These differences included the type of REs identified and their extent.

RE mapping presented in the EIS was based on version 4.0 produced by the Queensland Herbarium. During the course of the EIS, a later version 5.0 was released with a number of changes in the type of REs present and their extent. In comments on the EIS, NRMW requested that the RE mapping in the EIS be updated. A revised nature conservation impact assessment was provided in Appendix E of the SIR. However, the RE mapping as shown in Figure 9.3 of this assessment appears to be version 4.0 as it differs from the version 5.0 mapping provided by NRMW. Also, the SIR reported a significant difference between the RE mapping and that found by the field surveys. In the SIR it is reported that of the 30 RE communities identified by the Herbarium's RE mapping, the field survey confirmed 14 of these and presented the results in Figure 9.4 of the SIR.

[5] RE maps are prepared by the Queensland Herbarium (part of the EPA) and are used by NRMW in the administration of the Vegetation Management Act 1999.

The following table summarises the differences between the RE mapping from the EIS/SIR/EM plan and the RE mapping provided by NRMW.

RE Status	Existing area on M10325, ML10326, ML10327		Area of Vegetation lost (Table 28 EM plan) (ha)
	EM plan – Table 28 (ha)	NRMW (ha)*	
Endangered	37	2	8
Of Concern	42	526	0
Not of concern	385	252	242
Total vegetated area	464	780	250
Cleared	1,735	1,800	-
Total	2,199**	2,580	-

*Provided in comments by NRMW to the SIR.

**reported as 78.7% of the MLA area surveyed (Table 28 EM plan)

While the provisions of the *Vegetation Management Act 1999* do not apply on the mining leases, NRMW has indicated that it prefers that the endangered and of concern regional ecosystems identified within the proposed mining area be protected in line with the purposes of the *Vegetation Management Act 1999*. Despite the discrepancy in the areas of areas of regional ecosystems potentially affected by the mining activity between the EIS/EM plan and Herbarium mapping, it is considered that the project has complied, to the extent possible, with this intent. In making this assessment, the following matters were considered:

- The EIS identified endangered RE 11.9.4 as being present on the site, while NRMW only identified endangered RE 11.3.1 as occurring on the site. According to Figure 9.4 SIR Appendix E, RE 11.9.4 is located in an area not subject to disturbance by the mining activity. Also, the area of endangered RE11.9.4 affected is relatively small, and less than 22% of the area on the MLs is affected.
- Discrepancies in the area of 'of concern' REs on the site is significant and requires clarification.
- Commitments made in the EM plan, particularly the enhanced protection and subsequent regeneration of a large community of brigalow on Belmore West and a regrowth community on Sonoma East, are endorsed by EPA and NRMW.

Regarding individual flora species, a key species considered likely to occur on the site but not identified at the time of the surveys is Queensland bluegrass, *dicanthium sericeum*. This species is listed under the Commonwealth's *Enviromental Protection and Biodiversity Conservation Act 1*999. A subsequent site inspection by NRMW identified two small areas of the plant, which QCoal have confirmed, are in an areas currently allocated to the overburden dump. The NRMW report stated that the bluegrass may be returning to the site as a result of changes in the grazing regime and that there are other areas on the site (particularly those with heavy clay soils) where the bluegrass could spread under an appropriate grazing regime.

Results of the assessment of fauna on the site as presented in the EIS, while adequate, were questioned by a number of respondents to the EIS and SIR. The EIS reported finding 79 terrestrial species, however, several species which were expected to be found on the site according to EPA records, including the Spectacled Hare-wallaby *(Lagorchestes conspicillatus*), were not found. As the methodology followed in the field surveys is considered adequate, the presence/absence of a particular species can occur due to seasonal or other conditions occurring at the time.

The flora and fauna surveys were undertaken in late 2004 following three years of drought. There has also been little rain in the two subsequent wet seasons. It is also apparent that previous land management had resulted in the degradation of some areas of fauna habitat and remnant vegetation.

Due to the seasonality of the environment, the TOR required that where possible a 'post-wet' flora and fauna survey be undertaken. QCoal, who, while not able to undertake the survey due to the lack of a wet season in the past three years, state in the EM plan that they are committed to doing the survey once conditions are suitable.

EPA and NRMW have indicated that the range of mitigation measures and commitments made by QCoal is adequate to manage projected impacts on flora and fauna. A key measure is the re-survey of the flora and fauna of the site once conditions at the site have improved. Results of this survey may be used to revise the EM plan, particularly in the description of flora and fauna values (s.6.7.1), potential impacts (s.6.7.2 and Table 28), as well as the objectives and control strategies (s.6.7.3). Conditions in environmental authority may also need to be revised, particularly those concerning flora and fauna management (Section G) and Land Management (Section F).

Recommendations:

This assessment confirms the requirement for additional field surveys for flora and fauna on the site when climatic and ecological conditions reflecting what would be considered a 'wet season' have been established.

Following the surveys, a comprehensive review of the material provided in the EM plan regarding flora and fauna, is required. Sections to be reviewed and revised where appropriate include the final land use and approval schedule in the EA, the weed management strategy and pasture management strategy in the EM plan.

In order to maximise the benefit of further flora and fauna surveys, a survey plan should be prepared and submitted for comment prior to commencement of the surveys. The survey plan should details areas to be studied, methods to be used and the data to be collected.

Recommended conditions:

Replace proposed conditions in the EA with

G1-1 A comprehensive survey plan for flora and fauna be prepared and submitted to the EPA for review prior to undertaking the survey.

G1-2 A survey of flora and fauna on the site be undertaken using the plan from G1-1 by a qualified specialist at a time approved by the EPA when the local environment is considered to be at maximum vigour.

Vegetation rehabilitation (Section 4.6 of the TOR)

What the TOR required

The TOR required that the objectives for protecting or enhancing nature conservation values be defined and described. The description of how nominated qualitative and quantative standards and indicators may be achieved for nature conservation management as well as the how the achievement of objectives will be monitored, audited and managed was required.

Adequacy of this section of the EIS and EM plan

The EIS and EM plan are adequate in regard to describing values and impacts. A number of commitments have been made regarding mitigation measures but these are inadequately described and lack clearly defined targets and implementation arrangements.

Assessment

It is acknowledged that QCoal has committed to a number of mitigation measures, including a post-wet flora survey, quarterly flora monitoring for two years post operation, rehabilitation trials, a limited area of disturbance and protection of regrowth areas. These commitments are outlined in the EM plan (s.6.6.3 and s. 6.7.3).

However, these commitments are in the form of a dot point list with little detail and no attempt to show how these commitments would be complementary and collectively achieve the outcomes required in the TOR.

While an attempt has been made in the EM plan to set definitive targets by proposing a performance level (> 80% of analogue species abundance) for species diversity, for other mitigation measures, only qualitative or subjective targets are proposed.

The commitments for rehabilitation and revegetation to offset the potential impacts on species and communities of State and national significance are considered appropriate. However, greater detail regarding the implementation of these conservation strategies will be necessary in the EM plan. While there is a brief description of proposed revegetation trials and monitoring in the EM plan, these are poorly described and no corrective actions are proposed if monitoring identifies that a performance requirement has not been achieved.

While a brief outline of initial acceptance criteria to measure the success of rehabilitation at achieving a self-sustaining vegetative cover compared with local reference site/s is provided in the EMP (s.4.4.1.4 Table 11 and Table 13), these criteria would need to be refined once the outcomes of ongoing rehabilitation trials, monitoring and research programs were available. The development of indicators and their application as acceptance criteria should be based on the procedures outlined in ACARP Project C12045[6] and the Australian Centre for Mining Environmental Research Publication *Indicators of Ecosystem Rehabilitation Success*[7].

Recommendations

An Environmental Rehabilitation Management Plan should be prepared that would implement the environmental protection objective outlined in s.6.6.3 of the EM plan and to action the commitments for protecting nature conservation values of the site. The main objectives of this plan should be to improve and/or restore surrounding vegetation, including riparian vegetation, on areas not disturbed and to enhance local biodiversity values of areas rehabilitated during and after mining. The rehabilitation plan should include:

- **the progressive revegetation of a surface area covering no less than the surface area of REs proposed to be cleared. The plan should also identify local areas that are appropriate to rehabilitate and that would achieve the key objectives of enhancing corridor connectivity and promoting long-term local biodiversity.**
- **In addition, the plan should address the stabilisation and revegetation of the area disturbed by the construction of the Two Mile Creek diversion and the levee bank on Coral Creek.**
- **The plan should include specific rehabilitation acceptance criteria for native RE communities including indicators of soil profile development, floristic characteristics such as species composition, cover percent, diversity and distribution.**
- **Management measures for areas not disturbed by mining activities including exclusion of grazing, fire management, weeds and access.**
- **The plan should include a rehabilitation monitoring program designed to demonstrate progression of rehabilitated communities towards self-sustaining vegetation communities based on local reference site/s;**
- **An auditing and reporting mechanism should be included that would be capable of identifying, in a timely manner, when rehabilitation is not achieving the required outcomes; and**
- **The plan should also propose remedial actions for rehabilitation areas not achieving the required outcomes.**

[6] O.G. Nichols (May 2004). ACARP Project C12045 Final Report – Development of Rehabilitation Completion Criteria for Native Ecosystem Establishment on Coal Mines in the Bowen Basin.

[7] Australian Centre for Mining Environmental Research (ACMER) (July 2003). Indicators of Ecosystem Rehabilitation Success, Stage 2 – Verification of EFA Indicators – Final Report.

Recommended Conditions

It is recommended that the EA include a condition requiring that at least 28 days prior to project commissioning, QCoal submit to the administering authority an Environmental Rehabilitation Management Plan

Hazard and Risk

What the TOR required

The TOR required that the proponent describe how nominated quantative standards and indicators maybe achieved for hazard and risk management and how the achievement of the objectives will be monitored, audited and managed.

Adequacy of this section of the EIS and EMP

The EIS provided a brief and inadequate outline of the management of risks in the Environmental Risk Review of the EIS and EM plan for the project including the transport phases. Only four key hazard areas (blasting, vehicle collisions, hazardous and non-hazardous substances) were assessed. For example, risks associated with dams were not assessed.

Assessment

The Hazard and Risk Assessment in the EIS is brief, but when considered in conjunction with the Health and Safety Risk Review, a fairly comprehensive list of hazards was provided. However, the management actions presented in Section 14 of the EIS do not constitute an integrated risk management plan for the project operations.

In the Risk Assessment in Chapter 14 of the EIS, the “dam break” and “uncontrolled discharge” risk description scenarios are missing from the risk portfolio (Table 14.3). While these scenarios need to be evaluated to assign each dam to a hazard category, they need to be considered in planning the mine layout as they can be substantially reduced by proper design. Basically “dam break” flows should not be able to enter pits or habitable areas. Likewise “levees” and “diversions” should not result in flooding such areas on failure. While such issues can be handled in the “design plan”, these scenarios should be in the risk register of the risk management system.

Recommendation

The EM plan should be amended to include a comprehensive Risk Management Plan for the operational phase of the project.

4. Adequacy of the EM plan for the project

A draft EM plan was included with the draft EIS that was released for public notification. A number of submissions on the draft EIS raised issues that required amendments to the draft EM plan and many of these amendments were agreed to by QCoal in the Supplementary Report. The EPA has reviewed the amended draft EM plan provided by QCoal but considers that the recommendations outlined in this EIS assessment report must be incorporated into the EM plan before the document would be acceptable. A revised EM plan that satisfactorily addresses the recommendations of this assessment report must be provided before the decision will be made to allow the application to proceed to the draft EA stage.

5. Suitability of the project

Project issues and recommendations were outlined in Section 3 above. The EPA has considered the final TOR, the submitted EIS, all submissions on the submitted EIS, and the standard criteria. Despite some areas where the TOR were not fully addressed, the submitted EIS and supplementary information have not identified impacts of sufficient magnitude to prevent the project from proceeding. However, the recommendations of this EIS assessment report should be fully implemented.

Disclaimer:

While this document has been prepared with care it contains general information and does not profess to offer legal, professional or commercial advice. The Queensland Government accepts no liability for any external decisions or actions taken on the basis of this document. Persons external to the Environmental Protection Agency should satisfy themselves independently and by consulting their own professional advisors before embarking on any proposed course of action.

6. Approved by

SIGNED	24 August 2006
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