



ADDITIONAL ENVIRONMENTAL IMPACT STATEMENT

South Galilee Coal Project

Volume 3

2014

3



Volume 3 - Table of Contents

Volume 3

Table of Contents

10.	Submissions Requiring Responses and Responses.....	10.2-1
10.2	Department of Aboriginal and Torres Strait Islanders and Multicultural Affairs...	10.2-1
10.3	Private Submitter.....	10.3-1
10.5.	Department of Community Safety (DCS)	10.5-1
10.6	Department of Environment and Heritage Protection	10.6-1
10.7	Department of Natural Resources and Mines	10.7-1
10.8	Department of Agriculture, Fisheries and Forestry - Fisheries Queensland.	10.8-1
10.9	Department of Transport Main Roads - Barcaldine Region	10.9-1
10.10	Queensland Health	10.10-1
10.11	Department of State Development, Infrastructure and Planning	10.11-1
10.13.	Queensland Police Service	10.13-1
10.14	Department of Environment and Heritage Protection	10.14-1
10.15	Private Submitter.....	10.15-1
10.16	Skills Queensland	10.16-1
10.17	Private Submitter.....	10.17-1
10.18	Barcaldine Regional Council	10.18-1
10.21.	Private Submitter.....	10.21-1
10.22	Department of Education, Training and Employment.....	10.22-1
10.23	Private Submitter.....	10.23-1
11.	Post AEIS Submission	11-1



10. Submissions Requiring Response and Responses

10.2 Department of Aboriginal and Torres Strait Islanders and Multicultural Affairs

10.2.001 Workforce Management Plan

Comment

The Workforce Management Plan (WMP) does not go into sufficient detail as to how the project proponent will promote recruitment of Indigenous people.

Recommendation

Elements that could be added to the WMP include:

- local, regional and state recruitment strategies, processes and systems that are culturally sensitive to the recruitment of Indigenous people;
- tailored information provisions to Indigenous people relating to job opportunities available;
- set minimum targets for employment of Indigenous people during all stages of the project;
- development of an Indigenous mentoring program;
- development of an up-skilling program for new and existing Indigenous employees;
- development of retention processes and procedures that represent the lifecycle of employment;
- embedding the Indigenous assistance strategy into all operations area;
- the creation of a pathway between school and work for Indigenous students;
- how the proponent will build a quality relationship with the local Indigenous community;
- how the plan links with the pre-existing arrangement e.g. Australian Employment Covenant (AEC) commitments, Australian Indigenous Minority Supplier Council (AIMSC), Reconciliation Action Plan (RAP); and
- a requirement that all sub-contractors have an indigenous employment strategy.

Response

The SIA includes a Workforce Management Action Plan.

WMP has been updated with specific actions to facilitate people both locally and regionally to increase their skills and capacity for mining sector employment.

Consultation with DSDIP Regional Services, DETE, and DATSIMA representatives has been undertaken to refine existing SIMP WMP.

Project recruitment will allow equal opportunity and strategies to increase the number of

Indigenous employees. In addition the proponent will work with stakeholders to identify barriers to indigenous participation.

Queensland and Federal Government have developed a MOU for the Bowen Basin Indigenous Participation Program which could be extended to the Galilee Basin. This 12 month agreement commencing in September 2013 is aimed at the twin goals of providing pathways for Indigenous education, training and employment in the resources sector and increasing the opportunities for Indigenous businesses to gain work in the resources sector.

A number of specific actions are included in the Workforce Management Plan (WMP) 1.1, 1.5, 1.6, 1.7, 1.8, 2.3, 2.4, 2.5.

10.2.002 Targets Indigenous Employment

Comment

Appendix B of Appendix R - Page B9-10 , Table 3 - Workforce Targets. This table gives construction and operation jobs targets based on region and also female and Indigenous employment. While targets have been developed for locations (e.g. SEQ), the WMP does not have a target for Indigenous but states that targets will “be discussed with WMP Working Group”.

Recommendation

It is recommended that targets be set for Indigenous employment outcomes within the project or detail in the EIS as to when the target will be set.

Response

KPI's have been included in the Action Plan as part of the SIA contained in Part 9.14 of the SIA. It is not appropriate at this stage to provide targets.

Consultation has been held with DATSIMA and DSDIP Indigenous Services. An Indigenous Liaison Officer to be appointed to pro-actively develop indigenous workforce and business opportunities associated with SGCP.

Cross Reference WMP - 1.5, 1.6, 1.7 and 1.8.

The Workforce Action Plan has an objective of maximising employment opportunities for local people, including local indigenous people and other disadvantaged groups.

There are also specific actions that support that support this e.g. Local Employment Policy. It is not the intention of the AEIS SIA at this stage to set local employment targets.

10.2.003 DoC Reference

Comment

The reference to DoC (Department of Communities) is now incorrect.

Recommendation

Change to reflect the new Department of Aboriginal and Torres Strait Island and Multicultural Affairs (DATSIMA).

Response

Noted and amended.

10.2.004 Local Industry Participation Plan

Comment

The Local Industry Participation Plan does not detail how the project will promote the use of Indigenous business in the project.

Recommendation

Process for promoting the use of Indigenous business should be included in the LIPP.

The Black Business Finder database is a recent Queensland Government Initiative that seeks to promote the use of Indigenous business and simplify Indigenous business (see <http://www.bbf.org.au/>).

Response

Queensland Resource Council (QRC) Code Of Practice for Local Content is referenced in AEIS SIA.

Consultation has been undertaken with DSDIP Regional Office and DATSIMA and their role in local capacity building is reflected in AEIS SIA.

The Black Business Finder is also referenced in Action 1.6 as a KPI for local procurement and Action 1.8 aboriginal participation.

10.3 Private Submitter

10.3.001 Sapling Creek Diversion

Comment

Chesalon Homestead is situated above Sapling Creek. It was severely flooded in 1950, 1990, 2010, 2011, 2012 washing away dams and yards, tanks, fencing and live stock, including valuable horses.

As the country is Sandy Loam it causes erosion, the flood waters came only meters from the Homestead Complex. It concerns us if the water is diverted down Sapling Creek, into Dead Horse Creek, above Chesalon, we would get greater volume of water, collection of sediments and erosion, which would cause a lot more damage to our property and infrastructure. Importantly, it could flood our homestead and machinery complex, and cause a disaster to the Submitter. Plus a lot more erosion and sediments with the extra volume of water, washing into the same gully systems.

Recommendation

Not Applicable

Response

The diversion of Sapling Creek is no longer required.

Revised / Augmented Technical Studies with the AEIS, which provide additional information are:

- Part 9.2 Non Diversion of Sapling Creek.
- Part 9.3 Surface Water, which present the revised Flood Mapping and Water Management Plan.
- Part 9.10 Management Plans, which includes the Landholder Management Plan.
- Part 9.16 Commitments Register, which includes "Make Good Commitment".

10.3.002 Flooding and Erosion

Comment

In 1990 the flood washed the creek crossing away, our only means to reach the main road; we were months before we could get a vehicle across. We have since constructed our own bridge. If a larger volume of water washed through our bridge it could wash away.

Response

Refer to response in 10.3.001.

10.3.003 Creek Diversion - affected Flora and Fauna.

Comment

In the proponents EPA, regarding vegetation maps, Dead Horse Creek is sub-dominant we believe, the vegetation is under threat and the Alpha Creek where Dead Horse Creek runs into it, is all dominate vegetation. We do not like to think what damage the extra volume of water and quality may cause to the environment.

We have sited koalas, gliders at various times over the years on Dead Horse Creek and Alpha Creek.

Recommendation

Not Applicable

Response

Revised / Augmented Technical Studies with the AEIS, which provide additional information relevant to this issue include:

- Part 9.3 Surface Water, which present the revised Flood Mapping and Water Management Plan.
- Part 9.13.2 Ecological Survey.

10.3.004 Crushing Industry

Comment

Crushing Industries Australia, have an operational blue metal quarry on the Sapling and Chesalon Boundary, approximately 500 metres from Alpha Creek. Last flood waters did fill up the excavation. A bigger volume of water would lift the level, damaging the machinery plant and infrastructure.

Recommendation

Not Applicable

Response

Refer to response to issue 7.026.

10.3.005 Lifestyle Affects

Comment

Homestead lies a kilometre from the Sapling Boundary, we have not been told where the mine will be in Sapling. We are very concerned the extra activity will cause noise, vibrations and dust at our back door.

Response

Refer to AEIS Part 9.9 Air, Dust and Vibration, which presents the revised assessments.

Both Chesalon and Creek Farm Station Homesteads are located generally to the east of SGCP and are amongst the closest sensitive receptors 7km and 6km respectively to surface works.

The modelling has shown that without noise control the noise levels would occasionally exceed the noise level goals to avoid background creep. It is considered that there are opportunities for the proponents to modify operations to limit noise at these locations and to ensure compliance with these noise level goals for all time periods and all meteorological conditions, i.e. the site is downwind or there are inversion conditions.

The DEHP Planning for Noise Control document identifies sensitive sites may warrant further assessment if temperature inversions or the site is downwind for at least 30% of the total time. As a guide the calculation of the likely noise level for 30% of the time was also presented in the AEIS, in Part 9.9 Noise, Dust and Vibration. This shows that (without noise control) the noise levels in excess of the noise levels to avoid background creep are likely to be less than 30%.

10.3.006 Groundwater

Comment

We are also concerned with our bores as we depend on the water flow and quality. Our business depends on water flow and quality. Our business depends solely on the beef industry and we are very concerned.

Recommendation

Not Applicable

Response

AEIS Part 9.4 contains the revised South Galilee Groundwater Model. This model will be used as the baseline by which ongoing monitoring will be compared against. Within this Part of the AEIS:

- Sections 3.2.3 Predicted Draw-down Effects due to Mine De-watering - SGCP Only, Figures 18 to 25 represent contours of predicted draw-downs for the South Galilee project only at the end of SGCP mining.
- Section 3.3 states; "The SGCP will develop alternate water supply agreements with landholders who will potentially be impacted by mine de-watering, as identified in section 3.2.3."

10.5. Department of Community Safety (DCS)

10.5.001 Accommodation Village

Comment

The EIS outlines that an accommodation village will be located in the north-eastern corner of the MLA 70453, being approximately 4km from the mining operation.

Recommendation

DCS recommends that the accommodation village be identified on maps which demonstrate the extent flood hazard. If the accommodation village is affected from any floods up to and including the defined flood event (DFE), the proponent must provide mitigation measure to ensure the development maintains the safety of people on the development site from all floods up to an including DFE.

Response

Refer to the AEIS Part 9.3.4 Infrastructure Layout in relation to Q_{100} and Q_{1000} year ARI Design Event, which depicts the revised infrastructure layout including the Accommodation Village against the flood model.

The accommodation village will be designed by suitably qualified personnel to the required standards and legislation.

10.5.002 Flood Protection Measures

Comment

DCS notes that flood protection measures (i.e. diversions, levies and water management systems) will be incorporated to ensure the mine area is protected from flooding.

Recommendation

The proponent must ensure that the development does not result in adverse impacts on people's safety or the capacity or the capacity to use land within the floodplain.

Response

Flood Limits for 1 in 100 year return frequency have been determined and the surface water management plans direct these flood waters off site. All permanent buildings, processing plants, material handing facilities, maintenance facilities, stores and accommodation village are sited in areas within the proposed ML above these flood levels. Refer to AEIS Part 9.3.4 which displays the layout of the mining infrastructure and a 100 year ARI design event.

Refer to the AEIS Part 9.3.5 which present the SGCP Water Management Plan.

Refer to the AEIS Part 9.14 SIA, which includes the commitment to develop a communication plan.

10.5.003 Hazardous Material Storage

Comment

Where hazardous materials are to be stored in bulk, the proponent must ensure that storage of hazards materials in bulk are provided appropriate levels of immunity from flood hazards.

Recommendation

Not Applicable

Response

Flood Limits for 1 in 100 year return frequency have been determined and the surface water management plans direct these flood waters off site. All permanent buildings, processing plants, material handing facilities , maintenance facilities, stores and accommodation village are sited in areas within the proposed ML above these flood levels. Refer to AEIS Part 9.3.4 which displays the layout of the mining infrastructure and a 100 year ARI design event.

10.5.006 Works on Road Infrastructure

Comment

Notification of any closures, diversions, restrictions, or limitations on road infrastructure that may impact on the delivery of ambulance operations from ambulance stations through road network locations within the project area.

Recommendation

Identify landing site for the rescue helicopter service if required. This should include landing zone, flight paths, lighting and wind sock.

Response

Refer to the AEIS Part 9.10 which presents the SGCP Management Plans which includes a Road Users Management Plan and Emergency Response Plan which will include a "Communication Plan" as a sub plan.

Refer to the AEIS Part 9.14 Social Impact Assessment which details the commitment to ensure community safety which includes the development of the "Communication Plan".

10.5.007 Paramedic Services

Comment

Paramedic services on site.

Recommendation

Consult with Queensland Ambulance Service in relation to provision of a paramedic service on the site.

Response

Medical services on site will be in accordance with the Coal Industry Health and Safety (CIH&S) regulations.

AEIS Part 9.14 Social Impact Assessment, Action Plan 4 Community Safety and Well-being details aspects of the Emergency Response Plan;

- Section 1.6 Implementation of Emergency Management Plan;
- Section 1.7 Local Emergency Services;
- Section 1.8 Emergency Services Resource Planning;
- Section 1.9 Memoranda of Understanding
- Section 2.0 List of Relevant Emergency Services.

10.5.008 Queensland Ambulance Consultation

Comment

Meeting advice to the Qld Ambulance Service once the Social Infrastructure Working Group commences.

Recommendation

Provide meeting advice to the Queensland Ambulance Service once the Social Infrastructure Working Group commences.

Response

AEIS Part 9.14 Social Impact Assessment - Action Plan 4 Community Safety and Well-being. The objective of the Community and Safety Well-being Plan are:

- to support emergency services in the region during construction and operation of the mine;
- to minimise road safety risks to employees and local community;
- to minimise the impacts on the safety and security of the local community;
- to provide support services to FIFO employees and their families to ensure social, cultural and religious values and needs are being met;

- to promote positive interaction between the workforce and local community, on and off the Project site; and
- to encourage and facilitate open and transparent engagement with key stakeholders on health and well-being issues and impacts.
- The above referenced section goes into more details regarding the consultation process and approximate timing.

10.5.009 Treatment of Injured Workers

Comment

Treatment of injured workers in relation to the use of the chemicals used on site.

Recommendation

- Consult with the Queensland Chemical Hazards and Emergency Management and the Medical Director of the Queensland ambulance service in relation to treatment plans for injured workers due to Chemical processes used on site.
- Notification of planned exercises, either practical or table top, for attendance and participation by the QAS.
- Formulate and provide a copy of the Emergency Management and Response Plan to the Queensland ambulance service, which should include contact details for key stakeholders in case of an emergency.

Response

Refer Issue 15.002.

Refer AEIS Volume 1, Part 9.14 SIA - Action Plan 4 Community Safety and Well-being;

- Sections 1.1, 1.2, 1.3, 1.4 and 1.5 Road Safety and Traffic
- Section 1.6 Disaster and Emergency Management, details the implementation of the Emergency Management and Response Plan.
- Section 1.7 Support Local Emergency Services
- Section 1.8 Emergency Services Resource Planning
- Section 1.9 Memoranda of Understanding.

The ERP will include a notice provision to cover internal road closures.

10.5.010 Fire Management

Comment

The Queensland Fire and Rescue Service (QFRS) maintains several prescribed functions under the Fire and Rescue Service Act 1990, one of which is to provide an advisory service and undertake other measures to promote fire prevention, fire control and safety and

other procedures if a fire or hazardous materials emergency occurs.

Recommendation

QFRS understands the proponent will comply where necessary with relevant Queensland statutory legislation and will implement safety and health management systems so as to mitigate hazard and risk (Chapter 19). QFRS advises the following:

- Implementation of emergency response plans detailing mitigation strategies to achieve specific outcomes as outlined in the State Planning Policy (SPP) 1/03 - Guideline for Mitigating the Adverse Impacts of Flood, Bushfire and Landslide;
- Hazard analysis and Risk assessment undertaken in accordance with AS/NZS ISO 31000:2009 risk Management - Principles and guidelines and HB203:2006 Environmental Risk Management Principles and Processes;
- All dangerous goods, explosives and hazardous substances transported, stored and handled in accordance with relevant legislation;
- Development of safety management plans and emergency response procedures in consultation with state and regional emergency service providers and provide an adequate level of training to staff who will be tasked with emergency management activities;
- Compliance where necessary with the Fire and Rescue Service Act 1990.

Response

AEIS Part 9.10 Management Plans - includes a list of all of the proposed management plans.

AEIS, Part 9.14 SIA, Action Plan 4 Community Safety and Well-being

- Section 1.6 Implementation of Emergency Management Plan;
- Section 1.7 Local Emergency Services;
- Section 1.8 Emergency Services Resource Planning;
- Section 1.9 Memoranda of Understanding
- Section 2.0 List of Relevant Emergency Services.

AEIS Section 9.16 includes the SGCP Commitments Register.

10.5.011 Queensland Fire and Rescue Service

Comment

The proposed workforce, predominantly fly-in-fly-out FI-FO is stated to be accommodated in an on-site accommodation village to be constructed on the mining lease located approximately 12 kilometres southwest of Alpha. As stated, the SGCP FIFO workforce will be transported from the Alpha Aerodrome to the Accommodation village and mine site by bus to minimise the volume of road transport. The QFRS Alpha auxiliary service will

be primary respondent to any road traffic crashes. The EIS identifies that there will be a light increase in heavy vehicle movements on the major road networks associated with the project. Due to the isolation of this Alpha area from the nearest QFRS urban support, any increase in road traffic crashes will impact on response capabilities from current QFRS resources.

Recommendation

See point 5.16

Response

Refer to Issue 5.002. The ERP will incorporate an on lease Emergency Response Team (ERT). The team make up will comply with the industry OH&S standards. These services will not be available for off site use (refer Issue 5.007). "Consider commitment to participation in a regional approach with other proponents and stakeholders for on-site aspects."

The proponent will enter into a collaborative agreement with QFRS on a unified approach with projects ERT.

Refer to AEIS Volume 1, Part 9.14 SIA, Action Plan 4 - Community Safety and Well being;

- Section 1.1 TMP
- Section 1.2 RUMP - vehicle numbers
- Section 1.3 Bus Transport
- Section 1.4 Rail network transport
- Section 1.5 RUMP Stakeholders
- Section 1.6 Implementation of Emergency Management Plan;
- Section 1.7 Local Emergency Services;
- Section 1.8 Emergency Services Resource Planning;
- Section 1.9 Memoranda of Understanding
- Section 2.0 List of Relevant Emergency Services.

10.5.012 Accommodation Emergency Management Plan

Comment

Emergency Management plan for accommodation

Recommendation

The majority of the workforce will be housed at the accommodation village to be constructed on the mining lease. The accommodation villages are required to have Emergency Management Plan to deal with any incidents and hazardous situation that may be encountered.

Response

Refer to Issue 5.002.

AEIS Volume 1, Part 9.14 SIA - Action Plan 4 - Community Safety and Well-being;

- Section 1.1 TMP
- Section 1.2 RUMP - vehicle numbers
- Section 1.3 Bus Transport
- Section 1.4 Rail network transport
- Section 1.5 RUMP Stakeholders
- Section 1.6 Implementation of Emergency Management Plan;
- Section 1.7 Local Emergency Services;
- Section 1.8 Emergency Services Resource Planning;
- Section 1.9 Memoranda of Understanding
- Section 2.0 List of Relevant Emergency Services.

The ERP will cover all aspects of the on lease activities including accommodation village.

10.5.013 Emergency Management Plan - QRFS involvement

Comment

Emergency Management Plans - QRFS involvement.

Recommendation

Not Applicable

Response

Refer to the AEIS

- Part 9.10 Management Plan - list the proposed Management Plans to be developed.
- Part 9.14 Social Impact Assessment, Action Plan 4 details the Community Safety and Well-being Plan, which includes details on the Disaster and Emergency Management consultation process and development.

10.5.015 Management of Incidents On-Site

Comment

Management of all incidents on site - Queensland Fire and Rescue Service (QFRS).

Recommendation

The development of Emergency Management Plans and response procedures are to address the management of all incidents as nominated. The QFRS, being an emergency service provider, will provide advice in any consultation process in the development of this plan.

Response

Refer to issues:

- 5.014;
- 5.023; and
- 5.024.

10.5.016 Emergency Response Team

Comment

The SGCP is located close to the small township of Alpha. During the construction, operation and decommissioning stages, this will have a significant impact on the township of Alpha and the wider surrounding locations. This will also impact on the calls for emergency response and will influence the availability of QFRS crews to respond in these locations. The closest QFRS urban station to Alpha is Barcaldine (141km) and Emerald (168km). Any assistance required at an incident within the Alpha or SGCP areas would take considerable time to arrive on scene.

Recommendation

The SGCP is to have a trained Emergency Response Team (ERT) on the mine site. The QFRS recommends that, when the SGCP ERT is established, consultation occurs to form a collaborative agreement where both the SGCP ERT and the QFRS can work together in a unified approach to deal with incidents both on and off the mining lease.

Response

Refer to Issues;

- 15.014;
- 15.023; and
- 15.024.

10.6 Department of Environment and Heritage Protection

10.6.001 Aquatic Ecology

Comment

The proponent has not included toxicant and biological water quality parameters in dot point six page ES-18 in the Aquatic Ecology section of the Executive Summary.

Recommendation

Insert the underlined text sixth dot point on page ES-18 in the Aquatic Ecology section of the Executive Summary:

"A Receiving Environment Monitoring Program will allow baseline data to be collected for comparison of physico-chemical , toxicant and biological water quality parameters with construction and operational phases of the SGCP."

Response

Noted and text updated as follows:

A Receiving Environment Monitoring Program will allow baseline data to be collected for comparison of physico-chemical, toxicant and biological water quality parameters with construction and operational phases of the SGCP.

10.6.002 Topography

Comment

Section 7.2.2 of the EIS refers the reader to Figure 4.2 to 4.13 for illustrations of topography. However, on those figures green contours are printed against another shade of green for the ground surface, which makes the contours very difficult to read, and the contour intervals is 10m, which is too wide to adequately illustrate the topography of the areas of low relief on the mine site. Furthermore, the figures are overlain with the footprints of mining infrastructure, which obscures the illustration of topography in those areas.

Recommendation

The EIS should illustrate the existing topography with clearly visible contours at a suitable increment, and without overlay of proposed mining infrastructure.

Response

Refer AEIS Section 9.1 and 9.3 which presents the revised site topography maps where contour presentation is improved.

10.6.003 Geochemical analysis of Waste Rock

Comment

The EIS reports that 186 samples of waste rock were obtained from geochemical testing from three fully cored holes and a further 54 from two open holes. However, the location and cross sections of those holes was not illustrated or sufficiently discussed.

Consequently an independent evaluation cannot be made of whether the sampling and analysis provides a statistically valid representation of the various rock types that would make up the waste rock.

Recommendation

The EIS should provide an illustrated description of how the geochemical testing provides a statistically valid representation of the various waste rock types.

Response

Refer to AEIS, Section 9.6. This is a post EIS geochemical report prepared by EGI. It contains full details of the cored holes that have been analysed in relation to Potentially Acid Forming (PAF). Extent of sampling and testing provides a sound base for a PAF material management plan. The PAF Management Plan is included in the AEIS, Section 9.10.

10.6.004 Selective Handling of Potentially Acid Forming (PAF) Waste Rock

Comment

The EIS States on page 13-16 that; *“PAF material will be selectively handled where practicable to ensure that the potential for acid rock drainage is limited”*; but it does not say what extent the acid rock drainage would be limited to.

Also, the only measure proposed for dealing with PAF material above the D1 seam is to mix it with non-acid forming material, but the EIS does not describe how that mixing would be achieved in practice. Furthermore, that qualification *“where practicable”*, has the potential to negate any effective selective handling and management of PAF material.

Recommendation

The EIS should propose achievable measures that would encapsulate all PAF material, whether from above the D1 seam or from inter-burden, and ensure that acid rock drainage does not occur.

Response

Refer to AEIS Part 9.6, which presents the post EIS Geochemical Assessment.

Refer to AEIS Section 9.10 specifically MP10.11 PAF Material Management Plan which relates to the treatment of PAF material.

10.6.005 Analysis of Soil Types

Comment

Similar to issue 10.6.3, the EIS reports that an extensive soil sampling program, but the sampling sites are illustrated without differentiation between the sites that were subject to basic testing and those that were subject to more detailed testing.

Recommendation

The EIS should provide an illustrated description of the soil sampling sites that were subject to the different levels of testing.

Response

AEIS Section 9.6 Geochemical presents the post EIS geochemical analysis, full depth testing was carried out as part of the Geochemical assessment.

10.6.006 Flood Protection Levee

Comment

The EIS and EM Plan provide insufficient information on the flood protection levee structure that would protect the operational pit and the final void from flooding.

Recommendation

The EIS should provide indicative cross sections of the proposed structures having considered that the levees would need to protect the final void from flooding for the foreseeable future.

Response

The levees and all other earthworks structures will be designed by experienced professional engineers in accordance with appropriate design parameters, standard and regulations. The local conditions such as climate and geotechnical will be taken into account.

Detailed design will occur post financial close.

Refer to the AEIS Part 9.5 which presents the SGCP Water Management Plan.

10.6.007 Flood Hydrology - Mine Area

Comment

The EIS units for flow rate in Tables 9-3 and 9-4, page 9-20 appear to be incorrect.

Recommendation

The proponent should check if the units for flow rate in Tables 9-3 and 9-4 should be in m³/s.

Response

Refer to AEIS Section 9.3 Surface Water, which presents the revised SGCP Surface Water Analysis, throughout the report the units of flow are measured in m³/s.

10.6.008 Water Quality

Comment

The EIS reports on page 9-26 that there are '*areas of conservation value*' in the Belyando / Suttor sub-catchment, but does not address the significance of these areas with respect to water resources, nor does it illustrate where those areas are or cross-reference to other sections of the EIS that may describe the areas of conservation value

Recommendation

The EIS should address the location and significance of the areas of conservation values referred to on page 9-26, and address any potential impacts on them due to changes in water quantity or quality as a result of the propose mining activities.

Response

The nearest conservation area to the ML, 30km to the north, is located within the Warratah mining lease.

Section 9.3 and 9.4 address the surface and groundwater issues. The ground water analysis in 9.4 indicates that the impact of SGCP to the system is minimal.

Section 9.3 Surface Water confirms that surface water discharge reductions are minimal and the discharge quality will be controlled.

10.6.009 Baseline Surface Water Quality

Comment

The proponent reports that background electrical conductivity (EC) and pH values change with stream flow and stream depth as observed in Alpha and Sapling Creeks. However, Figures 9-9 and 9-10 only present a detailed comparison of those parameters to gauge height (m).

A detailed comparison of the parameters to stream flow, if flow data is available, would be very valuable in assisting the development of conditions for controlled releases of mine affected water.

Recommendation

If possible, provide plots and data on the relationship between EC and pH to stream flow to support the statements in the EIS that, for example, EC reduces with flow rate. If stream flow rates have not been measured they should be estimated using stream height data and catchment information.

Where stream flow is estimated, the methodology for these estimations and assumptions made should be outlined. Background information on EC at different stream flow rates could then be used to develop conditions for controlled release of mine affected water.

Response

At this stage there is insufficient information available to derive sufficiently accurate rating curves to convert recorded water level to flow in the range of flows of interest.

This is exacerbated by the relatively infrequent short periods of stream-flow, and the inaccessibility of the site to undertake flow measurement following rainfall.

However, prior to commencement of operations, the proponent will continue to gather salinity and height data, and will collect cross-section and where possible flow velocity measurements in an attempt to improve the understanding of the flow characteristics at these location. This information will be made available to DEHP to assist in developing site-specific conditions if requested.

10.6.010 Baseline Surface Water Quality - Trigger Values

Comment

The receiving water trigger values in column two of Table 9-6 have not been referenced and there is no rationale as to why the values presented have been used. There is also no flow data to accompany the water quality data, though it would be important to show the relationship between flow and level of metals.

In addition, when Table 9-6 is crossed referenced with Table 2.3, Summary of Available Water Quality Data in the Vicinity of the SGCP, on page 40 of Appendix F, it seems apparent that the DNRM gauging station data has been used but has not been appropriately referenced.

Recommendation

Where ever receiving environment trigger values are presented in the report, there should be some stated rationale as to why these values have been used (or crossed referenced if this information is available somewhere else in the EIS or Appendices). All data provided on water quality should be accompanied by stream flow information (preferably quantitative rather than qualitative). Any data taken from other sources should always be appropriately referenced, including water quality guidelines and ambient water quality monitoring data.

Table 9-10 should:

- Provide a table note with a cross reference to a matrix showing a comparison of relevant guideline values considered for receiving water triggers and the rationale for choosing the values;
- Provide information on the flow at the time of water quality sampling and the dates when the water quality samples and flow data were taken or recorded;

- Reference the source of the receiving environment trigger; and
- Include the reference for the water quality data for Native Companion Creek.

Response

The proponent commits to working with DEHP to derive the appropriate release conditions based on the ANZECC Guidelines and site specific data where available. The proposed water quality monitoring program will provide a database of site-specific water quality data related to local flow conditions which will be more appropriate.

10.6.011 Potential Surface Water Impacts

Comment

The ‘*impacts*’ on surface water described in section 9.6 are predominantly the actions that may cause an impact, or an unquantified indication of an impact, rather than an assessment of potential impacts per se.

Furthermore, the TOR require that ‘*all relevant matters concerning environmental values, impacts and proposed mitigation measures are addressed for the first time in the main text of the EIS and not in an appendix or the draft environmental management plan*’. However, most of the studies and modelling related to hydrology have been left in Appendix F (see page 9-55 of the EIS), and little assessment has been provided in EIS of the scope and magnitude of potential impacts.”

Recommendation

Section 9.6 of the EIS should reassess, describe and quantify as much as possible the actual potential impacts on surface water quality and quantity that may arise from the mining activities. It is particularly important that the EIS quantitatively assess the potential impacts on surface water flows and velocities, and on water quality that would arise during controlled or uncontrolled releases of mine affected water during rainfall events that exceed the design storage allowances of regulated dams.

The EIS should also address the potential impacts on water quality and ecology due to spills of any chemicals stored at the site.

Response

The WaterMP for SGCP has zero contaminated water discharge policy. Existing catchments to Sapling and Tellarenha Creek are reduced only by the surface area of the mine. Overland flows for Sapling Creek will not be negatively impacted through volume or quality. The quantity discharge volume for Tallarenha is also small, any reduction in quality as a result of subsidence sediment, will be controlled by appropriate control structures. Refer to the AEIS Part 9.3.5 for the Water Management Plan.

10.6.012 Cumulative impacts on Surface Water Resources

Comment

Section 9.6.10 provides an overly brief, unsupported and unquantified assessment that cumulative impacts on surface water resources will be *'limited'*.

Recommendation

Section 9.6.10 should provide a discussion, supported by scientific and / or technical evidence, that the cumulative impacts on surface water resources will be limited.

Response

The southern and western limits of the Tallarenha Creek Catchment are adjacent to the proponents mining lease boundary; refer to Figure 2.5 AIES Part 9.3 Flood modelling. As per Issue 6.011 the impact to off-site discharge is minimal.

All known potential mine development is downstream of the SGCP. Accordingly the cumulative impact to the surface water resources is a reduction.

For Sapling Creek no known development is proposed upstream of our mining lease, refer to Figure 2.5 AEIS Part 9.3 Surface Water.

10.6.013 Potential discharges to Alpha and Tallarenha Creeks

Comment

The schematic diagram of the proposed water management system on Figure 9-29 and the accompanying text indicate that discharges from several containment structures could spill into Alpha and Tallarenha Creeks. Section 9.8.3.5 makes assertions that the discharges would not affect water quality, but does not support those assertions with data or reasoned assessment.

Recommendation

Section 9.8.3.5 should provide a discussion, supported by scientific and/or technical evidence, that the impacts on surface water quality due to discharges from mine containment structures would be negligible as stated on page 9-104. The assessment should consider not only water quality but also the volume of flows from the containment structures and in the receiving creeks.

Response

Volume 1 of the AEIS:

- Part 9.3.3 present the revised Site Water Balance Report.
- Part 9.3.5 presents the revised Water Management Plan..

10.6.014 Reference Monitoring Sites

Comment

Section 9.8.14.1.1 does not discuss whether the proposed reference sites for the baseline monitoring program fit the criteria outlined in the Queensland Water Quality Guidelines (2009).

Recommendation

The EIS should discuss the suitability of the proposed reference sites for the baseline monitoring program with reference to the Queensland Water Quality Guidelines (2009).

Response

The reference sites for the baseline monitoring program will comply with the Queensland Water Quality Guidelines (2009). Their locations will be established post environmental approvals.

10.6.015 Derived Locally relevant water quality guidelines

Comment

The following statement on page 9-127 of the EIS misses some points:

“Data collected from reference sites are used to estimate percentile values, which in turn are used to derive guidelines. For SMD waters the 20th and 80th percentiles are used.”

Recommendation

The statement should be expanded to include the following underlined text:

“Data collected from reference sites are used to estimate percentile values, which in turn are used to derive guidelines. For SMD waters the 20th and 80th percentiles are used to derive locally relevant water quality guidelines in situations where the median/average of the background data exceeds the default guideline value. The exception is salinity where 25th and 75th percentile values are used.”

Response

Data collected from the reference sites will be used to estimate percentile values, which in turn will be used to derive guidelines. For SMD waters the 20th and 80th percentile will be used.

10.6.016 Noise

Comment

The graphics in both Section 12 and Appendix M are generally not clear, due to the inclusion of too much data or too many situations.

Recommendation

Not Applicable

Response

Noted.

10.6.017 Maximum Noise Levels from mining equipment

Comment

Table 12.7 gives the overall sound pressure level at 100m. However, there was no explanation of why a distance of 100m was considered appropriate.

Recommendation

Provide an explanation of why the sound pressure level at 100m was used including the assumptions behind its use.

Response

Part 9.9.3 of the AEIS presents the revised Noise and Vibration Assessment.

The presentation of the source noise level data is presented in two ways, one as sound power level and the second as a sound pressure level. The sound power level (presented in terms of octave band linear weighting) is the preferred way to present the data for people with good technical knowledge of acoustics. It is clear and unambiguous.

However, it is intended that the noise emission database be understood by people without a technical knowledge of acoustics. Hence an overall “A-weighted” noise level at 100m is also presented in the report. The A-weighted noise level is as the human ear hears noise. So the noise level provides a way for the general community to relate to the noise level. A distance of 100m was selected as is far enough away from the noise source to avoid near-field acoustical effects. In addition at 100m there are no significant meteorological influences, which is not the case if a larger distance was used. Furthermore some items of mining plant are very large (such as a dragline) and it is appropriate to adopt a distance that is somewhat greater than the dimensions of the equipment.

Hence the sound pressure level at 100m is provided for information purposes to permit the EIS to be understood by lay people and to permit comparisons between each item of equipment, yet still be valid and acceptable to those with technical acoustical experience.

10.6.018 Noise - Table 12.9

Comment

Table 12.9 gives the calculated noise levels for sensitive receptors. However, the values for L_{A10} (1 hour)(Annual Maximum) in the day, evening and night columns are exactly the same as the values in the day, evening and night columns for L_{A10} (1 hour)(Annual Maximum). This appears to be a typographical error, perhaps resulting from a cut and paste problem.

Recommendation

Double check the values and insert the correct values if necessary.

Response

Part 9.9.3 of the AEIS presents the revised Noise and Vibration Assessment.

In Part 9.9.3, Section 5.4 it was mentioned that it is not mathematically possible to calculate the L_{A10} . Section 4.4 of Appendix M Noise and Vibration Technical Report clarifies the calculation of the L_{A10} . Specifically, "The L_{A10} is taken to be 3 dB(A) above the L_{Aeq} , but no higher than the L_{A01} . It has been observed the L_{A10} is greater than the L_{Aeq} and typically by about 3 dB(A) for most continuous and pseudo-continuous noise. This relationship is acknowledged in Australian Standards for traffic noise." Since the L_{Aeq} in Table 12.9 is typically within 3 dB(A) of the $LA01$, then the $LA10$ is taken to equal to the $LA01$. Thus values are the same when the L_{Aeq} is with 3 dB(A) of the LA_{max} . However on reviewing the table it was noted that there were three minor errors with reporting the $LA10$ (1 hour) Annual maximum. These have been corrected below and the results that are limited by the $LA01$ are highlighted by placement in square brackets. The corrected noise levels are lower than that reported in the EIS and the conclusions do not influence the assessment.

Part 9.9.3 - Table 12.9 Calculated Noise Levels for Sensitive Receptors Case 1 - Year (2017)
LA10 correction from The EIS:

Location	L _{A01} (1 Hour) (Annual Maximum)			L _{A10} (1 hour) (Annual Maximum)			L _{Aeq} (1 hour) (Annual Maximum)			L _{Aeq} (1 hour) (Annual Average)		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Objectives for Alpha:												
Acoustic Quality	50	50	45	45	45	40	40	40	35	40	40	35
Background Creep							40.4	36	30	40.4	36	30
Alpha Township	27.9	28.1	29.4	[27.9]	[28.1]	[29.4]	25.0	27.6	27.4	14.1	15.5	14.6
Objectives for stations:												
Acoustic Quality	50	50	45	45	45	40	40	40	35	40	40	35
Background Creep							33	31	28	33	31	28
Betanga Homestead	26.4	26.6	26.8	[26.4]	[26.6]	[26.8]	24.2	25.0	24.6	20.2	22.3	22.3
Bonanza Homestead	30.0	29.8	30.6	[30.0]	[29.8]	[30.6]	28.4	29.0	28.7	7.1	6.8	4.9
Chesalon Homestead	35.3	34.7	35.1	34.3	[34.7]	[35.1]	31.3	33.2	33.1	22.4	23.1	22.0
Corntop Homestead	26.3	27.4	27.5	[26.3]	[27.4]	[27.5]	24.1	25.5	25.3	19.8	22.4	22.4
Creek Farm Homestead	33.4	35.4	35.9	33.0	34.6	34.4	30.0	31.6	31.4	7.6	7.5	5.3
Eureka Homestead	28.8	28.3	28.7	[28.8]	[28.3]	[28.7]	26.8	26.7	26.6	15.0	18.6	18.5
Oakleigh Homestead	28.5	28.8	29.6	[28.5]	[28.8]	[29.6]	26.7	27.7	27.6	10.8	11.5	13.4
Accommodation Village	39.9	39.9	40.6	[39.9]	[39.9]	[40.6]	37.1	39.0	39.0	26.3	27.9	27.7
Saltbush Homestead	23.3	22.1	23.6	22.7	[22.1]	[23.6]	19.7	21.7	21.6	10.5	13.4	13.4
Villafield Homestead	29.6	29.3	30.2	[29.6]	[29.3]	[30.2]	28.0	28.9	28.3	7.2	7.4	6.4

10.6.019 Noise - Maximum Descriptor

Comment

The descriptor '*maximum*' in Table 16 in Appendix M is not the correct one to use. The correct descriptor is '*noisiest*', which has a technically different meaning to maximum.

Recommendation

Double check the values and insert the correct values if necessary.

Response

Part 9.9.3 of the AEIS presents the revised Noise and Vibration Assessment.

The $L_{Amax,T}$ is the A-weighted sound pressure level obtained by using time-weighting 'F' and arithmetically averaging the maximum levels of the noise under investigation, unaffected by extraneous noise, during time interval 'T'. With the advent of digital instrumentation it is very difficult to identify the maximums other than the noisiest maximum. The lower maximums cannot be readily identified. Even with older style

analogue there was some debate about what represented a “maximum” to be included in the averaging process. However, in this instance the noisiest maximum noise level was presented not an average of more than one maximums. It is considered that the term maximum and noisiest are interchangeable. However, it is proposed to revise terms to be “Noisiest maximum” and this has been carried through into this AEIS.

10.6.020 Position of Noise Sources

Comment

While the text below Table 16 in Appendix M provides some information about the position of the noise sources, it provides insufficient information about the operating condition of the machinery.

Recommendation

The EIS should describe the operating condition of the machinery that was used to derive the sound power level of each noise source, including such matters as the gear used, throttle setting, etc.

Response

Part 9.9.3 of the AEIS presents the revised Noise and Vibration Assessment.

The EIS presented a new method to model aspects of noise from operations. In 2009 the EPP(noise) was introduced and three acoustic quality indices were proposed to address health and well being. The indices being The $L_{A01, adj, 1hr}$, $L_{A10, adj, 10'}$ 1 hour and the $L_{Aeq, adj, 1 hour}$.

The $L_{Aeq, adj, 1 hour}$ is the easiest to address from a modelling perspective. However there is no simple mathematical way to calculate the L_{A10} and the L_{A01} . Traditionally only the L_{Aeq} is modelled (and presented in an EIS) and the L_{A01} and L_{A10} are not addressed. However, since this mine is a new significant development in a new mining district it was considered appropriate to develop a new technique to model the L_{A01} and the L_{A10} and respond to all three indices required by the EPP(Noise).

Since the L_{Amax} is always greater than the L_{A01} , it was decided that an L_{Amax} noise model needed to be presented and though conservatively high, it was taken to be representative of the L_{A01} . Thus the noise database presented relates to the L_{Amax} and the reported L_{A01} is the addition of the L_{Amax} noise levels from all sources simultaneously. The L_{Amax} was only used for one calculation and all other modelling results are based on the traditional L_{Aeq} noise model. Though an unlikely occurrence it represents the highest noise level likely. The next model to be developed is the L_{Aeq} noise model. This is the normal model that is presented in EIS'. For this a correction between the L_{Amax} and the L_{Aeq} was presented.

The EIS stated that “mobile sources such as the haul and dump trucks operate in a complex cycle comprising low-load and high-load conditions at various positions along the route”. In addition mobile plant does not radiate noise equally in all directions. For instance engine noise is more evident in the front of a dump-truck than to the rear.

In addition the L_{Aeq} needs to account for the length of time that the noise source actually operates on average during the modelling period. For example if a segment of road has only one truck every hour and that truck takes 1 minute to travel along that road then the L_{Aeq} model needs to account for the fact that it is only operating for 1 minute that it is essentially not operating for the remaining for 59 minutes.

Both the L_{Amax} and L_{Aeq} have been measured for plant and machinery operating under normal working conditions at mines. However, this only addresses working phase. For instance an excavator may wait for a short period while the filled truck is replaced by an empty truck. Thus the lack of equipment operating needs to be addressed in the noise model. The NMA database only relates only to the operating phase.

The noise presented relates to normal operations of mining equipment, in normal operating condition for throttle setting, gear and power settings that are appropriate for the task. The noise levels are considered to be representative of operations. But do not contain details of the equipment conditions. It is noted that the noise levels reported in the are similar to other noise levels reported elsewhere.

One exception to the simultaneous monitoring of both L_{Aeq} and L_{Amax} is for all mobile plant such as dump truck, grader etc. For these types of noise sources the noise reported is always the maximum instantaneous noise that occurs as it passes a given location. An L_{Aeq} (sound power) cannot be readily measured since the distance to the truck changes during approach and departure. However, it can be inferred that the maximum represents the L_{Aeq} if the truck maintains the load setting throughout the entire route. There are numerous papers (such as calculation of Road Traffic Noise CoRTN) that discuss the changes in noise levels from trucks and the sensitivity of trucks to gradient etc.

10.6.021 Noise - L_{Amax} to L_{Aeq}

Comment

The fourth paragraph on page 28 of Appendix M describes a method used for Table 17 to correct L_{Amax} to L_{Aeq} . However, it is unclear how this correction was applied or whether it is valid. Sound power levels are used to determine L_{Aeq} , rather than 'correcting' from L_{Amax} .

Recommendation

The EIS needs to explain the reasoning and assumptions behind these corrections, and why LA_{max} is required in the modelling.

Response

Part 9.9.3 of the AEIS presents the revised Noise and Vibration Assessment.

Refer to response to submission 10.6.019.

The data has been presented in a way that allows for the community to understand and appreciate the noise level. It is often the case that people notice high noise event, rather than the underlying L_{Aeq} or average noise levels. For instance, a single noisy vehicle on a highway stands out from the general noise of the traffic stream. From this premise it was

decided to present the maximum noise to inform the community the likely range in the noise levels.

10.6.022 Noise - L_{Aeq} Noise Model

Comment

Appendix M, page 57, explained that the “ L_{Aeq} noise model incorporates the fluctuating noise levels to obtain the L_{Aeq} at the receiver”.

However, no information has been provided on the characteristics of fluctuating noise levels, nor has evidence been provided to support the statement that the noise model is conservative. For the noise model to be conservative the machinery should be assumed to be at the regime generating the most noise; for example, a dozer may be assumed to be 50% of the time in forward gear (with the second gear used for the loudest condition) and 50% in reverse.

Recommendation

Explain what is meant by the L_{Aeq} noise model incorporating fluctuating noise levels, and provide detail for each noise source of the condition of operation for the given sound power level.

Response

Refer to response to issue 10.6.020.

10.6.023 EMP - General

Comment

In general, there is a lack of detail in the environmental protection commitments, and they are not all linked to best practice environmental management to protect or enhance the environmental values identified within the EM Plan. Environmental protection commitments are required to be proposed to protect or enhance the environmental values under best practice environmental management for activities that do not comply with any codes of environmental compliance. The environmental protection commitments must be stated in a way that allows them to be measured and audited, and should include environmental protection objectives and the standards and measurable indicators to be used for identifying if the environmental protection commitments are being met.

Recommendation

Not Applicable

Response

Aspects of the EIS related to this issue have been updated in the AEIS;

- Part 9.11 EMP, presents the revised Environmental Management Plan.
- Part 9.16 presents the Commitment register.
- Part 9.10 present the Management Plans..

10.6.024 Identification of all Mining Activities

Comment

The EM plan should identify all mining activities, including all environmentally relevant activities under schedule 2 and 6 of the Environmental Protection Regulation 2008 that would otherwise need approval, and all notifiable activities under schedule 2 of the Environmental Protection Act 1994.

The EM plan should identify and describe all the environmental values and potential environmental impacts that will be caused by all the activities proposed to be undertaken as part of the South Galilee Coal Mine and define the critical environmental values. For each of the environmental values to be protected, commitments must be proposed and identify the environmental protection objectives, standards, measurable indicators and control strategies to demonstrate how the objectives will be achieved.

Recommendation

Expand the EM plan to include all relevant mining activities proposed to be undertaken as part of the South Galilee Coal Mine, and identify all the environmental values and potential environmental impacts that will be caused by all the activities proposed to be undertaken as part of the South Galilee Coal Mine.

Response

AEIS Part 9.11 EMP, presents the revised SGCP Environmental Management Plan.

10.6.025 CHPP and Mine Infrastructure

Comment

Page 21-9 states a landfill would be constructed as part of the mining activities. However, the EM plan provides insufficient information regarding the landfill to determine whether it would be equivalent to ERA 60, Waste disposal, and does not adequately address how the landfill would be managed.

Recommendation

Page 21-9 states a landfill would be constructed as part of the mining activities. However, the EM plan provides insufficient information regarding the landfill to determine whether it would be equivalent to ERA 60, Waste disposal, and does not adequately address how the landfill would be managed.

Response

AEIS Part 9.10 Management Plans includes MP10.9 Waste Management Plan.

10.6.026 Air Quality

Comment

Rather than taking air quality criteria from legislation and guidelines, the EM plan should include criteria that are derived from base line monitoring and appropriate for the site specific circumstances. The EM plan should also include measurable control strategies and environmental protection commitments that are linked to best practice environmental management to protect or enhance the environmental values identified for the site.

Recommendation

The EM plan should include detailed measurable indicators, standards and control strategies to protect or enhance each of the environmental values associated with impacts on air quality. The control strategies should link to the indicators.

Propose environmental protection commitments that would protect or enhance the environmental values under best practice environmental management for activities that do not comply with any codes of environmental compliance. The environmental protection commitments must be stated in a way that allows them to be measured and audited.

Response

AEIS Part 9.9.3 presents the revised SGCP Noise and Vibration Report.

The EIS, the AEIS and the EMP has relied on the Environmental Protection Policy (Air) to derive overall objectives at sensitive receptors. This is the proper approach since the EPP (Air) identifies the air quality objectives that are acceptable for Queensland. However, it is noted that “the air quality objectives will be progressively achieved as part of achieving the purpose of this policy (EPP Air) over the long term.”

Although the overall objectives are sourced from the EPP(Air), the goals applicable at each sensitive receptor are derived from baseline monitoring carried out at a number of sensitive receptors. This was highlighted in the EIS and recommendations for ongoing monitoring was included so that the proponents would appreciate the range of existing exposures.

Thus for the EIS and AEIS compliance with EPP (Air) objectives are demonstrated by modelling and include appropriate allowances from the baseline monitoring conducted up to the point of assessment. This contrasts with what is possible during the operation of the mine since it is not possible to differentiate between dusts from the mining operation and normal dusts occurring in the area. As a consequence the EMP response to unusual and out of character events. Since the ongoing dust monitoring has shown that it is entirely possible for the ambient dust exposure to exceed EPP(Air) objectives,

setting lower or alternate limits is not considered practical. The EMP contains ongoing monitoring requirements and response to measurements that exceed threshold values.

- AEIS Part 9.11 EMP - presents the revised SGCP Environmental Management Plan, which will adopt the criteria based on site specific circumstances.

10.6.027 Water Management Practices

Comment

The EM plan does not provide adequate information on the water management practices or water management system to be used for the South Galilee Coal Project.

The EM plan must adequately detail the water management practices of the site that the EIS states have been developed in the mine water management plan. This section of the EM Plan should examine and address all issues relevant to the importation, generation, use, and management of water on a mining project in order to minimise the quantity of water that is contaminated and released by and from the project.

An adequate mining project water management plan would systematically identify: the actual and potential risks of harm to natural water flows posed by mining activities; the actual and potential risk of environmental harm posed by water contaminated by the mining activities; and define management actions that will effectively minimise these risks.

A mining project water management plan should be based on a comprehensive process that assesses the likelihood and consequence of risks to water quality values within and around the mining project. Effective management actions or controls should then be identified to reduce these risks to acceptable levels.

Recommendation

This section of the EM plan should detail the sites water management system following the departmental guideline *'Preparation of water management plans for mining activities'*. The guideline identifies that a water management plan should form an integral part of the EM plan.

The EM plan should:

- Illustrate as well as describe the proposed locations of the regulated dams, their design capacities and storage allowances, and the locations of their spillways and controlled discharge points.
- Determine the adequacy of the system to prevent unauthorised discharges during Average Recurrence Interval (ARI) 1 in 25, 1 in 50, 1 in 100 and 1 in 1000 year rainfall events considering both an operational water balance and the ability to deal with rainfall events that may occur on site at any time.
- Provide an overview of the application of 'time of concentration' design rainfall events for catchments contributing to individual relevant dams or storages or to groups of dams or storages, under conditions arising from water balance modelling

or more conservative alternatives; so as to determine the failure outcomes for worst case contaminant release including over-topping and likely collapse of structures and the Annual Exceedence Probability (AEP) levels at which such outcomes occur.

- Develop control measures for routine operations to minimise the likelihood of environmental harm.
- Develop control measures to manage seepage and drainage for all regulated structures.
- Develop contingency plans and emergency procedures for non-routine situations.
- Develop a system for emergency spills or discharges.

Response

Refer to the AEIS;

- Part 9.11 EMP - presents the revised SGCP Environmental Management Plan, and
- Part 9.3.5 Water Management Plan.

10.6.028 Management of Stormwater

Comment

The EM plan provides insufficient information about the management of stormwater for the department to consider the matters necessary under section 57 of the Environmental Protection Regulation 2008.

Recommendation

The EM plan should provide descriptions of the proposed stormwater drainage system and the proposed disposal arrangements, including any off-site services. Maps (A3) should be provided with latitudes and longitudes in the GDA94, and include contours at a scale suitable to allow contributing catchments for rainfall runoff to be determined. In areas of low relief a contour increment of 1 m would be necessary. The maps should also include a superimposed site layout showing all relevant facilities and infrastructure. Watercourses, drainage lines and contributing catchments must be identified and marked on the map.

Response

Refer to the AEIS;

- Part 9.11 EMP - presents the revised SGCP Environmental Management Plan, and
- Part 9.3.5 Water Management Plan.

10.6.029 Management of Stormwater

Comment

Table 21-5 recognises that 'Failure of water storages, storage embankments, pipelines, levees or bunds has the potential to result in non-compliant discharge...', but proposes no mitigation measure that would be undertaken if, for example, regular maintenance was insufficient to prevent a failure of a bund.

Recommendation

The EM plan should outline actions to be taken in the event that an uncontrolled release of contaminants to waterways occurs due to the failure of water storages, storage embankments, pipelines, levees or bunds.

Response

Refer to the AEIS;

- Part 9.11 EMP - presents the revised SGCP Environmental Management Plan, and
- Part 9.3.5 Water Management Plan.

10.6.030 Contaminant Release to Waters

Comment

The EM plan proposes conditions for an environmental authority that include release limits. However, the proposed release conditions and the proposed release limits are not linked to the environmental values identified or the environmental protection commitments. Furthermore, the following matters:

- release limit for electrical conductivity in Table 21-10;
- proposed condition W9; and
- the minimum flow requirements for a release event in Table 21-12,

appear to be derived from an out-dated version of the model conditions for Fitzroy Coal Mines.

Recommendation

The EM plan should be redrafted with regard to the management of discharges to surface water, with suitable default release limits and triggers provided where necessary (such as in Table 21-10 for EC, pH, turbidity, suspended solids and sulphate) until such time as locally derived values are available. The parameters listed in the left-hand column of Table 21-11 may be varied once sufficient baseline monitoring has been undertaken. Default values for trigger levels should replace the current 'TBA' entry in the middle column of Table 21-11. All tables and proposed conditions should be rechecked against the latest version of the model water conditions for coal mines in the Fitzroy Basin.

Response

AEIS Volume 1;

- Part 9.11 EMP - presents the revised SGCP EMP - specifically references the discharges to surface water.
- Part 9.3.5 WaterMP.

10.6.031 Contaminate Release to Waters

Comment

The water criteria, such as in Table 21-11, have not been set for the site, but rather have been left blank to be completed from a baseline monitoring program.

Recommendation

The EM plan should include default values for measurable indicators, standards and control strategies to protect or enhance each of the environmental values associated with impacts on water quality. The default values may be modified at a later date when site-specific values are obtained from the monitoring program.

Response

AEIS Volume 1;

- Part 9.11 EMP - presents the revised SGCP Environmental Management Plan.
- Part 9.3.5 Water Management Plan.

10.6.032 Environmental Protection Commitments

Comment

The environmental protection commitments are not linked to best practice environmental management to protect or enhance the environmental values identified within the EM Plan.

Recommendation

Environmental protection commitments should be proposed to protect or enhance the environmental values under best practice environmental management for activities that do not comply with any codes of environmental compliance.

The environmental protection commitments must be stated in a way that allows them to be measured and audited, and include environmental protection objectives and the standards and measurable indicators to be used for identifying if the environmental protection commitments are being met.

Response

AEIS Volume 1;

- Part 9.11 EMP - presents the revised SGCP Environmental Management Plan - specifically reference the discharges to surface water.
- Part 9.3.5 Water Management Plan.

10.6.033 Regulated Dams

Comment

Section 9.8.3.1.1 of the EIS, page 9-102, has identified and named nine dams as part of the Saline Water Management System at the proposed mine. In section 5.2.1 of Appendix F of the EIS, Site Water Balance Model, those nine dams are classified as regulated dams. Section 5.2.1 identifies eight of these saline water dams as “*Significant Hazard*” regulated dams; but at the bottom of page 16 the Pit Water Dam is classified as a “*High Hazard*” regulated dam because of its proximity to Capricorn Highway and Railway. However, a mistake has occurred in Schedule G of the EM plan that implies, through the performance criteria in the Hydraulic Performance Table, that the Pit Water Dam is a Significant Hazard dam.

Recommendation

The Hazard Categories of all regulated dams should be entered into Table 21-22 of the EM plan. The Hazard Category for the Pit Water Dam should be “*High Hazard*” and the categories for the other eight dams should be “*Significant Hazard*”.

The Hazard Category of the Pit Water Dam in the next table, Table 21-23, should be increased to the criteria applicable for High Hazard dams. Spillway capacity should be a minimum of 1:10 000 AEP, and the Design Storage Allowance should be 1:100 AEP for a 3 month wet season. The Mandatory Reporting Level should also be increased to 1:100 AEP 72 hour rainfall.

Response

Refer to the AIES:

- Part 9.3.3 presents the revised Surface Water Model / Management System;
- Part 9.3.4 which displays the Infrastructure Layout in relation to the Q_{100} and Q_{1000} year ARI Design Event.;
- Part 9.3.5 presents the revised Water Management Plan; and
- Part 9.11 present the revised Environmental Management Plan.

10.6.034 Conditioning of levees in Schedule G

Comment

Section 9.8.8.1 of the EIS, on page 9-123, correctly states that

“The flood protection levee banks will be regulated structures with conditions administered through the EA. This will require design to be undertaken by a suitably qualified and experienced engineer and certification of the design and construction of the levee bank.”

However, there are no proposed conditions for the levees in Schedule G, Dams (page 21-47), of the EM plan.

Recommendation

The EM plan should include proposed conditions for the levees. The protection levels will be a levee that would protect the pit from at least a 1 in 3000 year ARI Flood during the operational life of the mine, and a levee to protect the final void after mine closure from a Probable Maximum Flood.

Response

Refer to response to Issues 6.006.

10.6.035 Noise and Vibration

Comment

Similar to a previous issue related to air quality, the noise and vibration criteria should be derived from base line monitoring and appropriate for the site specific circumstances. The EM plan should also include measurable control strategies and environmental protection commitments that are linked to best practice environmental management to protect or enhance the environmental values identified for the site.

Recommendation

The EM plan should include detailed measurable indicators, standards and control strategies to protect or enhance each of the environmental values associated with impacts due to noise and vibration. The control strategies should link to the indicators.

The EM plan should propose environmental protection commitments that would protect or enhance the environmental values under best practice environmental management for activities that do not comply with any codes of environmental compliance. The environmental protection commitments must be stated in a way that allows them to be measured and audited.

Response

Refer to AEIS:

- Part 9.9.2, presents the revised Air Quality Assessment
- Part 9.9.3, presents the revised Noise and Vibration Report.
- Part 9.11, presents the revised EMP, which will adopt the noise and vibration criteria based on site specific circumstances.

The noise report contained noise level goals based on measured noise levels at five sensitive receptors surrounding the project. The noise levels were obtained in July 2011, typically the quietest season. The noise level goals based on these measured noise levels were presented and all sensitive receptors were assessed to these goals (described as the noise level goals to avoid background creep)

The EMP identified that there are some concerns with compliance with the goals to avoid background creep and a number of noise control options were presented in the EM Plan. Paragraph 21.3.5.5.1 Specifically addressed the need to monitor noise levels and develop an ongoing noise management plan.

The Epsilon 'start-up' phase of the mine provides an ideal opportunity to monitor noise from operation prior to the ramping to a fully developed mine. The Epsilon phase has fewer items of plant, and much lower waste than the fully developed mine.

Hence the concern expressed in this issue is already implicitly incorporated in the EMP.

10.6.036 Regulated Waste

Comment

The EM Plan provides insufficient detail regarding general and regulated waste management at the proposed South Galilee Coal Mine, and does not include measurable control strategies.

Recommendation

The EM Plan should include measurable control strategies for general or regulated waste that would protect or enhance each of the environmental values to match the environmental protection objectives. The control strategies should link to indicators that can demonstrate effective waste management.

Response

Refer to the AEIS Part 9.10, MP10.9 Waste Management Plan.

10.6.037 Management of Mine Waste

Comment

The EM Plan does not contain sufficient detail regarding mine waste management at the proposed South Galilee Coal Mine, and with regard to the selective handling of potential acid forming (PAF) material includes the qualifying phrase '*where practicable*', which could be used to negate any management measure.

Recommendation

The EM plan lacks detail on the:

- required chemical analysis of tailings and waste rock
- risks associate with, and management of; leachate from tailings
- placement strategies for tailings in the Tailings Storage Facility
- placement strategies for tailings in the pit or within waste rock dumps
- the risks of mine waste disposal to successful rehabilitation outcomes.

Response

The process described in the EIS and inclusive of the new stage Epsilon in the AEIS does not have a tailings dam. Processing waste both coarse and fine will be handled by truck and loader and contained within the non-PAFF material as described in the PAFF Management Plan (AEIS Part 9.10.)

The liquid waste and other contaminated waste (e.g. out of pit dumps runoff) are directed to dirty water storages which are sized to accommodate the generated volume.

The water balance design will be in accordance with industry standards that minimise the risk of being unable to rehabilitate.

10.6.038 Waste Tyres

Comment

On-site disposal of waste tyres would be a notifiable activity, but the EM Plan provides insufficient detail regarding their disposal.

Recommendation

The EM Plan should provide more detail about how disposal sites or cells with the waste rock dumps would be selected and managed. It should also provide a procedure for ensuring that the disposal sites are entered on the Environmental Management Register.

Response

Refer to the AEIS Part 9.10, MP10.18 Tyre and Rim Management Plan.

10.6.039 Rehabilitation

Comment

Section 21.3.7, which deals with rehabilitation and decommissioning of the site, provides insufficient detail on a range of matters.

Recommendation

Section 21.3.7 of the EM plan should be expanded to address the following matters:

- Describe and illustrate all the rehabilitation domains at the site.
- Specify the proposed land use for each rehabilitated domain.
- Specify the ecosystem type for each area of proposed native vegetation.
- Provide expected numerical values for the several entries in Tables 21-31 and 21-32 that currently say 'TBA'
- Specify slope profiles that are consistent with intended land use and acceptable for the proposed post-mining land management and maintenance.
- Detail the management to top soils for the project to ensure rehabilitation requirements are met.
- Illustrate the final landform topography (with suitable contour intervals), and land use
- Describe the management and rehabilitation of subsidence, particularly with regard to surface cracking, and the management of drainage within subsided areas to avoid long-term ponding.
- Provide rehabilitation indicators and completion criteria developed in consideration of the departmental guideline '*Rehabilitation requirements for mining projects*'.

Response

Refer to AEIS, Section 9.10, MP10.13 Mine Closure Plan which presents the outline for the development of the Rehabilitation and Decommissioning Plan. The Rehabilitation and Decommissioning Plan will be prepared in consultation with EHP and conform to the guidelines, standards and regulatory requirements. The plan will be completed prior to any operations being carried out on site.

10.7 Department of Natural Resources and Mines

10.7.000 EMP General

Comment

DNRM has identified the EIS has a number of deficiencies including:

- Incomplete/inaccurate groundwater modelling
- inadequate information about potential impacts on aquifers
- inconsistent descriptions of geological formations and associated aquifers
- lack of commitment to an adequate groundwater monitoring program
- lack of detail regarding proposed sources of water for construction and operation
- inadequate investigation of groundwater dependent ecosystems and
- incomplete information about potential longwall mining impacts.

Recommendation

DNRM recommends that a Supplementary EIS or addendum be prepared by the proponent to address the outstanding matters.

Response

AEIS, Part 9.4 - South Galilee Groundwater Model 2013 Update for AEIS, the document includes:

- Groundwater model update, layer restructure and recalibration (Section 2)
- Prediction and sensitivity scenarios and analysis of results (Section 3)
- Further detailed information about potential impacts on aquifers (Section 3)
- Updated descriptions of geological formations and associated aquifers (Section 3)
- Reiterated commitment to an adequate groundwater monitoring program (Section 3.3)
- Downloaded information from DGE atlas overlain with predicted impacts and interpretation (Section 3.2.7).

10.7.001 Rainfall and Evaporation Values

Comment

There are no rainfall or evaporation values given in the summary whilst less important information such as wind speeds and maximum and minimum temperatures are given.

Recommendation

Include basic data in the summary on ES-9 for Climate Summary. These data should at least include annual rainfall and annual evaporation.

Response

Refer to the EIS Section 6 -CLIMATE, NATURAL HAZARDS AND CLIMATE CHANGE.

Section 6.1.1 Temperature includes;

- Includes table 6.1 which shows the temperature, humidity, wind speed and rainfall.

Section 6.1.2 Rainfall includes tables 6.3 which shows the average rainfall. In summary, the mean annual rainfall recorded at the Barcaldine Post Office is 503.9mm.

Section 6.1.5 Evaporation, includes details of the evaporation for the Barcaldine region, in summary the annual average evaporation is 8.4mm.

10.7.002 Final Void Dimensions

Comment

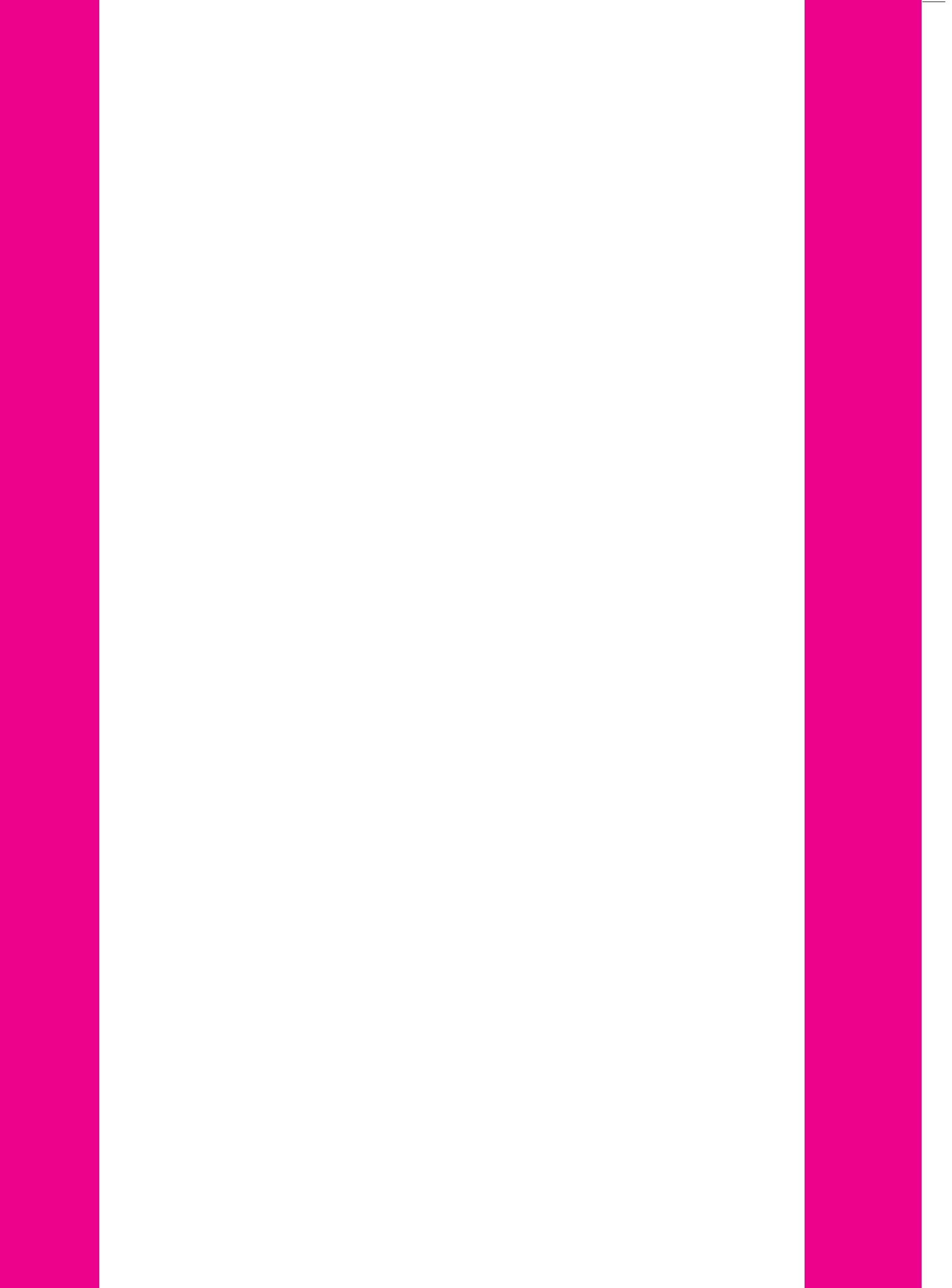
The final voids dimensions are different in two different parts of the documentation. In the ES p.21 the voids are 90m deep, whilst in s5.9.3 on p.5-44 the voids are 140m deep by 329ha.

Recommendation

Resolve this issue and change one or both of the estimated void dimensions so that they are consistent.

Response

The final void dimensions have been changed as a consequence of the review mine plan. Refer to the following figure for information.



10.7.003 Water License

Comment

The EIS states *"The Water Act requires a licence for works that interfere with the flow of water (e.g. diversion of Sapling Creek). As this creek is classified as a watercourse, a Riverine Protection Permit will be required."*

This is incorrect, a Water Licence is required for the diversion of a watercourse, not a Riverine Protection Permit.

Recommendation

It is recommended that the text is updated as indicated below.

Delete the struck through text and include the underlined text:

The Water Act requires a water licence to interfere with the flow of water within a watercourse, lake or spring (e.g. diversion of Sapling Creek). As this creek is classified as a watercourse, a Riverine Protection Permit will be required.

Response

Should the diversion of a watercourse be required it will be pursued as follows:

The Water Act requires a water licence to interfere with the flow of water within a watercourse, lake or spring (e.g. diversion of Sapling Creek). As this creek is classified as a watercourse, a Riverine Protection Permit will be required."

Refer to AEIS Volume 1, Part 9.2 which explains that Sapling Creek is no longer diverted.

10.7.004 Overland Flow

Comment

The EIS states:

" To the extent that the diversion is taking or interfering with overland flow water, it is authorised under the Water Act, unless a moratorium notice, water resource plan or wild rivers declaration limits or alters the water that may be interfered with or taken."

Overland flow, unless captured, will eventually drain into larger features which are generally determined to be watercourses under the *Water Act 2000*. A water licence for the diversion of a watercourse will not authorise the capture of overland flow, or the impoundments of water within the diversion. The flow will be required to be passed downstream.

The capture or take of overland flow in the location of the proposed site is regulated under the Water Resource (Burdekin Basin) Plan 2007.

Recommendation

It is recommended that the proponent notes that any take of overland flow must be in accordance with the Water Resource (Burdekin Basin) Plan 2007.

It is recommended that the text is updated as indicated below.

Delete struck through text and include underlined text:

~~To the extent that the diversion is taking or interfering with~~ The take of overland flow water, is authorised under the *Water Act*, unless a moratorium notice, water resource plan or wild rivers declaration limits or alters the water that may be interfered with or taken. Any take of overland flow will be in accordance with the Water Resource (Burdekin Basin) Plan 2007.

Response

The Proponent notes that any intake of overland flow will comply with the following:

The take of overland flow water, is authorised under the *Water Act*, unless a moratorium notice, water resource plan or wild rivers declaration limits or alters the water that may be interfered with or taken. Any take of overland flow will be in accordance with the Water Resource (Burdekin Basin) Plan 2007.

10.7.005 Coal Resources

Comment

Location and areal extent (i.e. the area covered by) the estimated coal resources presented in Tables 4-2 (and repeated in Table 7-3) is not presented graphically

Modifying factors and assumptions used in deriving coal resource estimates are not presented - refer Section 3.2.2 '*Mineral resources*' (page 27) of the Terms of Reference.

The source quoted in the EIS for estimates provided in table 4-2 and 7-3 is "*AMCI and Bandanna Energy 2011 (b), Pre-Feasibility Study Report: South Galilee Coal Project*".

Recommendation

- Provide map(s) showing location and areal extent of coal resources to be mined incorporating any constraints, buffers, boundaries etc. on mining.
- Specify modifying factors and assumptions in deriving the stated coal resource estimates.

Response

Refer to the AEIS, Section 9.1 which presents the revised mine schedule including the new stage Epsilon.

Resource estimates comply to the J.O.R.C.

10.7.006 Construction Materials

Comment

This section of the draft EIS states that *“A Range of different construction material and equipment will be required most of which will be sourced from Brisbane, Gladstone and Mackay, with a small percentage sourced from local and regional areas”*

This statement suggests that construction materials will be sourced from the major centres mentioned which is in contradiction with statements made later in the draft EIS. Section 18.7 suggests that construction aggregates will be sourced from local quarries.

Recommendation

Clarification is needed as to the source of the quarry materials that will be required during construction including hard rock aggregates and sand and gravel material that will be required for construction.

Response

- Transport component of the AEIS Part 9.12 Transport has a reassessment of the transport requirements and identifies materials that will be required from other than local areas.
- There is an existing hard rock quarry on the eastern boundary of Sapling Creek, this quarry is permitted DAFF and it is intended that quarry products will be sourced from this quarry. The quarry materials will be transported to the various sites via construction roads.
- Supply has been discussed with the quarry operator and its reserves can accommodate the SGCP requirements and continue to satisfy the existing demand.

10.7.007 Proposed Water Resources

Comment

The EIS states “Operational raw water will be sourced from a combination of groundwater, de-watering, surface water harvesting and external water supply to be determined during various stages of the SGCP.”

The use of groundwater, de-watering and surface water harvesting for operational water supply will be subject to authorisations granted under the Water Act 2000 and/or the provisions within the Water Resource (Burdekin Basin) Plan 2007.

Recommendation

It is recommended that the proponent contacts the Department of Natural Resources and Mines with details of the proposed sources of water for the construction and operation phases to discuss possible options and required authorisations.

Response

Surface and Ground water impacts resulting from the proposed SGCP mining development are presented in Part 9.3 and 9.4 of the AEIS. The detail establishes that ground water is a major source of water. Table 6.1 in AEIS Part 9.3.5 Water Management Plan provides supply / demand details.

The use of ground and surface water will comply with prevailing authorisation requirements.

AEIS Parts 1.1, 3.3 and 4.2 cover aspects of the “External” water supply.

10.7.008 Water License

Comment

The EIS states “It is estimated that a 3,000 ML/a allocation from the external water supply will be sufficient to meet SGCP water demand until the commencement of Stage 3 operations, after which an additional 470 ML/a will be sourced from rainwater, runoff from disturbed and undisturbed areas, and groundwater.”

Recommendation

It is recommended that the proponent notes that the capture of overland flow water must be in accordance with the Water Resource (Burdekin Basin) Plan 2007.

It is recommended that the proponent notes that a water licence for the take of groundwater is required under s206 of the *Water Act 2000*. Water permits may also be required under s237 of the *Water Act 2000* for any temporary take of groundwater for construction purposes.

Response

Refer to responses to Issues 7.004, 7.007 and 7.020.

10.7.009 Final Void Dimensions

Comment

The final voids dimensions are different in two different parts of the documentation. In ES-21 the voids are 90m deep, whilst on p5-44 the voids are 140m deep by 329 ha in 5.9.3.

Recommendation

Resolve this issue and change one or both of the estimated void dimensions so that they are consistent.

Response

Refer to response to issue 7.002.

10.7.010 Geology

Comment

Geology described and depicted in the EIS is largely at a regional scale and not at a mine/project scale.

Geological cross sections of the geology (incorporating details of the coal seams to be mined) across the project area within the proposed mining lease have been omitted – refer Section 3.2.2 ‘Topography, geology and soils’ – paragraph 2 (page 26) of the Terms of Reference.

Recommendation

Provide more geological detail at the open-cut/underground mine/project scale that includes representative cross sections across the project area within the proposed mining lease application, incorporating details of coal seams to be mined.

Response

Over 35,000m of drilling has been completed within the ML, this information will be collated and presented post CGEA. AEIS Part 9.4 has further information on the site geology.

10.7.011 Stock Routes

Comment

Several incorrect references to Department of Environment and Heritage Protection (DEHP) in relation to Stock Route Management. Stock Route Management is administered by the Department of Natural Resources and Mines (DNRM).

Recommendation

Replace DEHP with DNRM in relation to Stock Route Management.

Response

The correction has been acknowledged.

10.7.012 Regional Ecosystem Mapping

Comment

The proponent should address any mapping errors or claims of inaccurate mapping data of the Regional Ecosystem mapping prior to lodgement of the application for the Development Approval to Vegetation Management.

Recommendation

Section 8.2.3.2 – Field verified Regional Ecosystems (Page 8-15). Insert at the end of the first paragraph:

‘Prior to the lodgement of the application to DNRM Vegetation Management to clear native vegetation, SGCP will apply for a Property Map of Assessable Vegetation (PMAV) to change the Regional Ecosystem mapping if any inaccurate mapping data was identified.’

Response

The proponent will address any mapping errors or claims of inaccurate mapping information of the Regional Ecosystem mapping prior to the lodgement of the application for the Development Approval to Vegetation Management.

10.7.013 Vegetation Clearing

Comment

The proponent should address how any proposed vegetation clearing outside the project area (off lease) will meet any requirements outlined under the Vegetation Management Act 1999.

Recommendation

Section 8.7.1.1 – Clearing of vegetation (Page 8-105). Insert at the end of the first paragraph:

“If applicable, SGCP will address how clearing off lease (outside the proposed application area of either mining lease) will be undertaken in accordance with the *Vegetation Management Act 1999*.”

Response

Off lease vegetation clearing will be addressed as part of a subsequent approvals process as infrastructure corridor is defined.

10.7.014 Vegetation Management Plan

Comment

If applicable, the applicant should, prior to a decision made upon Mining Lease application 70453, seek a determination by DNRM Vegetation Management as to whether or not the project can be determined to be a Significant Community Project pursuant to the *Vegetation Management Act 1999* (VMA).

Recommendation

Section 8.7.1.1 –Mitigation Measures (Page 8-105). Insert before the second paragraph:
Prior to the lodgement of the application to DNRM Vegetation Management to clear

native vegetation, SGCP will seek confirmation from DNRM Vegetation Management of the project being determined to be a Significant Community Project ('SCP') pursuant to section 10(5) of the VM Act"

Applicant to note the following:

Please note a declaration of the project being a Significant Project ('SP') under section 26(1)(a) of the *Queensland State Development and Public Works Organisation Act 1971* (SDPWO Act) does not automatically make the project an SCP under the VMA. The applicant should address and meet the following criteria:

- a. The project must meet any one of the following categories:
 - Provides an **aesthetic, conservation, economic or cultural benefit** to the local or regional community or the State;
 - Serves an **essential need** of the community; or
 - Significantly improves the community's **access to services**.
- b. The project must meet **all** of the following considerations:
 - A project that has specific locational requirements. Hence there is a community need for the project, the location is appropriate based on the project context, and there are no reasonable alternative locations for the project to be located in;
 - The project benefits are not speculative. Hence the benefits of the project proposal are realistic and supported by evidence;
 - The benefits of the project are significant to the relevant community (whether local, regional or State community), and the benefits are enduring or long term; and
 - The project is predominately for the community benefit, and not predominately for other purposes. Furthermore, the benefits are significant to the community and not merely a limited number of people.

Please note only interests based solely on the merits of the project and no other ancillary interests / merits regarding the project will be considered in the Assessment.

Response

The proponent will, prior to the lodgement of the application to DNRM to clear native vegetation, seek confirmation from DNRM Vegetation Management of the project being determined to be a Significant Community Project (SCP) pursuant to section 10(5) of the VM Act.

10.7.015 Water Act 2000

Comment

The EIS states "Where the bed and banks of watercourses are to be disturbed by proposed works, licensing will be required under the *Water Act*. Once design of these structures is finalised, they will be submitted to DNRM with an application for a Riverine Protection Permit and/or Water Licence application.

A water licence under the *Water Act 2000* is required for the interference with flow of water in a watercourse, lake or spring (which includes a watercourse diversion).

Activities carried out within a watercourse, lake or spring (i.e. destroying native vegetation, excavating or placing fill), are authorised by a Riverine Protection Permit under the *Water Act 2000* e.g. this would be applicable for the construction of a crossing. With regards to an environmental authority holder (for a resource activity) or a MDL or ML holder (for mining operations) conducting these activities in a watercourse, lake or spring necessary for and associated with mining operations, the holder may carry out the activity in accordance with the departmental Guideline - Activities in a watercourse, lake or spring associated with a resource activity or mining operations (version 3), which is accessible from the department's website at: <http://www.derm.qld.gov.au/about/policy/documents/3435/attachments/guideline-3435-act-wls-assoc-mining-v3-20120712.pdf>

Recommendation

It is recommended that the proponent notes the difference between a water licence to interfere with the course of flow in a watercourse, lake or spring and a riverine protection permit.

It is recommended that the text is updated as indicated below.

Delete the struckthrough text and include underlined text:

Where the bed and banks of watercourses are to be disturbed by proposed works, authorisation will be required under the *Water Act*. ~~Once design of these structures is finalised, they will be submitted to DNRM with an application for a Riverine Protection Permit and/or Water Licence application.~~

Response

The proponent will delineate what is managed under the GAB WRP. Licensing will then be pursued under the appropriate protocols.

10.7.016 Water Resources GAB

Comment

In this section it is stated;

“The Water Resources (Great Artesian Basin) Plan 2006 is the primary legislation for groundwater management of the GAB in Queensland. There are no artesian bores located in or near the SGCP area.”

The GAB WRP manages the take of groundwater (artesian and sub-artesian) from artesian sediments. The fact that there are no artesian bores in the area is not the point of interest here.

Take of groundwater from the Rewan Formation and the Clematis Sandstone, to the west of the mining lease, is managed under the GAB WRP.

In the GAB in this area a licence is required for the take of groundwater for purposes other than domestic. This is important when viewing data from the DNRM Water Management System Search, discussed in section 9.5.5.2 and understanding where licences exist. i.e In the area managed under the Highlands sub-artesian area licences are not required for stock bores and in the GAB area licences are required for stock bores.

Recommendation

The proponent must clarify what is managed under the GAB WRP in the area and the difference in requirements for licensing the take of groundwater for stock purposes under the GAB WRP and the Highlands subartesian area.

Response

All water sourced, whether groundwater or surface water, will be subject to established licensing requirements, and be permitted in accordance with the Water Resource (Burdekin Basin) Plan 2007, the Water Resource (GAB) Plan 2006 and Water Act 2000 as well as with necessary discussions with DNRM.

10.7.017 Groundwater Model Layers

Comment

The titles for General lithology and Inclusive lithology in this table need reviewing.

Layer 2 is titled Permian Overburden when it includes the Clematis Sandstone, Rewan Formation and Dunda Beds which are not Permian.

Layer 4 has a General lithology of Bandanna Formation/ Colinlea Sandstone interbeds whilst the inclusive lithology is the Colinlea sandstone interbeds (only)

Layer 6 is the Colinlea Sandstone interbeds which conflicts with table 6.1 in Appendix G where it is labelled Bandanna Formation/ Colinlea Sandstone interbeds.

Accuracy and consistency is required in these descriptions.

Recommendation

The proponent must provide accurate consistent descriptions of the aquifers / lithology in the description of the layers in table 9-7.

Response

This has been addressed in AEIS, Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS, Section 2.4 - Table 2.1, Table 3.1 and Table 6.1. **Aquifer Representation**

Comment

This figure provides information on the 'Groundwater Existing Environment – Calibrated Water Table mAHD'

However there is no discussion of what aquifers this represents.

Recommendation

The proponent must clarify what aquifer/s are represented by the data provided in Figure 9-12.

Response

AEIS Volume 1, Part 9.4 - South Galilee Groundwater Model 2013 Update for AEIS, includes water level contour plots for individual model layer aquifers. Where there are dry cells affecting certain model layers, these areas are identified with cross-hatching, allowing inspection of the contours on the water table in the underlying saturated aquifer units. Note that water table is defined as "the pressure surface where pore-water pressure is at local atmospheric pressure" (Holzer, T.M, Ground Water, vol 41, no2, March-April 2010). Thus it is possible to have areas of unsaturated aquifer within a model layer that are underlain by saturated aquifer conditions. In other words, the water table is distributed across a range of aquifer layers, as show in in Figure 3 of www.gmwater.com.au/downloads/Groundwater/2977263-v5-GROUNDWATER_TERMS_AND_DEFINITIONS_GLOSS-1.pdf.

The updated pre-mining water table is provided in Figure 15 of Groundwater Model AEIS, Part 9.4. The predicted drawdowns and water levels at the end of mining for each layer of the revised model are provided in Figures 18 to 33 and Attachment C respectively to the Groundwater Model AEIS.

10.7.018 Final Void

Comment

The EIS states "As the final pit void fills with groundwater seepage, and some direct rainfall and surface runoff, water levels will begin to recover. The final pit void is located at the western end of the open-cut excavation and will be protected from major flood inundation by an engineered levee wall."

Recommendation

It is recommended that the proponent notes that the capture of overland flow in this project area must be in accordance with the provisions of the Water Resource (Burdekin Basin) Plan 2007. Final voids should be rehabilitated to minimise the capture of overland flow.

Response

The open cut pit will be protected with a 1:3000 flood levee to prevent the inflow of water into the pit. AEIS Part 9.1, Figure 9.1.4.1 shows the diversion of the surface water around the mining area, this clean water will be diverted around the pit and re-entering the existing water course downstream. The flood protection levees will remain in place to prevent inflow into the decommissioned pit.

AEIS Part 9.10 Management Plans, includes the Rehabilitation and Decommissioning Plan.

It is noted that the capture of overland flow will be in accordance with the Water Resource (Burdekin Basin) Plan 2007.

10.7.019 Construction Water Supplies

Comment

The EIS states "Water for the construction phase of the SGCP is proposed to be sourced from boreholes as part of the advanced dewatering of the mine and/or supplied from existing storages.

Recommendation

It is recommended that the proponent notes that a water licence for groundwater dewatering is required under s206 of the Water Act 2000. Water permits may also be required under s237 of the Water Act 2000 for any temporary take of groundwater for construction purposes.

The proponent should also note that storages that capture overland flow must comply with the provisions of the Water Resource (Burdekin Basin) Plan 2007.

Response

All water sourced, whether groundwater or surface water, will be subject to established licensing requirements, and be permitted in accordance with the Water Resource (Burdekin Basin) Plan 2007, the Water Resource (GAB) Plan 2006 and the Water Act 2000 as well as with necessary discussion with DNRm.

10.7.020 Design Construction and Maintenance Levees

Comment

The EIS states "The channel will be sized in accordance with the hydraulic performance criteria specified in the document, Central West Water Management and Use Regional Guideline: Watercourse Diversions (DERM 2008). A new version of this guideline is available."

Recommendation

It is recommended that the proponent notes that an updated version of this guideline is available and the updated guideline should be used when designing watercourse diversions. The updated guideline is entitled Central West Water Management and Use Regional Guideline: Watercourse Diversions – Central Queensland Mining Industry" Guideline version 5 (2011).

Response

The channels will be in accordance with the hydraulic performance criteria specified in the Central West Water Management and Use Regional Guideline: Watercourse diversions - Central Queensland Mining Industry Guideline version 5 (2011).

10.7.021 Dewatering Impacts Mitigation

Comment

In this section it states;

Any indication that predicted impacts differ from actual impacts will be addressed with the recalibration of the hydrogeological model. The addition of data collected over a period of mining should result in improved accuracy of the model. Informed by the results of the groundwater monitoring program, the numerical model will improve as a planning and design tool over the life of the mine.

This is not a clear commitment to update/ recalibrate the model on a regular basis as more data becomes available.

Section 9.9.1 states;

If dewatering causes any detectable, detrimental groundwater impact to landholders as a result of the SGCP, the Proponent will seek to establish mutual agreements with the impacted parties to provide an alternate water supply.

And

The SGCP will develop alternate water supply agreements with landholders who will potentially be impacted by mine dewatering.

And

The Proponent has made a commitment to 'make-good' affected groundwater supplies.

The specific arrangements for affected properties will be discussed with relevant landholders if they occur, with a view to reaching a mutually acceptable agreement.

There is inconsistency in these statements as to whether agreements will be entered into with those landholders who will potentially be impacted or perhaps if impacts occur.

There should be a commitment here to enter into agreements with those predicted to be impacted prior to mining commencing and with others as additional information indicating impacts or potential impacts, becomes available.

Recommendation

The proponent must make a clear commitment to update/ recalibrate the groundwater model on a regular basis as more data becomes available.

The proponent must commit to enter into agreements with those predicted to be impacted prior to mining commencing and with others as additional information indicating impacts or potential impacts, becomes available.

The commitment needs to be in the groundwater report and the EMP.

Response

In due course, if the actual impacts of mining match those in the predictions then there would be little value in recalibration of the model. However, the additional data would be used to verify that these existing predictions are still valid, and would be reviewed as part of the Water Licence Annual Aquifer Performance Review. The Century mine for example applied a trigger of 20% deviation from predictions as warranting recalibration (Graeme Herbert was involved in developing those conditions, with Hugh Middlemis). The groundwater model AEIS includes the recommendation that a 20% deviation from predictions be used as a trigger for model recalibration (section 3.3 of the AEIS), along with re-iteration and clarification of proponent commitments to make good with parties that are predicted to be impacted prior to mining commencing in Parts 3.2.3 and 3.9 of the AEIS.

Section 9.16 contains the Commitment Register which includes the “Make Good Commitment”.

10.7.022 Extractive Resource Availability

Comment

This section of the EIS states that “The need for railway ballast and construction aggregates for use in concrete and other quarry materials throughout the construction operation of the SGCP will increase the output required from extractive resource industries in the area surrounding the SGCP. This will result in increased economic activity in the region that will have a positive impact on the local community.”

The suggestion that increased output from quarries in the local area will result in increased economic activity which will be a net positive for the region does not address in any way the potential depletion of supply of extractive resources for the local community.

Due to limited known quarry sites in close proximity to the proposal area the potential for impact on supply for the region is significant.

Recommendation

The potential impact of the depletion of extractive resources within the local community needs to be addressed in this section, along with any proposed mitigation measures.

Response

Refer to response to issue 7.006.

10.7.023 Matters of National Environmental Significance

Comment

The EIS states "Loss of pooled water from the headwaters of tributaries of Tallarenha Creek due to cracking from longwall mining is unlikely but possible. In the event that this occurs, artificial water supplies (dams) may be constructed in nearby areas to provide alternate sources of water for Black-throated Finches, should they occur in this area."

Recommendation

It is recommended that the proponent notes that the construction of artificial water supplies (dams) that capture overland flow must be in accordance with the provisions of the Water Resource (Burdekin Basin) Plan 2007.

It is recommended that appropriate measures are detailed that mitigate the impacts of subsidence as outlined in the Terms of Reference for the project.

Response

Any artificial water supplies (dams) that capture overland flow will be delivered in accordance with Water Resource (Burdekin Basin) Plan 2007.

The mine schedule as Figure 9.1.1 shows the extremities of the underground mining. Subsidence predictions will apply only to this area and the extent will be as presented in the EIS. Any cracking that could enable surface water or different aquifer water to flow has been addressed in AEIS Parts 9.3 and 9.4.

The north - south orientation of the longwall panels will see the flow of surface water moving in a northerly direction and these are directed into Tallarehna Creek, so flow changes are minimal.

Erosion and Sediment Control Plan in Section 9.10 when implemented will ensure that water quality parameters are maintained.

10.7.024 Water Consumption

Comment

The EIS states “It is expected that 3,000 ML/annum allocation from the external water supply will be sufficient to meet SGCP water demand until the commencement of Stage 3 operations, after which an additional 450 ML/annum will be sourced from a combination of the following sources:

- rainwater capture/tank water (up to approximately 65 ML/annum)
- runoff from undisturbed areas (up to approximately 1,800 ML/annum)
- runoff from disturbed areas (up to approximately 2,400 ML/annum)
- dewatering from underground (up to approximately 341 ML/annum)
- groundwater (up to approximately 341 ML/annum).

Recommendation

It is recommended that the proponent contacts the Department of Natural Resources and Mines with details of the proposed sources of water for the construction and operation phases to discuss possible options and required authorisations.

Response

Refer to response to Issue 7.020.

10.7.025 Subsidence

Comment

The EIS states “Changes in the profile of Tallarenha Creek due to subsidence may affect the movement of sediment through downstream Quarry Material Allocation Notice (QMAN) areas is intended to be mitigated by engineering works designed to maintain free-draining stream channels post subsidence.

The establishment of a monitoring plan over the subsidence impacted areas of Tallarenha Creek will allow the identification of any changes to drainage that could have downstream impacts, and their mitigation through further channel engineering works.”

The EIS should identify downstream QMAN holders and provide mitigation measures for any proposed impacts.

Recommendation

It is recommended that appropriate measures are detailed that mitigate impacts on any QMAN holders during the EIS process as outlined in the Terms of Reference for the project.

Response

The mine plan as presented in AEIS Part 9.1 reflects that the bed profile of Tallarehna Creek is undisturbed. There is no mining under Tallarehna Creek. Therefore, the only movement of sediment downstream could result from subsidence in the catchment which is managed in the response to Issue 7.024.

Therefore there will be no affect on downstream QMAN areas. **Groundwater**

Comment

There is no commitment in this section to mitigate impacts to landowners bores by entering into agreements. Furthermore there is no discussion as to when agreements will be entered into and the nature of those agreements.

Recommendation

The proponent must commit to enter into agreements, prior to mining commencing, with those landowners predicted to be impacted and with others as additional information indicating impacts or potential impacts, becomes available. There must also be a commitment to replace diminished groundwater with the same quantity and quality or better.

Response

Refer AEIS Volume 1,

- Part 9.14 SIA Landholder Management - Commitments.
- Part 9.16 Commitments Register

10.7.026 Aquifers

Comment

This section details the potential impacts on groundwater during the life of the SGCP. It lists the dewatering of the coal seams as one potential impact.

There is however no mention of aquifers in any other formation. The modelling clearly demonstrates the potential to dewater alluvium tertiary and Permian aquifers, apart from coal.

Recommendation

The proponent must include details of all aquifers predicted to be dewatered.

Response

Refer to AEIS:

- Part 9.4 Ground Water - Section 9.2.3 Predicted drawdown effects due to mine dewatering.
- Part 9.11 EMP

10.7.027 Domestic Bores

Comment

This section states;

The main environmental value associated with groundwater at the SGCP is for the purposes of stock watering.

It is possible that stock watering is the predominant use for groundwater in the area but given that the only two properties inspected as part of the bore survey both had domestic bores, this purpose should also be mentioned.

Recommendation

The proponent must acknowledge the environmental values of drinking water and domestic use other than drinking as being relevant in this area.

Response

It is acknowledged water is used for domestic purposes.

10.7.028 Domestic Bores

Comment

In this section it states that the environmental protection objectives for groundwater include;

minimise detrimental impact on the suitability of groundwater for agricultural use (stock watering)

Given the demonstrated existing use of groundwater in this area for domestic purposes this purpose should be included in this environmental protection objective.

Recommendation

The proponent must acknowledge the existing use of groundwater for domestic purposes in the area and include this purpose in a description of the environmental protection objectives.

Response

It is acknowledged water is used for domestic purposes.

10.7.029 Domestic Bores

Comment

In this section it states;

The SGCP has the potential to impact on groundwater resources. Mitigation and management measures to be implemented, to reduce or eliminate the risks identified, are required to:

- *not detrimentally impact on the availability and suitability of groundwater for agricultural use (stock watering).*

Given the demonstrated existing use of groundwater in this area for domestic purposes this purpose should be included in this description of the potential impacts and mitigation required.

Recommendation

The proponent must acknowledge the existing use of groundwater for domestic purposes in the area and include this purpose in a description of the potential impacts and mitigation required.

Response

Refer to response to issue 7.029.

10.7.030 Groundwater Measurement

Comment

In this section the proponent commits to measuring groundwater levels in monitoring bores on a quarterly basis during mining.

This frequency of measurement is not considered adequate with most bores required to be monitored monthly and those where impacts are predicted to be significant, monitoring should be carried out continuously by use of dataloggers.

Recommendation

The proponent should commit to the monitoring of groundwater levels at a minimum frequency of monthly and include provision for the use of dataloggers in and around the mine area where significant impacts are predicted.

Response

Commitment to undertake monthly monitoring - refer to Commitment register in the AEIS Part 9.16.

AEIS, Part 9.4, Section 3.3 South Galilee Groundwater Model 2013 Update AEIS - Monitoring, Evaluation, Reporting and Improvement.

10.7.031 Groundwater Monitoring Program

Comment

The proposed groundwater conditions make no mention of a groundwater monitoring program.

A commitment must be provided for the development of a groundwater monitoring program and the need for the submission of this program to the administering authority for approval before the commencement of mining.

The program should include details of the aquifers to be monitored (alluvium, Tertiary sediments, Bandanna Formation, Colinlea Sandstone, Rewan Formation and Clematis Sandstone). It should include details of the measurement of water levels and sampling for water quality monitoring, bores to be measured/ sampled and frequencies.

A process for the development and finalisation of trigger levels prior to commencement of mining should also be described..

Where details of bores to be monitored are provided (as has been provided in table 21-19) a map must be supplied showing the locations of the bores.

There must be a commitment to construct all monitoring bores in accordance with the Minimum Construction Requirements for Water Bores in Australia.

There must be commitments in relation to reporting the monitoring data to the administering authority, provision of quarterly and annual reports, including a discussion of impacts and any mitigation strategies.

Recommendation

The proponent must provide a commitment for the development of a groundwater monitoring program and the need for the submission of this program to the administering authority for approval before the commencement of mining.

The program should include details of the aquifers to be monitored (alluvium, Tertiary sediments, Bandanna Formation , Colinlea Sandstone, Rewan Formation and Clematis Sandstone). It should include details of the measurement of water levels and sampling for water quality monitoring, bores to be measured/ sampled and frequencies.

A process for the development and finalisation of trigger levels prior to commencement of mining should also be described..

Where details of bores to be monitored are provided (as has been provided in table 21-19) a map must be supplied showing the locations of the bores.

There must be a commitment to construct all monitoring bores in accordance with the Minimum Construction Requirements for Water Bores in Australia.

There must be commitments in relation to reporting the monitoring data to the administering authority, provision of quarterly and annual reports, including a discussion of impacts and any mitigation strategies.

Response

Refer to commitment register AEIS, Part 9.16.

The proponent will undertake monthly monitoring of the groundwater bores detailed in AEIS Volume 1, Part 9.4 Ground Water.

10.7.032 Surface Water

Comment

Table 1.3 Catchment Areas Draining to Site Water Storages provides a list of the storages that capture overland flow, showing the different types of land uses and total hectares of the catchment areas.

Recommendation

It is recommended that the proponent notes that the capture of overland flow must be in accordance with the Water Resource (Burdekin Basin) Plan 2007.

Response

Refer to response to issue 7.020.

10.7.033 Existing Overland Flow.

Comment

Appendix G should have a standalone map of the local creeks and the open pit and longwall mining areas so that it can be clearly seen where these components are and what the interactions between them are likely to be.

Recommendation

Produce a map for Appendix G illustrating creeks and longwall and mine voids open pit areas.

Response

AEIS Part 9.1 Mine Scheduling, Figure 9.1.1 shows the extent of the open cut, underground mining activities and the existing creeks.

10.7.034 Groundwater Dependiant Ecosystems (GDEs)

Comment

No known GDEs, and the depth to water table in this area is in excess of 10m.

10 metres is a conservative water table depth to use to preclude vegetation use of groundwater. The paper: Eamus, D., Froend, R., Loomes, R., Hose, G., and Murray, B. 2006. 'A functional methodology for determining the groundwater regime needed to

maintain the health of groundwater-dependent vegetation.’ Australian Journal of Botany, 2006, (54), pp.97–111 states that there is a possibility of groundwater use by vegetation when the water table is up to 20m below ground level.

It seems unlikely that the depth to watertable is greater than 10m in areas of low groundwater salinity that have been recharged by streamflow. These are the areas where GDEs are more likely – have they been properly investigated?

Recommendation

Correct this statement and illustrate (map) areas of potential vegetation GDEs.

Response

An assessment of the potential occurrence of and impact on GDE’s is presented in the Groundwater Section of the AEIS (refer Section 9.4). The assessment has utilised the Atlas of Groundwater Dependent Ecosystem published by the Australian Bureau of Meteorology. The atlas identifies a number of potential GDE’s within the Project area, all of which appear to be associated with riparian areas or surface water features.

The assessment also presents the modelled pre-mining groundwater levels across the site. The pre-mining depth to groundwater (below surface) is in excess of 20m in almost the entirety of the site, with small areas in proximity to Alpha Creek identified as being less than this depth. It is acknowledged that there are likely to be shallower depths to groundwater along riparian areas.

The assessment also presents the change in depth to groundwater as a result of the project and concludes that the aquifers that will be impacted by project drawdown are not connected to shallower perched aquifers associated with riparian areas. It therefore concludes that Project drawdown will not impact on any potential GDE’s.

Whilst it is concluded that project drawdown will not affect any potential GDE’s, there are areas identified as potential GDE’s by the Atlas that will be disturbed as part of the physical mining operation. Although it is questionable as to whether the areas identified as potential GDE’s by the Atlas are actually GDE’s (farm dams), any terrestrial ecological value associated with the species and communities within these areas is considered under the provisions of the Vegetation Management Act, 1999 (VM Act) and Environment Protection and Biodiversity Conservation Act, 1999 (EPBC Act). Avoidance of ecological values has formed a key component of the Project design and revision (refer Section 2 of the AEIS) and the management of disturbed ecological values protected under the VM Act and EPBC Act has been conservatively addressed in the Biodiversity Offset Plan (refer Part 9.13.1 of the AEIS).

A multi-survey stygofauna assessment has been completed and is presented in Part 9.7 of the AEIS. The stygofauna report concludes that potential stygofauna habitat is very limited and that as a result, stygofauna are unlikely to be well represented within aquifers associated with MLA 70453. On that basis, GHD (stygofauna specialists) believe that stygofauna should not be considered a relevant environmental factor in the assessment of the SGCP EIS.

10.7.035 Coal Seams

Comment

Coal Seams D1 and D2 are to be mined, however there is an issue as to where these seams sit in relation to geological formation top and bottoms of the Bandanna Formation and Colinlea Sandstone.

Section 3.4.3 Coal Seams states;

The major target of the Project is coal seam D which comprises two sub-seams D1 and D2, located within the Permian Bandanna Formation.

Figure 3-4 shows the D1 and D2 coal seams in the Bandanna well above the top of the Colinlea.

Figure 4-2 suggests that D2 is the boundary between the Bandanna and the Colinlea.

In section 7 Lands, section 7.2.3.2.5 Bandanna Formation it states;

The Bandanna Formation contains multiple coal seams which are generally known as Seam A to Seam F.

In the modelling layers in section 6.1 there is no attempt to split the formations with various layers being named Bandanna/ Colinlea

In addition coal seam D has previously been assigned to the Colinlea Sandstone formation in the investigation of the Galilee Coal Project, Alpha Coal Project and the Kevin's Corner Coal project. Alpha Coal reference Golder and Associates, 2007.

Recommendation

The geology presented in relation to the location of the coal seams must be reviewed by the proponent and presented in a consistent manner throughout the EIS with references provided.

Response

AEIS Part 9.4 South Galilee Groundwater Model 2013 Update Figure 3-4, 4-2 and 4-9 have updated descriptions of the conceptualisation to place the target Permian coal seams (D1 and D2) in a transition zone from the Bandanna Formation to the upper Colinlea Sandstone to maintain consistency as much as possible with the prevailing stratigraphic interpretations.

10.7.036 Mining Lease

Comment

Whilst figure 3-4 shows the boundary of the lease in comparison to the underlying geology, it does not show boundaries of proposed mining. There is a lack of a clear plan in the EIS which shows the relationship of the proposed mining boundaries to the mining lease boundary.

Recommendation

The proponent must amend Figure 3-4 to show the boundaries of the proposed mined areas.

Response

Revised maps are attached and presented in the AEIS Part 9.4 South Galilee Groundwater Model 2013 Update, including:

- Figure 1 - SGCP Conceptual Groundwater Model
- Figure 2 - Schematic Geological Cross-Section and Coal Seams
- Figure 4.2 - Schematic Hydrogeological Cross-section
- Figure 16 -Life of Mine Plan.

10.7.037 Longwall Mining

Comment

Second para states: "Other elements of the water balance are largely not affected. For example, the results show no change to stream leakage during mining compared to the pre-mining condition".

How could this be the case in areas affected by longwall mining?

Recommendation

It is difficult to assess where longwall mining will affect creek flows because there is no map of proposed mine areas overlying a map of creeks. This statement needs to be qualified or evidence presented about potential longwall mining impacts being small.

Response

Mapping reviewed to confirm there are no creeks above the longwall panel areas. Note that all the streams in the area are ephemeral (i.e. flow occurs for very short periods in any year), and have a hydrological character of losing at maximum rate (i.e. stream leakage will not increase regardless of any increase in the depth to water table, which is many tens of metres in this area (see Figure 34 of the AEIS Part 9.4).

AEIS Part 9.4:

- Figure 16 of the AEIS shows there are no mapped creeks overlying longwall panels.
- Figure 34 of AEIS shows depth to water table of many tens of metres

10.7.038 Heads of Aquifers

Comment

Section 1.3.2 states that characterisation of the existing groundwater environment has occurred.

However there appears to have been little attempt to investigate the varying heads in the different aquifers.

It would appear that the VWP bores 1-6 are recording groundwater levels in three to four separate aquifers. It appears from the modelled versus measured graphs in appendix G that the patchy data is suggesting that the range of groundwater level elevations in VW01, VW02 and VW03 (about a 17 metre spread) the range of groundwater level elevations in VW04, VW05 and VW06 (about a 29 metre spread) and the difference in groundwater elevations in MB04 and MB03 (10 metres) is indicating that there are some variations in heads in the various aquifers that needs to be accounted for in the modelling. At the very least it would need acknowledging as a limitation and its potential impact on results discussed.

However in the transient modelling (up to Jan 2011) it appears that the initial and predicted head is the same for all layers in the one location.

Recommendation

The proponent must utilise the monitoring bores and other bores nearby to provide accurate data in relation to varying groundwater levels in the different aquifers. This data must be incorporated into the groundwater model if it has not already occurred.

Response

All data was used in the model assessment (including VWP data), however, due to some validity issues, some VWP data were disregarded as discussed in the VWP validation memorandum. All groundwater data from the study area, consisting of DNRW GWDB results, SGCP monitoring bore, VWPs and exploration borehole data were collated and reviewed for use in the groundwater assessment. Criteria for use included identification of bores with groundwater elevation data from discrete aquifers. The information indicated that 149 of the 381 bores registered have depth to groundwater level records, which were used to plot the elevation of groundwater levels in all formations within the study area.

In some cases, where there is not ground surface elevation information for the bores that have groundwater levels in the database, the surface elevation was estimated using Shuttle Radar Topography Mission (SRTM) digital terrain model (DTM constructed from Australia (NASA, 2012).

On-site monitoring bore and VWP borehole elevations were surveyed using a commercial grade handheld GPS.

Groundwater data from 49 water mores (a combination of DNRW alluvial bores and monitoring bores) and 15 VWPs, representing groundwater fluctuations over a period

from 1970 to 2011 were used to construct and calibrate the groundwater model. This data represent aquifers from all eight model layers across the study area, including 12 on site bores. Time-series levels are plotted against available measured groundwater data and also against the previous RPS 2012 model results in Attachment B of the AEIS Volume 1, Part 9.4.

The revised 8-layer 2013 model showed water levels that are very consistent with the previous (RPS Aquatera, 2012) 7 layer model. In some cases the measured water levels show a better match to observed time series data (.e.g. bore 51401, 69749, MB01, MD02, VW01_c, VW04). The agreement between the two model predictions, coupled with the adjustment of the layer properties in the model confirms that the data utilised to construct the model are representative of the hydrogeological conditions in the study area.

10.7.039 Figure 4-1 of Appendix G

Comment

There is reference on the bottom of p.13 to watertable levels plotted in Fig 4.1. However all groundwater levels in 4.1 are in terms of AHD. These levels should be analysed in terms of depth below surface, along with any temporal groundwater level information, and used as a basis for assessment of GDEs.

Recommendation

Also document water table levels in terms of depth below surface.

Response

Refer to response to Issue 7.036.

10.7.040 Clematis Sandstone

Comment

Section 4.1 states;

groundwater flows away from the main recharge area formed by the Clematis Sandstone outcrop along the Great Dividing Range, and

- to the west and into the GAB system on the western side of the Range
- to the east and north-east and into the Galilee Basin on the eastern side of the Range.

This statement is repeated throughout the report. It could be much clearer. This can be interpreted as suggesting that groundwater is flowing from the Clematis sandstone (through the Rewan aquitard) to the east and north east into aquifers of the Galilee basin. If this is not the intent of the wording it should be revised.

Recommendation

The proponent should clarify wording in relation to the recharge processes.

Response

The description of the conceptualisation to place the target Permian coal seams (D1 and D2) in a transition zone from the Bandanna Formation to the upper Colinlea Sandstone to maintain consistency as much as possible with the prevailing stratigraphic interpretations, is an issue of descriptive geology rather than one that is material to the aquifer properties.

These changes have been incorporated in the AEIS Part 9.4 South Galilee Groundwater Model 2013 update for AEIS, figures 3-4, 4-2 and 4-9.

10.7.041 Bore Reference Points

Comment

Section 4.2.3 provides some information in relation to 10 monitoring bores constructed on the mining lease. It states;

The downloaded groundwater level records have not been subject to detailed analysis at this stage because the reference levels of the monitoring bores and vibrating wire piezometers have not yet been professionally surveyed. Initial analysis identified some discrepancies in the groundwater levels (assuming topography from the digital elevation model).

No logs of any of the 10 bores have been provided in the EIS documents. There is no clear understanding of which aquifer at what depth each bore is accessing. The bores all appear to have been drilled in about 2010 but very little data is presented from them. Some water levels are presented for some bores/aquifers in the 'modelled versus measured graphs'.

It seems difficult to believe that bores drilled in 2010 have still not had their reference points levelled and this is a reason that data has not been presented. It is not clear if any of the information from these bores has been used in development of the model. If not then the model lacks accurate data in the area of most importance, the mining lease.

The information that is presented is inconsistent.

Table 4.2 indicates that bore MB03 is accessing water from the Colinlea, D1/D2/interburden combined. It also indicates MB04 is accessing the Colinlea.

Figure 3-4 indicates that neither MB03 nor MB04 penetrate the Colinlea."

Recommendation

The proponent must present all data for the monitoring bores in an accurate and consistent manner.

Response

AEIS Part 9.4 South Galilee Groudwater Model 2013 Update for AEIS:

- MB3 and MB04 penetrate the Colinlea Sandstone as depicted in the revised Schematic Hydrological Cross-section - Figure 2.
- MB01 penetrates the D2 seam while MB02 and MB03 intersect the D1/D2 seams and Colinlea.
- MB04 targets the Colinlea Sandstone only.
- There are not currently any bores monitoring the overlying Tertiary aquifers. However, monitoring bores are proposed to be installed to target Tertiary and GAB aquifers (i.e. Clematis Sandstone), major fracture zones in the Bandanna Formation, coal seams and underlying Colinlea Sandstone.

10.7.042 Groundwater Dependant Ecosystems (GDEs)

Comment

It is difficult to draw many conclusions from this table in the context of GDEs except that groundwater dependent vegetation probably exists in the alluvium.

Given there is no temporal information associated with water levels it is difficult to assess the value of this information. Are there any borehole hydrographs available from alluvium and other aquifers?

Recommendation

Utilise all available borehole data to assess vegetation GDEs. Indicate with the table whether there is any temporal watertable data available.

Response

Refer to response to Issue 7.036.

10.7.043 Hydraulic Conductivity

Comment

The Rewan aquitard has a very low vertical hydraulic conductivity in the order of 1×10^{-4} to 1×10^{-3} m/day". No other references to hydraulic conductivity are given, yet it is known other mining companies have made measurements of Rewan hydraulic conductivity.

Recommendation

Provide additional measurements of Rewan formation hydraulic conductivity measured by other mining companies.

Response

References from other sources for Kz of the Rewan Fm (adjacent mining operations) cited in AEIS: Kevins Corner (URS 2012) Rewan Kz = $4\text{e-}5\text{m/d}$. Waratah (Heritage Computing 2013) Kz = $9.3\text{e-}5\text{m/d}$; Alpha (URS, 2012) Kz = $9\text{e-}5\text{m/d}$. Note that EIS report (RPS Aquaterra 2012) section 6.5 on the SGCP sensitivity analysis already discusses the calibrated Rewan Kz values for the original EIS, which adopted a relatively high Rewan Kz value of $1\text{e-}4\text{ m/d}$ that allows for drawdown effects to be transmitted through to Clematis, as a conservative approach. In combination with the factor of 10 and 100 applied to the Rewan sensitivity runs for the 2013 model reported in the AEIS Part 9.4 - (Item 3.2.2), this effectively applies a range of three orders of magnitude to the evaluation of sensitivity to Rewan Kz. The model parameterisation has been revised in line with the model layer restructuring (see section 2). Table 2.4 of AEIS Part 9.4 summarises parameter values and Figures 6 to 9 show spatial zonations. AEIS Part 9.4, Issue 2.5 of AEIS includes discussion citing info from other mining projects nearby confirming appropriate parameter specification.

10.7.044 Environmental Values

Comment

The list here does not include groundwater dependent vegetation. The list should be complete and refer to articles in the literature describing such lists.

Recommendation

Update the list so that it is comprehensive and include a literature reference, eg Eamus et al (2006) Functional methodology.....Aust J Bot 54 97-114, and the Australian GDE Toolbox available on the National Water Commission website.

Response

Refer to response to Issue 7.036.

10.7.045 Presence of GDEs

Comment

The conclusion that there are no GDEs is not supported by the evidence. Where has an analysis of groundwater dependent vegetation (eg on alluvial areas) been undertaken? Where have vegetation maps and groundwater levels been assessed? The table on p 14 so that some bores show water levels of the order of 3 m below the surface, so that in such areas there is a high degree of certainty of existence groundwater dependent vegetation. Such vegetation can extract water from depths of 20 m. Also, the conclusion that there are no GDEs is contradicted by the model assumption of an ET discharge of 9-10 ML/day (see p. 43 in the groundwater report).

It would be useful to have some monitoring bores installed in the alluvium and other areas of potential terrestrial GDEs.

Recommendation

Undertake a more comprehensive assessment of vegetation GDEs, including an assessment of vegetation mapping in the context of watertable depths. Provide a commitment to installation of monitoring bores in areas of likely terrestrial GDEs.

Response

Refer to response to 7.036.

10.7.046 Groundwater Requirements

Comment

Section 5.3 states

The average yield is considered to be insignificant compared to the overall groundwater recharge estimate. As there is a lack of specific data (e.g. bore locations, depths, volumes, etc), the licensed bore extraction is not included in the model, other than for the Alpha township, as that is the major user (refer Section 6 of the report for more details on the model).

It is assumed that the term yield above relates to average annual water use. Given that most of the recharge that has so far been applied to the model is in the Clematis sandstone it could be argued that use from the farm bores is significant in comparison to recharge applied to the model in the quaternary, tertiary and Permian aquifers. However it is also conceded that the recharge that has been applied to these aquifers in the model is insufficient. Water use is then low in comparison to recharge that actually occurs in these aquifers and that is why historically groundwater levels have been reasonably stable in the area (although declines are noted in the tertiary at Alpha).

But if the data is available, why not use it. There is licence information and allocations for some bores where an estimate of use could be made (say 50% of allocation) and for the other bores not linked to a licence and taken from the DNRM groundwater database the farm survey should provide useful data on typical use of these bores per property in the area.

Recommendation

The proponent should use the data on water users to more accurately reflect take of groundwater from the aquifers in the model area.

Response

Alpha town is identified as the largest use of the Ground Water in the modelled area. The result of the model indicates that only a small effect on groundwater levels near Alpha was predicted (no effect due to SGCP only, but up to 3m drawdown predicted due to Chine First), thus the effect on small users due to SGCP will be negligible and be unable to be observed in a practical sense. Adopted recharge was low as a measure of conservatism to overestimate effects of mine dewatering.

10.7.047 Groundwater

Comment

In this section the model layers are described and it is noted that layer 2 contains; The Clematis Sandstone, The Rewan Formation and the top of the Bandanna Formation. Section 4.2.5 states;

The Rewan and Dunda Formations form the regional aquitard at the base of the GAB and separate groundwater in GAB from groundwater in the Galilee Basin. The combined thickness of the aquitard is around 250 m. The Rewan aquitard has a very low vertical hydraulic conductivity in the order of 1×10^{-4} to 1×10^{-3} m/day, based on previous investigations during an early phase of GAB groundwater modelling (Audibert, 1976). This concept is not new and is a common theme in relation to the investigation of proposed mines in the South Galilee Basin. So then it appears strange that a single layer of the model would have been set up to include the GAB aquifer (Clematis) the GAB aquitard (Rewan) and a Permian aquifer (Bandanna). Greatly varying hydraulic conductivities would be expected in these 3 units. It is acknowledged that in section 6.5 it is explained that a new low permeability zone was implemented under the Clematis in layer 3 to resolve the problem. Hence it appears to have been addressed in a fashion but output via drawdown impacts for the various layers is now confusing as it is not clear which layer represents the Clematis. It is assumed that it is layer 2. Clearly there need to be separate layers for Clematis Sandstone, Rewan Formation and Bandanna Formation.

Recommendation

The proponent must revise the groundwater model including separate layers for Clematis Sandstone, Rewan Formation and Bandanna Formation.

Response

Refer to AEIS, Part 9.4 Ground water. Model layer re-structuring undertaken, based on discussions between DNR and RPS, to add a specific layer for the Rewan-Dunda unit, as documented in Items 1 and 2 of the AEIS Part 9.4, and Figures 1 and 2.

10.7.048 Groundwater Model

Comment

Section 6.3.5 states;

These recharge values specified in the model are broadly consistent with previous studies, notably Kellett et al. (2003), who estimated recharge in the GAB area to be:

- Alluvium: 1.1 mm/year, 0.21 % annual precipitation
- Clematis Sandstone: 30 mm/year, 5.40 % annual precipitation
- Rewan Formation and Dunda Beds: 6.7 mm/year, 1.2 % annual precipitation
- Bandanna Formation: 1.0 mm/year, 1.8 % annual precipitation

None of this information can be found in the report quoted.

Recommendation

The proponent must review the data presented and the name of the referenced report.

Response

Check the reference - refer to Issue 7.051.

The range of recharge rates cited by Kellet is from 0.3mm/yr to 30mm/yr, which is consistent with the adopted SGCP modelled recharge values (AEIS Part 9.4):

RCH values for the model are:

- Alluvium = 2.75mm/yr
- Tertiary = 5.5 mm/yr
- Clematis = 13.75 mm/yr (or 0.5%, 1% and 2.5% of annual rainfall respectively).

As part of the model re-structuring, recharge was added to the Tertiary units as suggested by DNRM. The rate applied to the alluvium was modified for the 2013 model reported in the AEIS to provide for a reasonable match between observed and measured water levels. However, the model is not designed to represent dynamic and short term transient recharge due to flood flows in the creeks. Rather the model is designed to allow for long term average recharge from stream flows to the alluvium via the stream feature in the model.

10.7.049 Alluvial Recharge Process

Comment

Section 6.3.5 states;

Modelled recharge rates to the water table due to rainfall may be summarised as:

- where alluvium is present, 0.7 mm/year, which is 0.12% of annual average rainfall
- where the Clematis Sandstone outcrops (top of Great Dividing Range), 13.7 mm/year, which is 2.5% of annual average rainfall
- elsewhere, recharge due to rainfall is assumed to be zero

Recharge is only applied to the Clematis sandstone and at a very low rate to creek alluvium as presented in Figure F.14. There should be some discussion about why recharge was not applied to the Quaternary/ Tertiary cover in other parts of the model area which directly overlie the Bandanna and Colinlea. Does the data from the VWP sites assist in these discussions?

There are issues in the modelling (up to Jan 2011) with poor matches with the alluvial bores in upstream areas of Alpha Creek. The predicted levels are too low. It should be noted that in this area (near bores 12030047, 12030044, 12030068 the top end of Alpha Creek) the creek and the alluvium overlie the outcropping Colinlea Sandstone (perhaps below some tertiary cover). Alpha creek, and others down valley, actually run diagonally

south west to north east across the outcropping/ subcropping Bandanna and Colinlea. There is good reaction in these alluvial bores following rainfall/ creek flow events. It seems quite possible that this area is a 'localised recharge' source (as defined in Kellett et al 2003) for the Colinlea and Bandanna.

Recommendation

The proponent must provide a better discussion of the recharge processes to the alluvial, tertiary and Permian Formation, and how these should be reflected in the model.

Response

The wording of the EIS (RPS Aquaterra 2012) was potentially misleading as it cites values from Kellett that are not specifically correct in relation to the recharge values applied in the model. However, the range of values applied in the SGCP model (2.75 to 13.75 mm/yr) is consistent with the values of Kellett (0.3 to 30 mm/year). Action: cite the Kellett et al 2003 reference or omit from report. Review citation conclusions to determine if the recharge factors used in the model are similar to the recharge used in the model and discuss the implications as necessary. Kellett, JR., Ransley, TR., Coram J., Jaycock, J., Barcaly, DF., McMahon, GA, Foster LM, Hillier JR. 2003. Groundwater Recharge in the Great Artesian Basin Intake Beds, Queensland Department of Natural Resources and Mines Technical Report.

It is likely that the response shown in the alluvial bores is due to induced leakage from the creeks, which replenishes the alluvium storage but does not contribute significant recharge to underlying units (otherwise it would be apparent in these units). As a conservative model approach, major rivers/creeks are represented as having a constant level (EIS section 6.3.7), consistent with best practice in that there is no data available on stream levels (as discussed in the report).

10.7.050 Average Rainfall Rate

Comment

Where alluvium is present, 0.7 mm/year, which is 0.12% of annual average rainfall. It seems unlikely that recharge into alluvium would be less than elsewhere. The rate seems low when compared to values in Kellett et al. (2003).

Recommendation

Where alluvium is present, 0.7 mm/year, which is 0.12% of annual average rainfall. It seems unlikely that recharge into alluvium would be less than elsewhere. The rate seems low when compared to values in Kellett et al. (2003).

Response

Refer to response to Issue 7.051.

10.7.051 EVT Discharge Rate

Comment

“The maximum EVT discharge rate adopted reflects the average annual rates of 1500”. This rate seems too low. Is the value for maximum potential evaporation? Or is it for net evapotranspiration (i.e. minus rainfall)? Needs a better description here.

Recommendation

Describe what is meant by “evapotranspiration”.

Response

Evapotranspiration (ET) is the sum of evaporation and plant transpiration from the Earth’s land and Ocean surface to the atmosphere. Evaporation accounts for the movement of water to the air from sources such as the soil, canopy interception, and waterbodies. Transpiration accounts for the movement of water within a plant and the subsequent loss of water as vapour through stomata in its leaves. Evapotranspiration is an important part of the water cycle. An element (such as a tree) that contributes to evapotranspiration can be called an evapotranspirator.

The description of evapotranspiration was provided in the original report (RPS Aquaterra, 2012), notably in section 6.3.6:

Evapotranspiration has been included in the model using the Evapotranspiration (EVT) package of Modflow. The maximum EVT discharge rate adopted reflects the average annual rates of 1500 mm/year (equivalent to BoM estimates for potential evapotranspiration in the area). The maximum EVT rate applies where groundwater levels exceed the specified EVT surface (the model topography data), and an extinction depth of 10 m has been adopted over the model domain (refer Appendix F), below which level EVT ceases to occur within the model. This arrangement effectively means that evapotranspiration in the model will occur predominantly in areas of shallow depth to the water table, which will generally align with some stream valleys, and is designed to help account for the inaccuracies associated with the regional SRTM topographical elevation data ($\pm 10\text{m}$)."

RPS Aquaterra (2012). South Galilee Coal Project (SGCP) Groundwater Assessment and Modelling. 5 October 2012. Reference: A302C\600\R001e.

The BoM estimates referred to in this description are from the BoM Climate Atlas, which has further detailed descriptions, and a dataset for download. Most notably, the BoM definitions and interpretations confirm that the appropriate measures have been applied to the model.

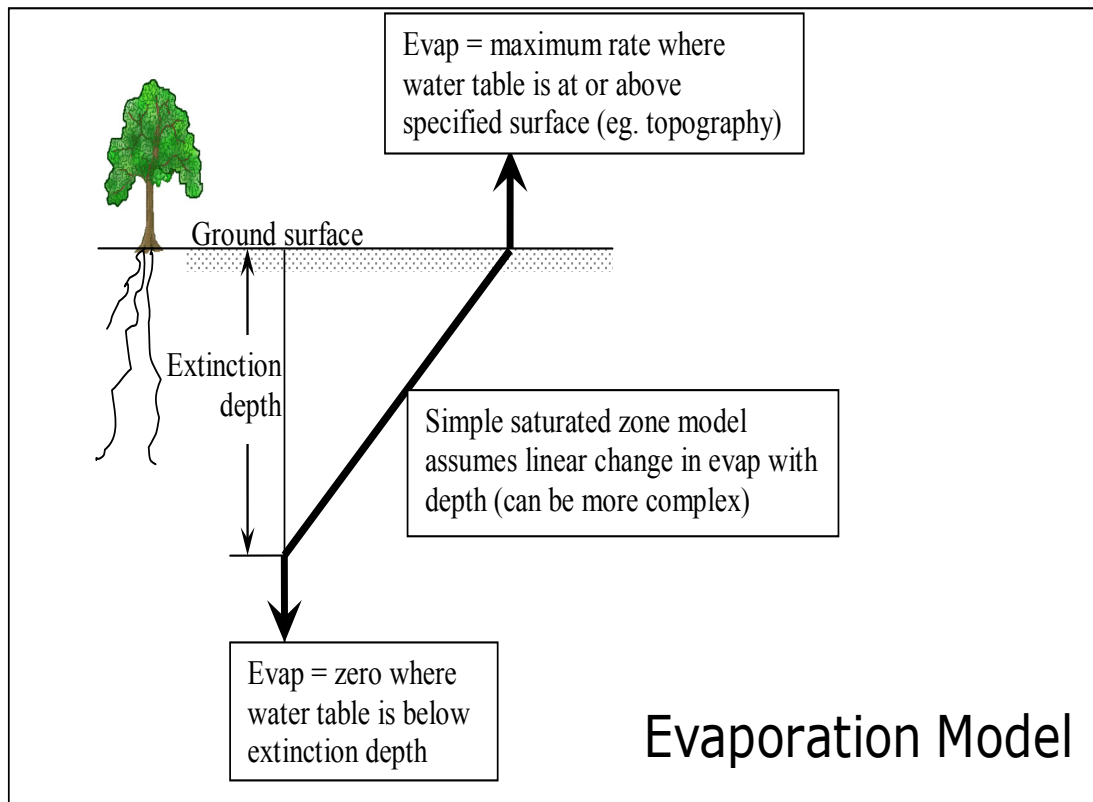
<http://www.bom.gov.au/climate/averages/climatology/evapotrans/text/et-txt.shtml>

<http://www.bom.gov.au/climate/how/newproducts/IDCetatlas.shtml>

The graphic below may help with interpretation of this fundamental concept, and how it is represented in virtually all groundwater models, notably the depth-dependent aspect, which means that the maximum rate only applies in areas where the water table is at

an elevation consistent with the land surface (as indicated in the original definition). Conceptually, this is described in Section 6.2 of the original report (RPS Aquaterra 2012) as:

“in some areas where the water table is shallow, evapotranspiration can become an aquifer discharge process”



10.7.052 Baseflow Discharge

Comment

“and thus is insufficient to support baseflow discharge to streams in the area,”. This statement appears to be conjecture. Has an analysis of surface water hydrographs been undertaken??

Recommendation

Undertake and report on an analysis of surface water hydrographs to support the hypothesis on baseflow.

Response

Surface water flow recorders have been installed in four (4) locations. The surface water monitoring program will continue, and when flows occur they will be considered in the light of the hydraulic model.

The surface water monitoring details are included Section 9.3 Surface Water.

10.7.053 Groundwater Elevation Contours

Comment

This figure presents groundwater elevation contours utilising groundwater elevations for all aquifers combined. It is not considered valid given the apparent varying groundwater elevations in the various aquifers.

Recommendation

The proponent must present groundwater elevation contours utilising groundwater elevations from individual aquifers

Response

AEIS Part 9.4 Ground Water:

Revised drawdown plates (cumulative and separate South Galilee impacts output from the restructured and recalibrated model) and hydrographs are provided in Figures 18 to 33 and Attachment B and C of the AEIS and are discussed in sections 2.5 and 3.2 of the AEIS. Attachment B and C of the AEIS present a table with cross reference of bores to model layers.

10.7.054 VWP Bores

Comment

Section 6.6 states;

- Monitoring: once the survey and review of the vibrating wire and monitoring bore data at the SGCP site is completed, the data should be considered as a validation exercise for the SGCP model, which may involve some refinements to parameters and/or recharge.
- The data from the VWP bores is critical to the models calibration and should be used immediately as part of the models upgrading prior to any mining.

Recommendation

The proponent should accept that the data from the VWP bores is critical to the models calibration and must be used immediately as part of the models upgrading prior to any mining.

Response

Refer to response to Issue 7.040.

10.7.055 Vegetation GDEs.

Comment

The conclusion in 7.3.1 that there is no change in evapotranspiration from vegetation is contradicted elsewhere in the paper, e.g. that there is no groundwater dependence on vegetation. These contradictions need to be reconciled.

Recommendation

The proponent is to undertake a realistic assessment of vegetation GDEs and comment on the extent of groundwater dependence and how this is reflected in the groundwater model.

Response

Refer to response to Issue 7.036.

10.7.056 Predicted Drawdown

Comment

Section 7.3.2 states;

Figure 7-2 shows the predicted water table elevations at the end of mine year 33, when the cone of depression has reached its maximum extent, with depressed water levels extending mainly to the north (towards the GCP). Figure 7-2 shows that water levels have decreased by 10 to 100 m across the SGCP area, compared to the pre-mining existing condition shown in Figures 6-3 and 6-4. The cone of depression extends mainly to the north because it is limited by low permeability units outcropping to the west, east and south:

- Figure 7-2 (does not seem to exist) is actually probably figure G.29 and it is not clear which layer of the model this represents.
- However figures G.27 and G.28 indicate drawdown in layers 3 and 5 after completion of mining and there appears to be no limit, as described, to the drawdown on the western side of the model. In fact there appear to be predicted drawdowns of up to 75 metres in layers 3 and 5 in areas where the Bandanna and Colinlea underlie the Rewan and Clematis. The Rewan and Dunda beds may well limit the drawdown in the Clematis although with everything lumped into layer 2 it is difficult to tell what is what.

Recommendation

The proponent must clarify the statement in relation to drawdown in the west in this section and others throughout the EIS. In particular the aquifer in which predicted drawdown is being discussed, must be made clear.

Response

The logic of the layering and construction of the model layers with respect to Layer 2 is clarified in the AEIS, Part 9.4 Groundwater, as well as addressing comments from DNRM made during consultation meeting and subsequent memorandum dated 16 May. This involves layer restructuring, with some parameter changes, sensitivity scenario modelling (to assess uncertainty).

Also see response to issue 7.049.

10.7.057 Evaporation Rates

Comment

An evaporation rate of 500 mm/y is applied to the mine void. However it is quoted that the pan evaporation rate in the area is 2,200 mm/y. There needs to be an explanation as to what the differences between these values are, and how 500 mm/y is calculated. Because the figure of 500 mm/y is very low it needs to be properly justified. The water is cold and there is some shading as suggested (although with an 8 km long lake shade would not be substantial), but others have used lake factors of 0.7 for saline situations in this sort of climate. This would yield an evaporation rate of approximately $0.7 \times (2200 - 550) = 1155$ mm/y.

Recommendation

Explain the differences between evaporation/evapotranspiration rates used in this document and justify the use of very low values such as 500 mm/y.

Response

Regarding the values applied to the residual pit void lake, the original report provided (in section 7.4.1) a suitable justification for the assumed value (not calculated as such), notably that the long lake is very narrow and is oriented north-south, and thus would provide low opportunity for evaporation, considering also the potential for wind which has a strong influence on evaporation:

“The EVT maximum rate was set to the lower rate of 0.5 m per year to allow for less evaporation from the pit void lake (compared to the BoM rate). This was assumed because the water in the lake would be cold and there would be little wind, due to the pit void being narrow and oriented north-south. This means that it would receive little direct sunlight but a lot of shade would be cast from the side walls as the sun traverses overhead, and the water level would be well below the natural surface and thus less subject to strong winds that would otherwise increase evaporation.”

RPS Aquaterra (2012). South Galilee Coal Project (SGCP) Groundwater Assessment and Modelling. 5 October 2012. Reference: A302C\600\R001e.

10.7.058 Geology and Hydrogeology

Comment

Section 7.5.1 states;

On the north-eastern corner of the SGCP MLA (i.e. the closest point to the Alpha township), the drawdown effect is predicted be less than 1 m, due to the outcrop/subcrop in this area of the low permeability Joe Joe Formation.

And section 7.5.2 states;

The extraction bores at Alpha town not materially affected by the cumulative impacts of mining. The model results show that the assumed extraction continues throughout the simulation, and that the predicted drawdown effect is less than 1 m, which is within the natural seasonal range.

Based on geological mapping Jericho 1:250000 sheet, the Colinlea sandstone outcrops/ subcrops near the north eastern corner of the mining lease. There is no indication of a Joe Joe Formation outcrop in the area.

Figure F.06 indicates that the base of layer 2 is about EL 325 m in the Alpha area. Figure F.10 indicates that the base of Layer 6 (Colinlea sandstone) is EL 225m indicating thickness of Bandanna/ Colinlea sequence in this area, in the model, is some 100 metres.

Figure 3-4 cross section west to east shows no indication of Joe Joe formation outcropping at north east corner of lease.

Very low permeability has been assigned to layers 3, 4, 5 and 6 in this area to prevent drawdown. This adoption of such low permeabilities in this area needs to be justified somewhere in the text.

It is acknowledged that in the Alpha area there appear to be few bores accessing water below the Tertiary indicating that there may be a low permeability zone protecting the Alpha town water supply bores from mining impacts.

However more information on geology is required in this area including a cross section from the lease to Alpha town. What is the geology and is the talk of Joe Joe formation supported and if so it should be replicated in the model.

Recommendation

The proponent must present a clear and consistent representation of the geology and hydrogeology, along with supporting information, in the area between the mining lease and Alpha township.

Response

Refer to the AIES Part 9.4 Groundwater.

The geology map (Jericho sheet) indeed shows the Colinlea in outcrop near the north-eastern corner of the SGCP lease, and note that cross section on the Jericho sheet also shows the underlying Joe Joe Formation in shallow subcrop (i.e. with very thin cover) in the area indicated, and in outcrop further to the east.

This is also how it is represented in the model, as detailed in the EIS and AEIS. Note further that the EIS Figure 3-3 showed the alignment of the EIS Figure 3-4 cross-section is to the south of the lease (and thus does not show the northeast corner). There is no published section through the north-east corner of the lease to confirm the geological structure adopted, although it is noted again that the geological framework for the groundwater model was developed by an independent geologist (Collective Experience 2012), as detailed in the EIS (section 6.3.3) and remains valid.

There is Joe Joe subcrop in the Alpha township area which effectively limits the extent and magnitude of drawdown in this area. See also response to issue 10.7.049. Figures 1 and 2 of the AEIS Part 9.4 present conceptual and actual model details, consistent with the information presented in the EIS. The EIS and the AEIS present commentary and cite relevant previous studies to justify the geology and the parameter values applied.

10.7.059 Aquifer Below the D Seam.

Comment

Section 8.2.1 states;

The predicted drawdowns will have a substantial impact on any bores within the mine lease areas, and these bores may need to be deepened or replaced. Deepening of bores is a viable option as saturated aquifer conditions remain below the water table that is drawn down by mine dewatering (i.e. the Colinlea Sandstone underlying the D seams remains an effective aquifer).

However there is little information in the EIS in relation to the aquifer under the D seams. Has it been proven in the lease area.

Recommendation

The proponent must provide information to demonstrate the viability of the aquifer below the D seam as an alternative aquifer for make good purposes.

Response

The Colinlea Sandstone and underlying aquifers are suitable for use as an alternative water supply for water users with bores affected by mine dewatering. The Colinlea Sandstone yields fresh water and is utilised throughout the study area. Based on a review of the previously completed Landholder Bore Census for Creek Farm (Matrixplus 2009), DERM GWDB records and exploration drilling reveal that the Colinlea Sandstone is an aquifer in the study area utilised for domestic and/or stock water supplies at Creek Farm property.

10.7.060 Effective Baseline Flow

Comment

In the EIS it is stated that “there is no effective baseflow to streams”. The details of hydrograph analysis are not referred to. Has this been undertaken? Streams can still flow for 50% of the time in this area and this is likely to be accompanied by some baseflow.

Recommendation

Rather than stating that there is no effective baseflow, streamflow hydrographs should be analysed and the analysis conclude there is no effective baseflow.

Response

AEIS Part 9.4 presents the revised SGCP Groundwater analysis.

10.7.061 Induced Recharge

Comment

It is stated on p.48 “there is no additional induced flow from surface water streams as the depth to water table is typically 10m or more”. It seems unlikely that longwall mining will not induce additional recharge.

Recommendation

Better to qualify this statement, particularly in the context of longwall areas.

Response

Refer to AEIS Part 9.4 presents the revised SGCP revised Ground Water Analysis.

10.7.062 Waste Facilities

Comment

In this section it states;

Seepage from water and waste facilities could result in downward leakage through surficial sediments until reaching lower permeability weathered sediments. Lateral migration on the lower permeable sediments could occur, which could migrate down gradient at shallow depth toward surface water drainages. It is envisaged that this seepage would not be controlled by regional groundwater drawdown, (which would limit the potential for impacted groundwater to leave site as flow is toward the mined voids) as this component of unsaturated flow occurs above the water table.

Given the uncertainty about recharge in the area and the potential for this area to be a recharge area for the Galilee Basin it appears an absolute requirement that storage areas for waste, tailings dams etc. are adequately sealed to ensure any potential leakage is minimised regardless of any predicted groundwater gradients.

Recommendation

The proponent should ensure that waste facilities are adequately sealed to ensure any potential leakage to the underlying aquifers is minimised.

Response

The waste facilities will be designed by competent professionals to the required standards, guidelines and regulations.

AEIS Part 9.10 presents a list of Management Plans and a summary of the Plans, which will be further developed prior commencement of SGCP.

AEIS Part 9.11 Section 3.6 provides details of the proposed Waste Management strategy in particular the Landfill Facilities which addresses the issue of groundwater seepage.

10.7.063 Make Good Commitment

Comment

Section 9.1 states;

Where detrimental impacts on landholder groundwater supplies may be detected, and be shown to be related to the SGCP operations, the Proponent will seek to reach mutually agreeable arrangements with affected neighbouring groundwater users for the provision of alternate supplies throughout the mine life, and after mine completion while the aquifer recovers.

There should be a commitment here to enter into agreements with those predicted to be impacted prior to mining commencing and with others as additional information indicating impacts or potential impacts, becomes available.

Recommendation

The proponent must commit to enter into agreements with those predicted to be impacted prior to mining commencing and with others as additional information indicating impacts or potential impacts, becomes available.

Response

Refer to commitment register in the AEIS Part 9.16 - which includes a Make Good Commitment.

AEIS Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS - Section 3.3 Monitoring, Evaluation, Reporting and Improvement details the commitment to develop water supply agreements with landholders who will potentially be impacted by mine dewater as identified in Section 3.2.3.

10.7.064 Monitored Aquifers

Comment

Section 9.9 states;

Groundwater monitoring bores have been established within the mine lease area (refer Section 4.2), and further work will progress on the bores listed in Table 9.1. These bores are currently open exploration holes that will be converted into groundwater bores by installing casings with screened intervals positioned against the major fractured zones in the Bandanna Formation, coal seams and the Colinlea Formation. Some locations will have nested multilevel bores. The locations were selected to monitor groundwater levels and quality along the SGCP boundaries and down gradient of the final pit void.

Monitoring of groundwater levels and quality should be undertaken from the existing local farm bores (assuming negotiation with landholders is successful). The groundwater monitoring bore network may be expanded in due course to areas surrounding MLA if triggered by the GWMP.

Firstly there is still no description of which aquifers the existing monitoring bores are monitoring. There is discussion of aquifers in relation to the proposed bores but no discussion of the Tertiary sediments or the GAB. Both need to be monitored. Given the uncertainty around the impact on the GAB (see the discussion surrounding increasing vertical permeability in Rewan in table 7.4 and impacts on drawdown in the Clematis) it is imperative that monitoring in the GAB occur and that a commitment is provided to drill at least one of the monitoring bores in the Clematis prior to the final EIS documents being lodged to ensure baseline data begins to be collected to allow an understanding of potential impacts once mining commences.

Additionally a map of all monitoring bores proposed and existing should be provided.

Recommendation

The proponent must provide clear advice as to the aquifers being monitored in existing monitoring bores. Proposed monitoring bores must be located in all aquifers including the Tertiary sediments Clematis Sandstone and Rewan Formation. At least one monitoring bore must be located in the Clematis sandstone prior to final EIS or SEIS documents being lodged.

A map of all monitoring bores, proposed and existing, must be provided.

Response

Existing local farm bores will be used to monitor groundwater levels and quality after access agreements are in place. Prior to the inception of mining activities, between 1 and 3 monitoring bores will be installed in the Tertiary aquifer and the Clematis Sandstone (GAB) to ensure baseline data begins to be collected to allow an understanding of potential impacts one mining commences. The bores will be installed in accordance with the GAB Water Resource Plan and Resource Operation Plan by a licensed driller, as well as in cooperation to DNRM to ensure the locations are sufficient for monitoring purposes.

10.7.065 Maximum Drawdown Predictions

Comment

In Appendix G – Model Results, drawdowns are presented in each layer of the model at various time periods. Layer 1 represents alluvium and tertiary deposits with a maximum depth of 55 metres based on table 3.1. In fact it will be much shallower in places. However figure G.17 is predicting drawdown in this layer of between 100 and 137 metres which is not possible.

Recommendation

The proponent must present data where all maximum drawdown predictions are limited to the saturated depth/ potential head within the model layer.

Response

AEIS, Part 9.4 South Galilee Groundwater Report 2013 Update for AEIS Part 9.4, Items 3.2.1 and 3.2.3. The updated pre-mining water table is provided in Figure 15. The predicted drawdowns at the end of the mining for each of the revised model are provided in Figures 18 to 33, with water levels presented in Attachment C, with hatching on these plots showing the distribution of dry cells in the model pre-mining and on completion of mining.

10.7.066 GDEs

Comment

The SCGP EIS does not address the ToR (s3.3.4.1: Description of environmental values, p37). The ToR states that the flora and fauna description is to include:

- identification of all types of groundwater dependent ecosystems occurring within and outside the project area and potentially impacted by project activities. An assessment should be made of the environmental water requirements for the protection of the identified groundwater dependent ecosystems. Groundwater dependent ecosystems may include:
- subterranean ecosystems
- phreatophytic terrestrial and riparian vegetation
- springs and other wetlands
- stream communities dependent on baseflow.

Only subterranean ecosystems have been described in the EIS.

Recommendation

In the description of groundwater dependent ecosystems, please include:

- phreatophytic terrestrial and riparian vegetation
- springs and other wetlands stream communities dependent on baseflow.

Response

Refer to response to Issue 7.036.

10.8 Department of Agriculture, Fisheries and Forestry - Fisheries Queensland.

10.8.001 Stream Crossings

Comment

Waterway barrier works relating to the Project may require approval under the Fisheries Act 1994.

Recommendation

The Proponent must detail the location, proposed construction methods and types of all stream crossings (including road and rail stream, powerlines and pipeline crossings) associated with the Project. Approvals under the Fisheries Act 1994 are required for waterway barrier works (including dams, weirs or other barriers if the barrier limits fish stock access and movement along a waterway). Minor waterway barrier works may be constructed according to the relevant self-assessable codes. The relevant self assessable codes and policy are available on the DAFF website.

Response

Stream crossings within the ML will be located and designed, where necessary in conjunction with DAFF, and the relevant approvals will be sought via the Fisheries Act 1994.

The railway spur, in terms of stream crossings, will likewise be addressed. Any other off lease activities involving stream crossings will be subject of a separate submission.

10.8.002 Forestry Act

Comment

Stream crossings within the ML will be located and designed, where necessary in conjunction with DAFF, and the relevant approvals will be sought via the Fisheries Act 1994.

The railway spur, in terms of stream crossings, will likewise be addressed. Any other off lease activities involving stream crossings will be subject of a separate submission.

Recommendation

1. The Proponent must edit this section to read 'The Forestry Act 1959 provides for forest reservations, the management, silvicultural treatment and protection of State forests, and the sale and disposal of forest products and quarry material, the property of the Crown on State forests, timber reserves and on other lands; and for other purposes'.

2. Section 236 of the Mineral Resources Act 1989 entitles the holder of a mining lease to utilise sand rock and gravel only upon the land comprised in a mining lease. State-owned quarry material administered under the Forestry Act 1959 removed from one mining lease and transported to, and used on, a contiguous mining lease requires DAFF Forest Products' authorisation and a sales permit/s.
3. The Proponent requires authorisation and sales permit/s from DAFF Forest Products before extracting any State-owned quarry material on lands administered under the Forestry Act 1959, where this material is to be extracted and used outside MLA 70453.

Response

Approvals required for the use of quarry materials administered under the Forestry Act 1959 will be sought in accordance with DAFF procedure.

10.8.003 DAFF Forest Product

Comment

Existing operations authorised under the Forestry Act 1959 may not be compatible with or may be severely limited or sterilised by, the location of Project infrastructure, offsets, etc.

Recommendation

The Proponent must seek advice from DAFF Forest Products to gauge extent of any impacts of the Project and may be required to modify the Project accordingly.

Response

Advice from DAFF will be sought during the design development phase to confirm the compatibility of the intended infrastructure and offsets with existing operations authorised under the Forestry Act 1959.

10.8.004 Beef Industry Management

Comment

There is potential for the Project to experience heavy rainfall between December and March that could trigger flooding events. Flooding can threaten the on-site storage of contaminants and sediments. This can lead to downstream contamination concerns for cattle watering. Given the large number of mining projects proposed for the area this risk should also be considered as a cumulative issue, as if the region is flood affected it may have impacts on more than one mine simultaneously.

Recommendation

The Proponent, adjacent and downstream landholders, and graziers in the area, should have plans in place that identify and manage broader impacts to the beef industry in the event of waterway contamination during a flood event

Response

The proponent will develop an ERP in conjunction with other stakeholders that will address the water quality aspects connected with floods. All surface water structures will be designed by professional engineers to appropriate standard for the specific climate. Zero discharge will be a key element of the design as will separation between process and other water. The hydrology in the Surface water section incorporates cumulative effects.

10.8.005 Cattle Production

Comment

DAFF is advised approximately 6000 head of cattle will be impacted by the Project. A draft Landholder Management Plan could identify ways to have positive benefits to mitigate the impact on local grazing enterprises.

Recommendation

The Proponent must take steps to support cattle production in surrounding unaffected properties to minimise further impacts on the local industry. The Proponent should ensure that the Landholder Management Plan:

- includes all impacted properties including those adjacent to the mining site and those to the east of the infrastructure corridor
- identifies potential mutual benefits that could support continued grazing use of surrounding properties i.e. allowing graziers use of infrastructure corridors, access to watering points, information and communication technology access, or other measures that may support productivity of grazing activities surrounding the mine area.

Response

The LMP will include properties adjacent to those purchased as well as those intersected by the rail spur. It will be developed in conjunction with DAFF and will commence at a time that enables related aspects to be incorporated into design and provide continuity of current land use.

Properties as presented in the AEIS Part 9.8, will be purchased as a whole. That area of the properties not disturbed will not be reused as grazing. They will form a part of the SGCP biodiversity offset footprint. The management plans for noise, dust and surface water will not adversely affect grazing on the adjacent properties. Properties that potentially could experience a negative change to ground water availability from existing bores will be identified in advance of mining and the SGCP has committed to providing an

alternative equivalent supply. Refer to 9.10 of the AEIS for the Management Plans.

Access to watering points and grazing land in properties that are dissected by the railway spur will be maintained by providing stock crossings. The coal wagons will comply with the dust emission standards set by the operating railway authority.

SGCP will be installing a communication tower on 7 Mile Ridge as a part of its wireless broad band communications systems. Properties within the LMP will be able to utilise this system if the range permits.

10.8.006 Weed and Pest Animal Management Plan (WPAMP)

Comment

In s8.7.1.3, the text states that the WPAMP will 'control weeds according to guidelines under the relevant Weed Fact Sheet from the Department of State Development, Infrastructure and Planning (DSDIP)'.

Recommendation

The Proponent should edit this section as the Agency responsible for management of weed and pest animals is DAFF.

Response

AEIS Part 9.10 Management Plans, refer to MP10.5 WPAMP which provides the structure for the plan which will be developed prior to commencement of SGCP.

AEIS Part 9.11 EMP, refer to Section 3.11.4 which references the strategies that will be adopted to prevent the introduction of pest species.

10.8.007 Weed and Pest Animals

Comment

In s8.7.1.3, the text states that 'the WPAMP will include a monitoring program and auditable performance measures, including reductions in class 1 and 2 pest animals and noxious weeds'.

Recommendation

The Proponent must ensure that this goal also includes the prevention and entry of weeds and pest animals.

Response

AEIS Part 9.10 Management Plans, refer to MP10.5 WPAMP which provides the structure for the plan which will be developed prior to commencement of SGCP.

AEIS Part 9.11 EMP, refer to Section 3.11.4 which references the strategies that will be adopted to prevent the introduction of pest species.

10.8.008 Pest Species

Comment

Sections 8.7.1.3 and 21.3.11.5.5 provide few guidelines for the development of a WPAMP that prevents the entry, spread and establishment of pest species. Further, these sections do not consider strategies to prevent the entry of species not present (e.g. parthenium and giant rats tail grass, parkinsonia, rubber vine mother of millions). Other potential and high risk pest species should be listed.

(the APDS is not appropriate for property level pest management and should be supplemented with the proponents' own survey and mapping to help inform the development of prevention and management activities for the weeds and pest animals)

Recommendation

- 1 The Proponent must:
 - provide distribution maps showing the location and density of terrestrial and aquatic weed infestations (this will aid weed management strategies). Biosecurity Queensland Annual Pest Distribution Survey (APDS) data and predictive pest maps should be used to assess the potential for declared species in the Project site and surrounding areas;
 - include details of the strategies and actions to prevent the introduction of species not present (e.g. territorial species like parthenium, giant rats' tail grass, parkinsonia, mother of millions).
 - establish partnerships with key stakeholders (such as local government) to achieve a collaborative and landscape scale approach in the prevention and management of pest animals and diseases and also refer to species list in Pest Management Plan for the Barcaldine Shire Council area;
 - provide details of its surveillance strategies; and
 - list other potential and high risk terrestrial and aquatic pest species in the EMP.
- 2 The Proponent must develop a rigorous weed hygiene and prevention program:
 - clean down regimes need to ensure that vehicles, machinery and construction materials are free from pest matter and disease;
 - inspection regimes should be conducted by trained officers
 - clean-down bays should be located appropriately and away from waterways and gullies; and
 - staff and operators are adequately trained in clean-down and weed identification.
- 3 The Proponent must take reasonable steps to land free from Class 2 and 3 pest species.

Response

Refer to AEIS;

- Part 9.10, MP 10.5 sets out the format of the Weed Pest Animal Management Plan, which will be implemented prior to commencement of SGCP. The issues detailed in this submission will be incorporated into the WPAMP.
- Part 9.11 EMP, Section 3.11.4 details the strategies to mitigate the introduction of pest species.

10.8.009 Pest / Feral Animals

Comment

Sections 8.3.4.2 & 8.7.13 do not adequately address pest/feral animals.

Recommendation

- 1 The Proponent must update s8.3.4.2 to ensure that:
 - Foxes and chital deer are included in the discussion of pest animals.
 - Agricultural impacts of wild dogs, pigs and rabbits included and addressed.
 - Ensure that such materials are appropriately managed so they do not provide harbour for rabbits, foxes and other pest species.
- 2 The Proponent must ensure that management strategies for pest/feral animals include specific information on:
 - how pest animals will be managed around residential quarters, temporary camps, waste tips etc;
 - the actions to be taken to ensure that onsite-landfill of putrescibles and organic waste is inaccessible to declared pest animals;
 - any exclusion fencing needs to be pig-proof;
 - the actions to be used for the control of pest animals (i.e. trapping, baiting, exclusion fencing and monitoring); and
 - the regulatory considerations and codes of practice in relation to the control of pest animals (e.g. firearms licence, complies with the Animal Care and Protection Act 2001).

Response

It is noted that EIS section 8.3.4.2 is updated to ensure:

- Foxes and chital deer are included in the discussion of pest animals;
- Agricultural impacts of wild dogs, pits and rabbits included and addressed;
- Ensure that such materials are appropriately managed so they do no provide

harbour for rabbits, foxes and other pest species.

The development of the WMAMP which will be implemented prior to commencement of SGCP and referred to in the AEIS Part 9.10 MP10.5 will incorporate:

- how pest animals will be managed around residential quarters, temporary camps, waste tips etc;
- the actions to be taken to ensure that onsite-landfill of putrescibles and organic waste is inaccessible to declared pest animals;
- any exclusion fencing needs to be pig-proof;
- the actions to be used for the control of pest animals (i.e. trapping, baiting, exclusion fencing and monitoring); and
- the regulatory considerations and codes of practice in relation to the control of pest animals (e.g. firearms licence, complies with the Animal Care and Protection Act 2001).

10.8.010 Spread of Weeds

Comment

In s21.3.12.2, the spread of weeds is not listed as a potential impact of transport and associated infrastructure.

Recommendation

The Proponent must acknowledge and address the spread of weeds and other pests. This is to be cross-referenced to relevant EIS sections.

Response

The development of the WMAMP which will be implemented prior to commencement of SGCP and referred to in the AEIS Part 9.10 MP10.5.

Part 9.11 EMP, Section 3.11.4 details the strategies to mitigate the introduction of pest species.

10.8.011 Pest Fish Control

Comment

S21 and Appendix F - Pest fish control (FQ).

Recommendation

The Proponent must include a pest fish management plan (including details on the prevention of spreading pest fish).

Response

Refer to response to issue 8.010.

10.8.012 Sapling Creek

Comment

The incomplete details concerning the diversion of Sapling Creek.

Recommendation

- 1 The Proponent must give a detailed consideration of fish swimming behaviour and abilities to develop designs that will allow fish to move along the creek diversion. The Proponent should give consideration to other matters such as slope, turbulence, flow velocities, avoiding head drops etc, as the current design appears to have steep slopes in places with deep water. Note: Fish would be unable to sustain swimming through 1m/sec water velocity, as this would require most fish to swim at burst speed, which is sustainable over only short distances. These velocities would preclude very small fish. The Proponent should consult with Fisheries Queensland in further developing and modifying these designs.
- 2 The Proponent must provide further detail as it is unclear what will happen with the diversion channel when mining ceases.
- 3 The Proponent must detail a monitoring plan to look at the impact of the Project on fish communities and fish habitat downstream, within and upstream of the mine and in particular at the creek diversion.
- 4 The Proponent should monitor fish passage at stream crossings over a range of flows to confirm that adequate provision for fish passage has been made in the crossing designs.

Response

Sapling Creek will not be diverted. Refer to AEIS Part 9.2 which describes the Non-Diversion of Sapling Creek.

10.8.013 Fish Entrapment

Comment

During an event the fish can travel upstream into the ML. The flooded areas for Sapling Creek remain unchanged, that for Tallarehna may have some subsidence, but each subsidence panel will free drain into Tallarehna Creek. Fish entrapment will not occur.

Recommendation

The Proponent must provide further information and management strategies concerning fish entrapment.

Response

During an event the fish can travel upstream into the ML. The flooded areas for Sapling Creek remain unchanged, that for Tallarehna may have some subsidence, but each subsidence panel will free drain into Tallarehna Creek. Fish entrapment will not occur.

10.8.014 Fisheries Act 1994

Comment

Applicable Legislation - does not list the Fisheries Act 1994.

Recommendation

Approvals under the Fisheries Act 1994 are required for waterway barrier works (including dams, weirs or other barriers if the barrier limits fish stock access and movement along a waterway). Minor waterway barrier works may be constructed according to the relevant self-assessable codes. The relevant self assessable codes and policy are available from DAFF's website.

Response

There is not intention to erect waterway barrier works on existing watercourses, however if they are required approvals under the Fisheries Act 1994 will be obtained.

10.8.015 Water Supply

Comment

Water supply

Recommendation

The Proponent must provide greater detail on water supply including inter basin transfers for water supply.

Response

The SEIS introduces the Epsilon Mine as the initial stage of the SGCP development. It does not require an external water supply. A dry density separation process is adopted to beneficiate the ROM coal. Subsequent stages are dependent on an external water supply. The related source and supply scheme is not known at this time. It will be the subject of a subsequent assessment.

10.9 Department of Transport Main Roads - Barcaldine Region

10.9.000 Recyclable Waste

Comment

The Department has reviewed the above document and acknowledges the transport and traffic information that has been provided. However, further assessment and amendments is required in relation to the following matters:

- provide further clarification in relation to the frequency and number of Over Size/Over Mass Movements that will be generated during the construction and operational phases of the project.
- review the structures along the proposed haulage routes and provide mitigation strategies were required
- inclusion of traffic movements in relation to the recyclable waste materials being transported off-site in the traffic impact assessment
- compliance with the QR Network Coal Dust Management Plan.

Recommendation

These matters should be resolved prior to the commencement of significant construction activities or as otherwise agreed with TMR.

Response

Refer to AEIS Volume 1, Part 9.12 Transport which presents the revised SGCP traffic assessment:

- Section 9.2.4.2 Route Selection
- Section 9.2.4.3 Project Traffic - which includes data for transportation of waste materials.
- Section 9.2.7.2 Over Size / Over Mass Vehicles.
- Section 9.2.8 Mitigation

The Transport assessment has been revised and the Clermont - Alpha will not be used as a designated transport route, therefore a structure assessment of this route was not undertaken.

The proponent of SGCP agrees that rail dust mitigation measure complies with the QR Network Coal Dust Management Plan, or compliance with MP10.2 Air Quality Management Plan which incorporates the management of rail dust, which will be consistent with the QR Network Coal Dust Management Plan.

10.9.001 Recyclable Waste

Comment

This sections includes a statement about recyclable waste materials being transported off-site by recycling contractors. This does not appear to be included in the proposed traffic movements listed by the proponent under Section 14 and Appendix K.

Recommendation

The proponent is requested to ensure that this information is accounted for in the traffic figures used as part of the traffic impact assessment.

Response

AEIS, Part 9.12 Transport includes the revised traffic assessment for SGCP. Tables 15 to 17 detail the estimates for generated construction traffic and tables 20 to 23 operational traffic estimates, all include estimates for offsite waste / recycling movements.

10.9.002 Road Network Upgrades

Comment

This table includes a time frame of 2013 for upgrades to the public road network.

Recommendation

The proponent is requested to clarify what upgrades will be occurring as previous sections of the EIS have stated that no mitigation works are proposed to the road network.

Response

AEIS, Part 9.12 Transport, section 9.2.5.4 details the maintenance contributions based on the increase ESA's. This section also states "No regional roads are expected to be impacted by the proposed development. The two road sections identified in Table 30 of the AEIS Part 9.12, show an increase in ESA loadings of more than 5% in at least one year."

10.9.003 Capricorn Highway Reference

Comment

The information relating to the Capricorn Highway connecting Rockhampton, Emerald and Longreach is incorrect. The Capricorn Highway runs from Rockhampton to Barcaldine. From Barcaldine, the Landsborough Highway is used to travel to Longreach.

Recommendation

The information provided needs to be corrected to confirm that Rockhampton, Emerald and Longreach are connected, but from Barcaldine the connection is via the Landsborough Highway.

Response

AEIS, Part 9.12 Transport, details the revised SGCP traffic assessment. The information regarding the road networks and vehicle movement estimates has been revised.

10.9.004 Seal Capricorn Highway

Comment

The proponent proposed 'removal and replacement of the seal on the Capricorn highway between the Alpha Aerodrome and the intersection with the Mine Access Road (approximately 10.2km)'. Removal of the seal is not usually carried out and the reasoning behind proposing removal of the seal is not clear.

Recommendation

The proponent is requested to review the Methodology for the required road upgrade and/or provide the reasoning/justification behind removal of the existing seal prior to replacing it. The intent (technical reasoning) of removing the existing seal is unclear. The proponent will need to liaise with Transport and Main Road (Barcaldine Office) in relation to the upgrade/works.

Response

The ripping and resealing of the Capricorn Highway will not be undertaken. AEIS Volume 1, Part 9.12 Transport, Section 9.2.9 Mitigation, this section details the proposed mitigation works that will be funded by the proponent.

Section 9.2.5.4 Maintenance Contributions, details the ESA loading increase and expected maintenance contributions.

10.9.005 Site Access

Comment

The proponent proposes "installation of a new auxiliary left turn lane on the Capricorn Highway for the mine access road turn-off". Without appropriate traffic figures in this section, it appears as though this treatment would be insufficient. Other sections of the EIS stipulate that an AUL/AUR treatment is required.

Recommendation

The proponent is requested to provide forecasted traffic figures for the construction and operational phases of the project (peak traffic years) and level of service information for the proposed intersection with a view to determining if a right turning slot is required and/or auxiliary lane on the opposite side of the road is required.

Response

AEIS Part 9.12 Transport details the revised SGCP traffic assessment. AEIS Part 9.12, Item 9.2.7.4 Intersection Analysis, details the turning lane on the Capricorn Highway for the mine access road turn off.

10.9.006 Capricorn Highway Geometry

Comment

The proponent proposed the construction of an underpass at the Capricorn Highway. It is unclear as to the full effect that this will have on the Capricorn Highway's vertical and horizontal geometry.

Recommendation

The proponent is requested to provide detailed plans of the proposed underpass to TMR for review and with a view to negotiation of the best outcome for all parties involved. A representative of AMCI has already visited the Barcaldine TMR office to discuss the best way forward in relation to the proposed road/rail interface at the Capricorn Highway. Grade Separation (between road and rail) is the preferred option.

Response

AEIS, Part 9.12 Transport, Section 8.2.8.3.5 Rail Access - details the expected grade separation between the railway spur and the Capricorn Highway.

The geometry of the Capricorn Highway was discussed with DTMR, please refer to Part 8 of the AEIS which details the post EIS consultation.

10.9.007 Air Quality

Comment

Air Quality - Dust emissions at close proximity to the Capricorn Highway. Has the proponent considered the effects of dust generated from the mine site on the Capricorn Highway for visibility/safety? Concentrated disturbance of ground material close to the highway has the potential to reduce visibility/safety for road users.

Recommendation

Ensure that the effects of dust are controlled to a level that doesn't reduce the visibility and safety of the Capricorn Highway in the vicinity of the mine.

Response

AEIS, Part 9.9 Noise, Dust and Vibration presents the baseline information for which future dust monitoring will be compared against.

Low or reduced visibility for pilots and drivers occur for a variety of reasons including fog, rain, smoke and dust. Pilots of aircraft also need to contend with cloud. Dense fog

typically has a visibility distance of 20 to 40m. Moderate fog visibility is typically about 400m. Visibility distances of 1km is considered to be very poor, while 7 km is considered to be moderate, 10km good, 23 to 30 km is very good and 40km is excellent.

Pilots of light aircraft are governed by visual flight rules (VFR) and require a minimum 8km visibility for safe flight. This is equivalent to moderate to good visibility.

In 2009 a dust storm passed over eastern Australia, the short term visibility was 400m and the maximum PM10 concentration was 15,366 $\mu\text{g}/\text{m}^3$ (Source: Leys). The atmospheric concentration of dust for a given visibility is obtained by $C=6E6V$ (Source: Leys). For a visibility of 8km the dusts throughout the atmosphere would be 230 $\mu\text{g}/\text{m}^3$. The EPP(Air) also contains an aesthetic air quality objective of 20km visibility in the air environment. This is equivalent to an atmospheric concentration of 80 $\mu\text{g}/\text{m}^3$

All modelling of dusts has been carried out at ground level. While this is suitable for assessing the visibility concerns for the highway, it may not be suitable for assessment of visibility on flights. The Epsilon model was rerun to obtain hourly concentrations of PM10.

The maximum 1 hour average concentration calculated at ground level is 230 $\mu\text{g}/\text{m}^3$ or more within 5km of the pit. As the dust sources are ground level there is very little vertical dispersion. This zone does not intercept the extended runway centreline or the highway. For planes circling overhead there will not be any noticeable change in the visibility as a consequence dusts in the atmosphere originating from SGCP. During landing and take off from the north or south the dust level attributable to SGCP will not affect the minimum visibility requirements, i.e. better than 8km visibility at all times from the dusts originating from SGCP. Thus the operation of the airport and highway are unlikely to be adversely affected by dusts from Epsilon.

AEIS, Part 9.10 Management Plans, includes the development of a Dust Management plan.

With regard to rail transport, the proponent will comply with the dust management policy adopted by the rolling stock provided. The external rail will be the subject of subsequent submissions.

10.9.008 Speed Limits

Comment

This section describes the Capricorn Highway having a speed limit of up to 100km/hr. Between Alpha and Jericho and between Jericho and Barcaldine, the maximum posted speed limit is 110km/hr. For accuracy, this should be amended.

Recommendation

To ensure that the correct information is utilised of traffic speeds/posted speeds, the section of the Capricorn Highway from Alpha to Barcaldine (excluding the sections through townships) should be noted as having a posted speed limit of 110km/hr.

Response

AEIS, Part 9.12 Transport presents the revised SGCP transport assessment. The speed on the Capricorn Highway from Alpha to Barcaldine has been updated in AEIS Part 9.12, Figure 5 - Roads of Interest.

10.9.009 Clermont - Alpha Road

Comment

This section describes the Clermont-Alpha road as being fully sealed. This information is incorrect.

Recommendation

A portion of the Clermont-Alpha Road is unsealed. The proponent is requested to reflect this through the SEIS process.

Information regarding road infrastructure can be acquired through contacting Transport and Main Roads Barcaldine Office 07 46512 777.

Response

AEIS Part 9.12 Transport presents the revised SGCP transport assessment. AEIS Part 9.12, Figure 5 depicts roads of interest, which indicates the Clermont - Alpha road is mostly unsealed.

10.9.010 Mine Access - Road Reference

Comment

This section describes the provision of the intersection of the Mine Access Road and Carpentaria Highway. The Mine Access Road will intersect with the Capricorn Highway, not the Carpentaria Highway.

Recommendation

The proponent is request to correct this error through the SEIS process.

Response

AEIS Part 9.12 Transport presents the revised SGCP transport assessment. The reference to the Capentaria Highway has been removed and corrected throughout the report.

10.9.011 Mine Access - Auxiliary Lane

Comment

This section describes proposed upgrade at the intersection of the Mine Access Road with the Carpentaria Highway (corrected to Capricorn Highway as above), as having auxiliary left turn and auxiliary right turn treatments. An earlier section of the EIS, Section 4.6 Transport, Subsection 4.6.1 Road proposed “installation of a new auxiliary left turn lane on the Capricorn Highway of the mine access road turn-off” this is inconsistent and requires clarification.

Recommendation

Clarification is required from the proponent as to whether it is proposed to have only an auxiliary left turn lane on the Capricorn Highway, or if it is proposed to have both left turn and right turn treatments at the proposed intersection.

Please contact TMR Barcaldine Office for the clarification of the Gazz3ettal direction if required 4651 2777

Response

AEIS Part 9.12 Transport, Section 9.2.7.4.3 details the requirements of the proposed intersection between the Capricorn Highway and the new site.

10.9.012 Construction Material Source

Comment

This section describes the transport route from Mackay to SGCP for both the construction and operational phases of the project as including the Peak Downs Highway, Clermont - Alpha Road and the Capricorn Highway. Use of the Clermont-Alpha Road for the transport of goods, materials and personnel to site is considered undesirable. the northern section of the Clermont-Alpha is unsealed and there are vulnerable structures along this section of the road. The Clermont-Alpha Road has timber bridge structure that are considered vulnerable for heavy vehicle use. Due to these structure, the Clermont-Alpha road is not suitable for Excess Mass and Dimension vehicles.

Recommendation

The proponent is requested to review/revise the use of the Clermont-Alpha road as a transport route from McKay. The preferred alternative route is the use of the Peak Downs Highway, Gregory Highway (Emerald-Clermont) and the Capricorn Highway. Review of the structure along this road will need to be carried out for the increased traffic loads proposed to be places on them. In particular, Heavy Vehicle volumes/impacts will need to be assessed and addressed for each structure.

Other mining proponents situated to north of the SGCP (accessing their sites from Clermont - Alpha Road) have nominated the use of the Gregory Highway (Emerald - Clermont) and the Capricorn Highway instead of the Clermont Highway.

Response

AEIS, Part 9.12, Transport presents the revised SGCP traffic assessment which has removed any reference of using the Clermont - Alpha Road as a designated transport route. Table 26 details the proposed future year traffic volumes including development generated data which does not include the Clermont Alpha Road.

10.9.013 Road Links

Comment

The Tabulated data has the road links oriented in the wrong direction.

Recommendation

For clarity, the proponent is requested to amend the gazettal direction to the correct direction and ensure that the traffic count data is allocated against the correct sections.

Response

AEIS, Part 9.12 Transport, presents the revised SGCP traffic assessment.

- Figure 5 - Roads of Interest
- Figure 7 - Preferred Route - Mackay to Site
- Figure 8 - Preferred Route - Gladstone to Site
- Figure 9 - Preferred Route - Brisbane to Site

10.9.014 Clermont - Alpha Road

Comment

This section states that no vulnerable structure were identified along the proposed haulage routes. The Clermont - Alpha Road has timber bridge structure that are considered vulnerable for heavy vehicle use. Due to structure along the road, it is also not suitable for Excess Mass vehicles.

Recommendation

The proponent is requested to review the structures along the proposed haulage routes and provide mitigation strategies where required or nominate alternative routes.

Response

Refer to response to issue 9.009.

The use of the Clermont - Alpha Road was removed in the AEIS as a designated transport route, therefore the structures along this route were not reviewed.

10.9.015 Peak Downs Highway

Comment

This table refers to the Clermont - Alpha Road running from Alpha to Mackay. The Clermont - Alpha Road is a road section from Clermont to Alpha. The section of the road from Mackay to Clermont is the Peak Downs Highway.

Recommendation

The proponent is requested to show the ESA's generated for the Clermont - Alpha Road and the Peak Downs Highway separately.

Response

AEIS, Part 9.12 Transport presents the reassessed SGCP transport assessment.

The information has been revised to show the roads separately:

- Table 29 ESA's generated by project
- Table 30 ESA's Loading increase.

10.9.016 Maintenance Contributions

Comment

This section deals with the maintenance contributions towards the road network. Although the proponent discusses the need to negotiate maintenance contributions with the Department of Transport and Main Roads, it is not clear as to the intention of the Proponent to undertake this activity.

Recommendation

The proponent is requested to clarify if it intends on making contact with DTMR to negotiated maintenance contributions for the sections of road that are identified as meeting the criteria for maintenance.

Response

AEIS, Part 9.12 Transport, Section 9.2.5.4 presents the developer maintenance contributions assessment. This section states "the proponent will discuss with DTMR, seeking their guidance to understand their contribution requirements to maintain the existing SCR's road user safety, operation and functional requirement."

10.9.017 Seal Treatment Clarification

Comment

A previous section of the EIS “Section 4.6 Transport, Subsection 4.6.1. Road” indicates that the proponent has identified the need for “removal and replacement of the seal on the Capricorn Highway between the Alpha Aerodrome and the intersection with the Mine Access Road (approximately 10.2km)”. “Removal” of the seal is not usually carried out and the reasoning behind proposing removal of the seal is unclear.

Recommendation

Given that works were identified on this section of the road in another section of the report, this information should also be included in the potential mitigation measures section of the EIS.

The proponent will need to liaise with the Transport and Main Roads (Barrabool Office) in relation to the upgrades/works.

Response

Refer to response to Issue 9.004.

10.9.018 Over Sized Vehicles

Comment

Table 2.1 includes information about over-sized (excess dimension) vehicles. Table 2.2 does not include information about over-sized (excess dimension) vehicles. Previous TMR experience with operating mines indicates that there is likely to be a number of excess dimension vehicles throughout the life of the operational mine.

Recommendation

The proponent is requested to provide information relating to the number and frequency of excess dimension vehicles throughout the operational phase of the mine.

Response

AEIS, Part 9.12 Transport, Section 9.2.8.2 presents the revised estimate for the over size / over mass vehicles.

10.9.019 Excess Mass Loads

Comment

Table 2.1 and Table 2.2 do not include any information relating to how many excess mass loads will be travelling on the state-controlled road network throughout the construction and operational phase of the project.

Recommendation

The proponent is requested to provide information relating to the number and frequency of excess mass vehicles throughout the construction and operational phase of the mine.

Response

Refer to response to Issue 9.018.

10.9.020 Queensland Infrastructure Plan

Comment

This section references the Draft Queensland Infrastructure Plan 2011. More information is available on the proposed works to be completed on the road network through the Queensland Transport and Roads implementation Programme (QTRIP).

Recommendation

The proponent is requested to review the QTRIP for projects that could affect or be affected by the SGCP. Information on the QTRIP is available on the Transport and Main Roads Website www.tmr.qld.gov.au

Response

AEIS, Part 9.12 Transport, Section 9.2.3.6.1 presents a summary of the existing and planned works along the proposed haulage routes. Table 9 provides a summary of the planned works along chosen routes (according to QTRIP).

10.9.021 Mine Access Road

Comment

This section describes proposed upgrade at the intersection of the Mine Access Road with the Carpentaria Highway (corrected to Capricorn Highway as above), as having auxiliary left turn and auxiliary right turn treatments. An earlier section of the EIS, "Section 4.6 Transport, Subsection 4.6.1 Road" proposes "installation of a new auxiliary left turn lane on the Capricorn Highway for the mine access road turn-off". This is inconsistent and requires clarification.

Recommendation

Clarification is required from the proponent as to whether it is proposed to have only an auxiliary left turn lane on the Capricorn Highway, or if it is proposed to have both left turn and right turn treatments at the proposed intersection.

Response

AEIS, Part 9.12 Transport, Section 9.2.7.4.3 presents the proposed intersection treatment for the Capricorn Highway and new site access road.

10.9.022 Maintenance Contributions

Comment

This section deals with the maintenance contributions towards the road network. Although the proponent discusses the need to negotiate maintenance contributions with the Department of Transport and Main Roads, it is not clear as to the intention of the Proponent to undertake this activity.

Recommendation

The proponent is requested to clarify if it intends on making contact with DTMR to negotiate maintenance contributions for the sections of road that are identified as meeting the criteria for maintenance contributions.

Response

Refer to issues 9.016.

10.9.023 Road Network Rehabilitation

Comment

This section deals with the contributions towards the rehabilitation of the road network. Although the proponent discusses the need to negotiate rehabilitation contributions with the Department of Transport and Main Roads, it is not clear as to the intention of the Proponent to undertake this activity.

Recommendation

The proponent is requested to clarify if it intends on making contact with DTMR to negotiate rehabilitation contributions for the sections of road that are identified as meeting the criteria for rehabilitation contributions.

Response

Refer to response to Issue 9.016.

10.9.024 Pavement Impacts

Comment

This section details the summary of the required mitigation measures for the Pavement impacts that have been identified through the GARID methodology. The proponent proposes to assess the maintenance and rehabilitation contributions for the identified road sections on a special case basis, rather than the standard methodology.

Recommendation

Transport and Main Roads requests that the proponent carries out the required calculations base on the standard methodology to determine the routine maintenance and rehabilitation contribution amounts and to supply this information to Transport and Main Roads.

Response

AEIS, Part 9.12 Transport, Section 9.2.5.4 details the predicted SGCP maintenance contributions. AEIS Part 9.12 Table 30 presents the ESA loading increases and assesses them against the trigger value.

10.9.025 Forecast Traffic Volumes

Comment

These tables show background current and forecast traffic volumes and ESA's. Although Section 4.2 mentions compound growth, linear 3% growth appears to have been used and the method of determining the ESA's is unclear. For background traffic the department requires compound growth rates for that particular road section and 3.2 ESA's per HV.

Recommendation

Recalculate traffic volumes using agreed compound growth and then recalculate the impacts of background traffic and pavement loadings in the Supplementary EIS. Provide additional supporting information to demonstrate the basis of the ESA figures.

Response

AEIS, Part 9.12 Transport presents the revised SGCP traffic assessment.

- Section 9.2.4.3.1 - Construction Traffic
- Section 9.2.4.3.2 - Operation Traffic
- Section 9.2.4.3.3 - Personnel Traffic

10.9.026 Traffic Generation

Comment

With respect to the Mackay to South Galilee Coal Project (SGCP) route the Peak Downs Highway, Clermont Connection Road and Gregory Highway have been omitted. Mackay is a major supplier of mining relating support to the Bowen Basin and potentially the Galilee Basin. The Department of Transport and Main Roads Galilee Basin Transport Framework (GBTF) - August 2012 has identified that mine EIS traffic generation estimates are often substantially less than surveyed traffic volumes at mine accesses.

Recommendation

Justify the 20% inputs assigned to Mackay. Check that development volumes do not exceed 5% of AADT or ESA's on the Peak Downs Highway, Clermont Connection Road and Gregory Highway. If necessary recalculate the figures for Clermont - Alpha Road. These checks should be undertaken in accordance with DTMR's Guidelines for Assessment of Road Impacts of Development Proposals and presented in the SEIS.

Response

AEIS, Part 9.12 Transport presents the revised SGCP traffic assessment:

- Part 9.2.4.1 Construction Traffic - Table 13 provides an example for the assumed freight distributions, Mackay has been revised to 40%.

10.9.027 Clermont - Alpha Road Seal

Comment

With respect to the Mackay to South Galilee Coal Project (SGCP) route the Peak Downs Highway, Clermont Connection Road and Gregory Highway have been omitted. Mackay is a major supplier of mining relating support to the Bowen Basin and potentially the Galilee Basin. The Department of Transport and Main Roads Galilee Basin Transport Framework (GBTF) - August 2012 has identified that mine EIS traffic generation estimates are often substantially less than surveyed traffic volumes at mine accesses.

Recommendation

Detail what treatment will be required to address the current alignment, pavement and safety deficiencies of Clermont - Alpha Road.

This information is required to ensure the road safety, transport efficiency and network condition is maintained, in accordance with the Transport Infrastructure Act 1994.

Response

The Clermont - Alpha Road is no longer a designated transport route. AEIS, Part 9.12 Transport, Figures 7, 8 and 9 show the preferred transport route.

10.9.028 Employee Transport

Comment

This section state 99.5% of mine employees will reside on site and fly in/ fly out. The Alpha Aerodrome is identified as requiring upgrading by other parties. If this situation changes and employee's commute by road from regional centres this will have an impact on state roads

Recommendation

A sensitivity analysis should be undertaken to assess the revised potential impact by a reduction on the proportion of FIFO workforce.

The proponent should also detail how such a high proportion of FIFO workforce is proposed to be maintained.

Response

AEIS Volume 1, Part 9.12 Transport - presents the revised SGCP traffic assessment:

- Section 9.2.2.5.1 details the operating personnel requirement
- Section 9.2.2.5.2 details the construction personnel requirement
- Section 9.2.2.5.5 details the transport methods for personnel
- Section 9.2.4.3.3 details the proposed SGCP personnel traffic movements

10.9.029 Dust Mitigation

Comment

Table 10-12, 'Dust Mitigation Measures' contain a mitigation for Rail emissions (per last row), with the measure being - Compliance with Queensland Rail's Coal Dust Management Plan.

To date the only approved Galilee Basin Railway is the Alpha Coal Railway being developed as part of the GVK/Hancock Alpha Coal Project.

Condition 13 Coal dust management (Appendix 4: Page 352) of the Coordinator-General's Evaluation Report (Alpha Coal Project) details the required coal dust management measures.

A key condition was that the Alpha Coal Project would develop in consultation with the Department of Environment and Heritage Protection, a Coal Dust Management Plan that is similar to and broadly consistent with the QR Network Coal Dust Management Plan (CDMP Draft V10d 22nd February 2012).

It is expected that any other Galilee Basin Railway that is approved by the Coordinator-General will have commitments or conditions consistent with the Alpha Coal Project coal dust management measures. Where a Galilee Basin coal project is serviced by a QR National Railway, a project would implement coal dust management measures in compliance with the QR Network Coal Dust Management Plan.

If the SGCP uses the Alpha Coal Railway to deliver its coal to port, it will be required to implement measures consistent with the Alpha Coal Project Coal Dust Management Plan. This plan will be broadly consistent with the QR Network CDMP but may not be exactly the same.

As the SGCP will be accessing a railway owned either by the Alpha Coal Project, QR National or another Galilee Basin Rail proponent, the SGCP mitigation measure would need to be stated as:

“Compliance with the QR Network Coal Dust Management plan, or compliance with the SGCP’s Railway Owner/Manager’s Coal Dust Management Plan that is similar to and broadly consistent with the QR Network Coal Dust Management Plan”.

Recommendation

In the Supplementary EIS (SEIS) amend the proposed Rail Dust Mitigation Measure to read: “Compliance with the QR Network Coal Dust Management Plan, or compliance with the SGCP’s Railway Owner/Manager’s Coal Dust Management Plan that is similar to and broadly consistent with the QR Network Coal Dust Management Plan.”

Response

The proponent of SGCP agrees that rail dust mitigation measure complies with the QR Network Coal Dust Management Plan, or compliance with MP10.2 Air Quality Management Plan which incorporates the management of rail dust, which will be consistent with the QR Network Coal Dust Management Plan.

10.9.030 Central Rail Line

Comment

The proponent has advised that during the construction period rail (Central Line) will be used for the transport of construction supplies requiring up to 9 trains per week (5 per week average).

The Department of Transport and Main Roads strongly supports the use of rail for the transport of construction phase.

The EIS does not contain information on the nature of these freight tasks.

Recommendation

The proponent is requested to provide in the SEIS information the nature of the construction supplies that are expected to be transported by rail. This information will include:

- Freight type
- packaging (containerised, tanker, break bulk, etc)
- volume/tonnage
- origin of freight service (where trains are loaded, Brisbane, Gladstone, etc)

- Destination of freight service (where train is unloaded)

Response

AEIS Volume 1, Part 9.12 Transport presents the revised SGCP traffic assessment:

- Section 9.2.4.3.1 Construction Traffic (freight) Tables 15 to 17 presents the generated construction freight including that estimated to be transported by rail.
- Section 9.2.4.3.2 Operational Traffic (freight) Tables 20 to 23 presents the generated operational freight including that estimated to be transported by rail.

10.9.031 Central Rail Line

Comment

The proponent is proposing to utilise the Central Line for the transportation of construction and operation phase inputs. "A conclusive assessment of the adequacy of the existing rail network for the construction phase transport cannot be made, as information from QR was not forthcoming during the preparation of this report."

Furthermore, the proponent has indicated the intention to utilise the Galilee Basin railway to transport operation phase inputs. TMR supports the use of rail for such tasks where feasible. However, given the likely high demand for coal train paths on the Galilee Basin Railway from multiple mining projects, there is potential for operational and capacity constraints to limit the opportunities for non-coal rail traffic to access the railway to transport operational supplies.

The proponent is encouraged to investigate the potential to utilise the existing Central Line in the long term for these transport tasks.

Such opportunities could include collaboration with the other mining project proponents in the Alpha region with similar transport demands with the view to taking advantage of economies of scale to reduce transport costs for all parties.

Recommendation

The proponent is requested to undertake further consultation with QR regarding the capacity of the Central Line to support construction phase freight tasks and discuss the outcomes of this consultation on the SEIS.

In addition to rail network capacity, the proponent should also indicate any additional infrastructure requirements that would be necessary to support the unloading and staging of deliveries to the mine site.

Furthermore, as part of the consultation with the QR, the proponent is requested to investigate the potential to utilise the Central Line for the on-going transportation of operation phase inputs should the Galilee Basin Rail be limited to the coal traffic and discuss the outcomes in the SEIS.

Response

The proponent has continued discussions with QR regarding the use of the Central Line, refer to the AEIS Section 1.12 which details the post EIS consultation.

The proponent has introduced a new mining phase Epsilon which is presented in Section 2.0 of the AEIS. Epsilon is a 3Mtpa open cut mining operation which does not require the infrastructure compared to Stage 1, 2 and 3. Epsilon will rely on the development of the central line to transport product to the port and will be utilised to transport where practicable construction materials, fuels and operational materials.

The proponent will continue discussions with QR regarding the upgrade of the central rail line.

10.9.032 Over Size / Over Mass Vehicles

Comment

The EIS does not adequately address the impacts of over-size/over-mass (OSOM) vehicle movements generated by the project.

Whilst s14 describes in detail movement of general heavy vehicles and provides mitigation for those impacts, the impacts of OSOM movements are not identified or addressed.

OSOM movements have a greater single impact than standard vehicle movements.

The EIS excludes impact assessments on the Bruce, Gladstone Mt Larson Rd, Peak Downs or other road links due to limited general freight generation, however it is not identified if these routes will be used for OSOM movements.

Recommendation

The proponent is requested to assess the impacts of any OSOM movements that will be generated during the construction and operation phases of the project. The outcomes of the assessment are to be discussed in the SEIS detailing the methodology, route impacts and vulnerable infrastructure from origin to destination on all proposed routes including the relevant sections of the Bruce, Peak Downs and Capricorn Highways as appropriate.

The requirement for OSOM route assessment of a particular movements can be identified by the requirement for a permit due to the consignment being either over size or over mass as per TMR regulations.

An example would be the movement of dump truck buckets/bodies, generators, drilling equipment and other indivisible loads.

Response

AEIS, Part 9.12 Transport, Section 9.2.7.2 Over Size / Over Mass Vehicles presents the estimated volumes.

10.10 Queensland Health

10.10.001 Water Supply

Comment

The proponent has indicated that the water for human consumption will be “tested” (Table 19.9). The proponent has only identified that a treatment plant will be constructed near a ‘raw water dam’ to supply potable water. The proponent has not provided any specific details as to the potential source of raw water or any specific treatment methods etc. (other than a general statement regarding reverse osmosis). It is noted that the Australian Drinking Water Guidelines has not been referenced within the EIS and/or any commitment made by the proponent referencing these guidelines.

Recommendation

The proponent must determine whether they will be regarded as a drinking water service provider as regulated by the Water Supply (Safety and Reliability) Act 2008 and the Public Health Act 2005. If the proponent is not a drinking water service provider, then the proponent needs to develop a management system that will be used to ensure that all potable water consumed on site complies with the Australian Drinking Water Guideline 2001 (ADWG). The supply of suitable water would also be incorporated within the requirements of the Coal Mining Safety and Health Act 1999. This should include how potable water will be sourced, transported, stored, reticulated and the water quality monitored (this should be done in accordance with the requirements under the Public Health Act 2005 to satisfy the proponents requirements of due diligence). Identification of also how potable water will be protected from potential cross contamination from other water sources and waste streams on site needs to be highlighted.

Response

Potable Water Management System. The Proponent will not be a “service provider” but will develop a “Water Management Plan” to ensure all potable water to be consumed on site complies with the ADWG, the Coal Mining Safety and Health Act (1999). The design of the Potable Water Supply System will be carried out by professional Engineers familiar with the Public Health Act (2005). The plan will be developed in conjunction with Queensland Health officers and will be in place prior to construction commencing. Initial potable water requirements will be by bottled water or from an authorised supplier.

10.10.002 Air Quality

Comment

Queensland Health (QH) notes that the predicted air quality falls within the goals of the Environmental Protection (Air) Policy (EPP Air). Queensland Health however, has concerns regarding the methodology utilised by the proponent in demonstrating compliance with the EPP Air, particularly in establishing the “background” contaminant concentrations at the proposed mine located (Section 2 Appendix L pgs 5-16). The proponent has also modelled for significant pollutant reductions due to on-site dust suppression techniques which utilise significant amounts of water. It has been noted that the mine partly relied on water being supplied by the proposed Conners River Dam. Currently this water source will not be available to the mine and therefore other sources would be needed. If significant water is not available to the mine for dust suppression, the dust generated from the site may pose a risk to the health and well-being of adjacent residents.

Recommendation

The proponent must ensure that appropriate water is sourced to ensure all dust suppression mitigation techniques that were identified within Chapter 10 and Appendix L can be undertaken. QH also recommends that the proponent has the provision to undertake stricter mining controls within the environmental management plan (EMP). The EMP should also identify locations where meteorological conditions are collected around the mine site. Therefore the stricter controls can be enacted on occasions when air monitoring identifies elevated pollutant levels approaching the goals specified within the Air EPP and adverse meteorological conditions are present.

Response

Refer to AEIS, Part 9.9 Dust, Noise and Vibration.

The EIS discusses various dust control options. The maximum dust control for haul roads has been nominated to be ‘Level 2’ equivalent to 75%. However, the actual level of dust control incorporated into the model randomly varies over 9 steps between 20% control and 75% control for enhanced watering with the average being 50%. Thus the watering requirements for the haul roads are significantly lower than that required for Level 2 dust control.

The NPI provides generic application rates for dust control for haul roads, with a target of 75% dust control (at a watering level $> 2\text{L/m}^2/\text{hour}$). However it is understood that typical water rates in Bowen basin are approximately $4\text{L/m}^2/\text{hour}$ or $0.7\text{L/m}^2/\text{hour}$.

Thus from an operation perspective there are opportunities to increase the level of dust control for haul roads if required. These include:

- Improve the management of watering from the 50% average assumed in the modelling to 75% by timely and regular application of water.
- Adopt chemical suppressant in lieu of watering and up to 95% control is possible.
- Seal or salt encrusted roads 100%.

Thus there are provisions to undertake stricter dust control if required. The EMP incorporates ongoing testing to enable prompt response with additional dust controls if the monitored dust levels appear to be elevated.

10.10.003 Accommodation Camps

Comment

The proponent has not considered that the accommodation camps are likely to require the provision of medical facilities. Obtaining, possessing and using scheduled drugs and poisons may require an approval and compliance with legislative requirements.

Recommendation

In accordance with the Health (Drug and Poisons) Regulation 1996, the proponent should ensure that the necessary approvals from Queensland Health are obtained for any health facilities on the mine site which will be obtaining, possessing and using scheduled drugs and poisons.

Response

Refer to response to 10.006.

10.10.004 Accommodation Village Management

Comment

The proponent has not adequately considered management of alcohol and tobacco in relation to design of and conduct at accommodation camps. The proponent needs to ensure that the requirements of the Tobacco and Other Smoking Products Act 1998 are fulfilled. The National Tobacco Strategy has a strategy of eliminating harmful exposure to tobacco smoke among non-smokers and should be taken into consideration in the design of the accommodation camps. In 2009, the Australian Guidelines to Reduce Health Risks From Drinking Alcohol was released. These guidelines highlighted that there risk of hospitalisation for alcohol-related injury increases with frequency of drinking. The proponent has not adequately provided sufficient information in relation to the management of alcohol on-site.

Recommendation

Queensland Health recommends that:

1. Each accommodation camp should be designed to either be a smoke free environment, or provide for a single smoking area that is located in such a location that it will not impact on other residents at the camp; and,
2. The proponent develops an Alcohol Management Plan to encourage safe and responsible consumption of alcohol.

The common response from companies is to develop a Code of Conduct / contractual obligations. This should be one strategy amongst others that include the consideration of an alcohol, tobacco and other drugs workplace policy. This policy should provide information to employees about potential harms of smoking, high risk drinking and drug use. It should also consider providing options for support that are available through services such as Quitline (13QUIT, 137848), Alcohol and Drug Information Service (1800 177 833), and any provided by local services including GP's.

Response

Policies including drugs and alcohol, accommodation village behaviour and code of conduct will be developed after financial close and time to ensure aspects are incorporated in the related design. The policies will recognise established guidelines and will be followed with workforce awareness programs.

Refer AEIS Part 9.14 SIA which details the contents of the Workforce Management Plan which will be implemented prior to the commencement of SGCP.

10.10.005 Pest Management

Comment

The pest management plan refers to the potential for mosquitoes to become a vector for diseases. The plan refers to the Health Act 1996 as legislation authorising local government to implement mosquito control programs to control vector-borne disease. This is incorrect. The Public Health Act 2005 gives local government responsibility for particular public health risks, which may include undertaking enforcement action to reduce the public health risk associated with designated pests such as mosquitoes. The responsibility for the reduction of the public health risk lies with the landholder. Therefore, the landholder is responsible for undertaking treatment to ensure mosquitoes do not present a risk of disease to workers and other persons.

Recommendation

The proponent must develop a comprehensive plan to manage mosquitoes given the number of itinerant workers/visitors who will be on site for varying periods of time. For guidance the proponent can refer to The Queensland Health document 'Guidelines to minimise mosquito and biting midge problems in new development areas' (<http://www.health.qld.gov.au/phs/Documents/cdu/14804dmp.htm>) for assistance.

Response

Refer to AEIS Section 9.10.5 which details the development and timing of the implementation of the Weed and Pest Animal Management Plan. The recognised stakeholders for the development of this plan include Queensland Health and Barcaldine Regional Council.

10.10.006 Healthcare Impact

Comment

The proponent must assess the project's impact on access to healthcare. Specifically, the proponent must provide an assessment of what, if any, health personnel will be required onsite (i.e., paramedics etc.). This assessment must give consideration for the need access GP services and primary care (Particularly mental health, ATODS, Sexual Health and rehabilitation) and whether the proponent is proposing to transport workers from the mine site for health care.

Recommendation

The proponent has not adequately assessed the project's impact on access to healthcare. Specifically, the proponent has not clearly provided/assessed what, if any, health personnel will be onsite (ie, paramedics etc). The proponent has indicated that the workforce are planned to be sourced locally and the remainder will be under a fly-in-fly-out model/regime. Consideration needs to be given to accessing GP services and primary care (particularly mental health, ATODS, sexual health and rehabilitation services). Hence, it is unclear from the health services perspective how the proponent will meet its obligations for providing adequate access to health care (including transport).

Response

Health and Safety personnel on site will be that required by the Coal Industry standards. Their service will be exclusively for the mine operations as mining must cease if the service is not available on site. Transport to health care services generally would be those available at the point of origin of the FIFO workforce.

10.10.007 Management Plans

Comment

Queensland Health (QH) believes that the Health and Safety component of the EIS needs to provide further details relating to the following aspects;

- the project's potential to generate and harbour disease vectors, particularly considering the generation and manipulation of watercourses and the development of an onsite landfill site. Table 22-2 identifies that a Pest Management Plan will only be developed if needed. QH believes that a plan should be developed. No definitive commitment was made to do so within Appendix G.
- The proponent has identified that recycled water will be treated to "Class B" standard. The water may then be reused for purposes such as irrigation and dust suppression. More information is needed to establish whether human health is adequately protected from any proposed recycled water usage.
- QH is concerned that there may be an increased risk to the health and well-being of workers and residents in the surrounding area from the transmission of

communicable diseases. The risk of the spread of communicable diseases such as (but not limited to) dengue, measles and hepatitis A increases with fly-in-fly-out (FIFO) workforce which may be sourced internationally or from other areas within Australia, and housed in the worker's accommodation village. The proponent has not considered this risk within Tables 19-8 or 19-9. The proponent has not provided any details regarding any proposed control mechanisms to mitigate the accommodation camps and nearby areas.

Recommendation

Queensland Health recommends that the:

- Proponent commits to the development of a Pest Management Plan, which incorporates a "mosquito management plan" for the entire site and in particular areas where it is intending to pond significant volumes of water and the proposed landfill site. Reference should be made to Queensland Health's "Guidelines to minimise mosquito and biting midge problems in new development areas".
- Queensland Health recommends that any waters proposed to be reused on site (including effluent from onsite sewerage treatment plants and rain water captured within tanks), complies with the Australian guidelines for water recycling - managing health and environmental risks (Phase 1) (2006). This Guideline was released by the National Environmental Protection Council and provides guidance on water quality and management planning for recycled water. This document can be located at <http://www.nepc.gov.au/taxonomy/term/39>.
 - The proponent integrates within the Health and Safety Management Program, a plan which will safeguard workers and local residents from the spread of communicable diseases (such as dengue, measles and hepatitis A). This plan, although not limited to, must incorporate/highlight any proposed;
 - Vaccination program
 - Monitoring program
 - Response program

Response

Refer to the following areas of the AEIS,

- Part 9.10.5 details the Weed and Pest Animal Management Plan which will include Mosquito Management, this plan will be implemented prior implementation of SGCP.
- Part 9.10.12 details the Water Management Plan which will include compliance with the Australian guidelines for water recycling - managing health and environmental risks (Phase 1) (2006).

- Part 9.14 SIA, Action Plan 4 which details the Community Safety and Wellbeing Action Plan including:
 - Promotion of healthy lifestyle; and
 - Workforce Quarantining Employees with Communicable Disease.

10.11 Department of State Development, Infrastructure and Planning

10.11.001 Employee Support Programs

Comment

The proponent indicates some employees may be sourced from Rockhampton and surrounding areas such as Woorabinda. Miners operating in the Bowen Basin have previously targeted Woorabinda to meet required percentages of indigenous workers. Generally, these recruitments have not led to long term placement.

Recommendation

Ensure implementation of support programs to ensure the specific needs of indigenous workers living away from home are met. This is particularly important for indigenous youth ie apprentices.

Response

Workforce sourcing will be dependent on project timing. The revised SIA does not include a specific breakdown of workforce locations but AEIS Volume 1, Part 9.14 SIA Figure 2.3 in the WMP nominates key Queensland regions for workforce sourcing. The WMP also details intentions to recruit indigenous workers through the Indigenous Liaison Officer who will work with key stakeholders including DATASIMA, DSDIP Regional Services.

10.11.002 Apprenticeships / Traineeships

Comment

SIMP notes increased opportunities for traineeships/apprenticeships and notes Alpha SS as a stakeholder. The local economy is detrimentally impacted due to Years 11 and 12 not being offered at Alpha SS which results in students travelling away from the area to complete secondary education and often not returning to the community to work. An increase in job opportunities has potential to bring students back to the region and boost economic activity.

Recommendation

Ensure information about apprenticeship / traineeships opportunities is made available to local students living away from home and their parents / guardians.

Response

AEIS, Part 9.14 SIA;

- Action Plan 2 Workforce Management

- 1.9, 2.0 and 2.1 Training and Skills Development

- 2.3 Apprenticeships and Traineeships
- 2.4 and 2.5 Schools Industry Pathways.

10.11.003 Stakeholders DSDIP

Comment

The Stakeholders and Responsible Parties columns do not list Regional Services within DSDIP which can:

- assist local business to understand how supply chains including the tier system work
- support supply chain and industry capability development
- support businesses to develop capability statements and other requirements to achieve pre-qualification

Recommendation

Include Regional Services, DSDIP as stakeholders and responsible parties for this potential impact.

Response

AEIS, Part 9.14 SIA;

Meeting with DSDIP-Regional Services undertaken as part of AEIS SIA preparation and SIA now includes specific reference to this agency in WMP and Regional Business Development and Local Content Action Plan.

10.11.004 Stakeholders Regional Services

Comment

The Stakeholders and Responsible Parties columns do not list Regional Services within DSDIP which can:

- support business start ups and expansion
- identify appropriate interventions and refer to other agencies as appropriate

Recommendation

Include Regional Services, DSDIP as stakeholders and responsible parties for this potential impact.

Response

Refer to response to 10.11.003.

10.11.005 Local Businesses

Comment

The Stakeholders and Responsible Parties columns do not list Regional Services within DSDIP which can:

- support business start ups and expansion
- identify appropriate interventions and refer to other agencies as appropriate

Recommendation

Include Regional Services, DSDIP as stakeholders and responsible parties for this potential impact.

Response

Refer to response to 10.11.003.

10.11.006 Stakeholders - Barcaldine Regional Council

Comment

Regional Services can assist Barcaldine Regional Council to plan for future growth and work with it to develop up possible responses.

Recommendation

Include Regional Services, DSDIP as stakeholders and responsible parties for this potential impact.

Response

AEIS, Part 9.14 SIA;

Meeting with DSDIP-Regional Services undertaken as AEIS SIA includes reference to agency in WMP and Regional Business Development and Local Content Action Plan.

10.11.007 Working Groups

Comment

Identified representation includes Office of Advanced Manufacturing and DEEDI. Following the machinery of government changes earlier in 2012, DEEDI ceased to exist. OAM is now Industry Development and sits within DSDIP as does Regional Services. Regional Services works with regional industry and business on a daily basis to support improved capability and productivity.

Recommendation

Include Regional Services, DSDIP in both working groups.

Response

Refer to response to 10.11.003.

10.13. Queensland Police Service

10.13.001 Relevant Regulations and Policy Documents

Comment

The assessment of the SGCP lists a number of relevant regulations and policy documents considered in the delivery of the Environmental Assessment. The Disaster Management Act 2003 and Public Safety Preservation Act 1986 are relevant to this project and are not included in the list.

Recommendation

Include the Disaster Management Act 2003 and Public Safety Preservation Act 1986 and engage with the relevant management committees as part of the Social Impact Assessment.

Response

In addition to the relevant regulations and policy documents considered in the delivery of the Environmental assessment in the EIS, the Disaster Management Act 2003 and the public safety preservation act 1996 will also apply.

Refer to AEIS Part 9.14 SIA and Section 8 regarding liaison since the EIS.

10.13.002

Comment

Submission by QPS to the Draft Terms of Reference (Section 2.3) requested detail relevant to pre-construction activities. This information related to contractor vehicles and the transportation of heavy machinery.

Recommendation

The QPS notes the relevant detail submitted in EIS Section 4.4 – Construction.

The QPS requests an additional commitment in EIS Appendix U – List of Proponent Commitments (Section 4), to include: 'Notification provided to the Officer in Charge, Jericho Police Station prior to the commencement of site pre-construction activities. Level of detail required to enable an assessment of additional traffic movement, types of vehicles and worker accommodation'.

Response

AEIS, Section 9.12 details the revised SGCP Transport plan which includes the revised construction traffic including Epsilon.

10.13.003 Communications

Comment

The project location has minimal police and emergency service radio communications coverage.

The Terms of Reference requested consideration for broadband access to facilitate Radio over Internet Protocol for other users' communications needs (ToR p.22).

Section 4.11.7 – Telecommunications details the scope of the telecommunications services provided for the project however does not mention any provision of bandwidth to facilitate the connection of 'services by others'.

Recommendation

The QPS acknowledges reference in EIS Appendix B – EIS Terms of Reference – Cross Reference Table (p.9).

The QPS requests:

1. The inclusion of this as part of EIS Section 4.11.7. Telecommunications. 'The provision of bandwidth to facilitate telecommunications services by others (police and emergency services)'
2. The inclusion in Appendix U – List of Proponent Commitments:
 - (a) that bandwidth will be made available for police and emergency services. (Police requirement is 1Mb);
 - (b) that floor space be allocated within the main communications facility for a QPS secure equipment rack;
 - (c) that access to support infrastructure such as an associated telecommunications tower is provided for the installation of QPS equipment (antenna); and
 - (d) the provision of mains power (240 volt AC) for the operation of the radio communications equipment.

Response

The communication system for the SGCP will be developed in 2 stages. The initial stage Epsilon refer to AEIS Volume 1 Part 2 is developed prior to the availability of an external power supply. On site power generation will be sufficient to construct and operate Epsilon. For Epsilon, a wireless communications system will be implemented. The communications tower will be located within the mining lease. It will essentially be a line of sight facility and will be available to others within its range.

The subsequent stages will require an external power supply. This supply will include a fibre optic cable to facilitate the Power Link's systems control / communications obligations. Access to this facility, by third parties can be addressed via the Telecommunications Act.

10.13.004 Employee Movements

Comment

Section 14.3.1.1 provides information relative to the workforce employed at the site and the movement on state controlled roads. However, the movement to and from the site by other contractors and subcontractors is not provided. It is likely that this will result in more frequent vehicular movements than those associated with shift rotations.

Recommendation

The QPS requests the inclusion in Section 14.3.1.1 of estimated vehicular movements on State roads in the projects area of influence, by contractors and subcontractors associated with project support and work activities.

Response

AEIS, Part 9.12 Transport presents the revised SGCP traffic assessment, which includes a revised assessment of personnel and subcontractor movement. Table 6 - shows the transport (modal split) for site personnel, including contractors.

The accommodation village will have sufficient accommodation to house up to 20 people per day.

10.14 Department of Environment and Heritage Protection

10.14.001 Cumulative Housing Impacts

Comment

The DHPW is generally supportive of the SIMP and in particular, the proposed mitigation measures to address cumulative housing impacts, both locally and regionally, by working collaboratively with other proponents, government agencies and housing organisations.

Recommendation

Not Applicable

Response

The workforce will be essentially FIFO, including additional accommodation for project contractors/consultants. Refer to the AEIS, Part 9.12 SIA, Housing and Accommodation Action Plan (HAP) - 1.1, 1.7, 1.8 and 1.9 contain specific actions to monitor and work in collaboration to plan for increased demand for infrastructure and services due to population increase.

10.14.002 Local Housing Shortages

Comment

To counter local housing shortages, rising accommodation prices and ensure the availability of housing across a scale of socio-economic groups, it encouraged that the State and Commonwealth governments:

- provide adequate residential land in Alpha for development;
- provide a range of housing options to be available in new residential developments; and
- consider resourcing approaches for new residential developments

Recommendation

The initiatives of AMCI to address housing impacts, particularly cumulative impacts, are recognised, however this section implies that it is the responsibility of government to address housing shortages due to increasing demand.

While government at both local and state levels can play a role in facilitating residential development where possible through provision of land and infrastructure, proponents should also recognise that the presence of major mining activities, of which AMCI is a contributor in this region, drives this demand which has flow on impacts. Proponents should also play a direct role in housing provision where appropriate, particularly where

staff will be housed in established communities over the long-term.

Changes to this section are therefore recommended to better reflect joint responsibilities for direct housing provision.

Response

AEIS V Part 9.14 SIA;

Direct housing impacts in SIA have been addressed in various actions outlined in the HAP. ACM are committed to monitoring project impacts on housing affordability and availability. In addition ACM will participate in GB Roundtable that will address cumulative housing impacts and address co-ordinated and collaborative solutions with other proponents and stakeholders. Actions 1.1, 1.7, 1.8, 1.9, 2.0, 2.1 in the HAP Action plan provide specific actions to address this issue.

10.14.003 Social Housing

Comment

Section 1.1 outlines a commitment to managing adverse impacts on the availability and affordability of social housing. Section 1.5 outlines indicative performance indicators for measuring the mitigation strategies of the Housing and Accommodation Plan. It is noted that “the availability and affordability of social housing in Alpha” is presented as an indicative indicator.

Inclusion of an indicator for social housing is considered inappropriate in this context as social housing is defined as:

Rental housing, which may be owned and managed by the State, by not-for-profit organisations, or by a combination of the two with the aim of providing affordable housing. Social housing is available to those who meet specific eligibility criteria including thresholds for income and assets.

Alternatively, the term “affordable housing” is defined as:

Housing which represents a broad spectrum of housing options, from public, community and private rental housing to affordable home ownership. It is housing that is suitable to the needs of households and enables households to meet other essential basic living costs.

Recommendation

The DHPW recommends amending the reference to social housing in section 1.1, and removal of the indicator specific to social housing from the Housing and Accommodation Plan. It is recommended that references to affordable housing in these sections may be more appropriate.

Response

AEIS, Part 9.14 SIA, Action Plan 1 - Housing and Accommodation, the reference social housing has been updated to affordable housing.

10.15 Private Submitter

10.15.001 Environmental Impacts

Comment

- Dust and Coal Dust
- Sensitivity of the local environment and townships I immediate vicinity.
- Industry standard
- Regional, state, national and international commitments to the prevention of polluting of the environment with greenhouse gases.
- That there should be better specification of air quality indicators and goals to protect the environment.
- Provision of a framework for making consistent and fair detections of emerging air pollution to best protect Queensland's air environment.
- The production of a guide for assessing and clarifying the environmental effects of dust emissions.

Recommendation

- Produce detailed reports of the impact to the environment of coal mined
- Produce detailed report of the impact of coal mined on the pollution of the air
- Produce detailed reports on the impact of coal mined on the greenhouse effect.
- Conduct regular monitoring of all water source within mine lease and any surrounding water sources for detection of pollution
- Purify/filter all water before releasing it back into water tables and surrounding environment
- Have a water purification station on site.

Response

AEIS Volume 1, Section 9.9 presents the revised SGCP Noise, Dust and Vibration reports.

AEIS Volume 1, Section 9.10 Management Plans include:

- Section 9.10.7 Noise and Vibration Management Plan
- Section 9.10.13 Topsoil Management Plan
- Section 9.10.2 Air Quality Management Plan

10.15.002 Water Management

Comment

- Quality and quantity of surface waters
- Impact on ground water resources
- Run off
- Mine water management
- Re-use of mine affected water on-site for reuse during mining processing.
- There should be no release to the environment
- Detection strategies for mine affected water
- Hydrology
- Impacts on flood hydraulics and geomorphology
- Impact and risks of channel diversion

Recommendation

- Conduct a detailed study of the corridors used by wildlife
- Conduct a study and prevent the impact of roads and rail lines to vegetation and wildlife.
- Prevent the disturbance and accident of rail disasters from animal going o to rail and road lines.
- Remove the crossing of proposed rail line through flood plains and cattle station land.

Response

Off lease infrastructure will assessed as part of a subsequent approval process.

On lease wildlife impacts and connectivity area were addressed in the EIS, it is further expanded in the AIES:

- Part 9.11 Environmental Management Plan
- Part 9.13 Matter of National Environmental Significance.

10.15.003 Truck Impacts

Comment

- Impact of trucks and trains on local communities
- Impact of trucks and trains on farming and livestock

Recommendation

- Conduct a detailed study of the corridors used by wildlife
- Conduct a study and prevent the impact of roads and rail lines to vegetation and wildlife.
- Prevent the disturbance and accident of rail disasters from animal going o to rail and road lines.
- Remove the crossing of proposed rail line through flood plains and cattle station land

Response

Refer to response to issue 15.002

10.15.004 Water Management

Comment

- Re-use of mine affected water on-site for reuse during mining processing.
- There should be no release to the environment
- Detection strategies for mine affected water
- Failure of water storage and pipelines effecting water levels and the potential to result in non-compliant discharge and environmental impacts for downstream receiving waters, ecosystems and landholders. These may include altered flow of waters, discharge of potentially contaminated water, alteration of riparian vegetation and aquatic species through changed environmental flows; erosion and sedimentation at discharge points.
- Erosion of diversion channel due to flooding
- Excessive sedimentation within the diversion channel due to reduced longitudinal gradient resulting in a reduced flood capacity within the channel system, which reduces the flood immunity of the flood protection levels.
- A reduction in sediment supply to some creek systems affecting flooding patterns downstream.
- Increased collection of sediments in each of the creeks
- The formulation of an unstable channel system impacting on vegetation and riparian habitat

- Increased erosion in creeks resulting in increases downstream sediment dumping.
- Potential impacts of mining activities on the ground water resources which include the ground water level decline and alteration to ground water floor and gradients
- Seepages from water and waste storage facilities
- Alteration to ground water patterns
- Possible water logged areas
- Contamination of off-site wetlands and vegetation
- Contamination of ground water flow to water systems
- The potential for a ground water sink making ground water flow towards the void from both on-site and within the adjacent projects.
- The potential impacts of mining activities on the ground water resources negatively impacting on mining production operations being that a decline in ground water levels potentially impacts on the bore productivity and yield from taking the water level down below the existing pump uptake. Having a potential to cause back flow contamination.

Recommendation

- Conduct regular monitoring of all water source within mine lease and any surrounding water sources for detection of pollution
- Purify/filter all water before releasing it back into water tables and surrounding environment
- Have a water purification station on site

Response

Refer to response to 10.001 and AEIS Section 10.

10.15.005 Impact of Grazing

Comment

- Impact on cattle grazing
- Impact on bush land, grazing land and forest.
- The stockpiling of coal.
- Flooding
- Sediment mobilisation
- Land disturbance

Recommendation

- Conduct a detailed study of the corridors used by wildlife
- Conduct a study and prevent the impact of roads and rail lines to vegetation and wildlife.
- Prevent the disturbance and accident of rail disasters from animal going on to rail and road lines.
- Remove the crossing of proposed rail line through flood plains and cattle station land
- Do not make access routes through grazing land/ flood plains.
- Stop underground mining beneath forest plains.
- Do not stockpile coal.

Response

Off lease infrastructure will be assessed as part of subsequent approval process.

On lease wildlife impacts and connectivity area addressed in the EIS and are subject to further information in the AEIS as per DNRM and EHP submissions as submitters 13 and 10 respectively.

10.15.006 Wetlands

Comment

- The management of land pre, during and post mining operations

Recommendation

- Prevent the disturbance, impact and pollution of the environment.
- Secure the protection of wetland and coastal environmental areas via the set up of reserves and parks.

Response

Wetlands / coastal impacts are not relevant to this project's assessment.

10.15.007 Species Impact

Comment

- Detection, protection and management of threatened species.
- Detection, protection and management of vulnerable species
- Management and protection for protected land
- Mitigation measures pre, during and post construction.
- Effect on the ecology of local and down stream creeks
- Detrimental effect on the reef and its world heritage status
- Pollution of the atmosphere
- Pollution of food chain.
- Pollution of farming land
- Pollution of wetland areas.
- Impact on the health of peoples.
- Protection of squatter pigeon under the EPBC ACT, Schedule 3 of the nature conservation wildlife regulation NCWR 2006
- Protection for matters of national ecological significance
- Protection of listed species found on the site and those known migratory species that would use the site.
- The implementation of species management plans

Recommendation

- Conduct detailed studies for the ecology of the area
- Preserve habitat of vulnerable or threatened species
- Manage the protection of vulnerable and threatened species
- Control the impact to threatened and vulnerable species via reserves and parks free from pollution
- Save the forests from underground mining and use them as carbon offset for the mining operations
- Conserve wetland and vegetation in foresight for the mitigation measure pre, post and during the mining operations
- Produce detailed studies of the pollution emissions for the coal mined and exported.
- Control and study pollution to surrounding areas via regular environmental studies and checks
- Prevent all pollution to wetlands

- Prevent pollution entering into the water and food chain.

Response

Addressed in the EIS and further information available on threatened species impacts in the AEIS refer to:

- Part 9.13 Matters of National Environmental Significance
- Part 9.11 Environmental Management Plan

10.15.008 Natural Water Course Management

Comment

- Damage to rivers and creeks
- Impact on creek flows the entire length of the site
- Tributaries off the creek
- Protection of amphibian species
- Protection of birds that are unlisted and listed under the EPBC ACT being migratory or native.
- Protection of mammals
- Protection of fish and reptile species
- Impacts on environmental values of aquatic flora and fauna from the diversion of creeks
- The presence of riverine wetlands systems on the mining lease.
- That wetlands are not outlined within environmentally sensitive areas mapping for the project.
- The impacts on stream stability
- Potential impacts to the catchments and channel systems from subsidence
- Loss of surface water run off through surface cracking
- Change to stream beds profiles
- Potentially reduced flood capacity in channels due to sedimentation increase resulting in more frequent inundation of floodplain areas.
- Reduced stability of the proposed diversion channel due to subsidence.
- The uncontrolled or non-compliant release of potentially contaminating waste into streams from facilities, chemical storage, vehicle wash down areas and drainage lines, which could potentially alter the physical and chemical characteristics of the receiving waters.
- Increased salinity, dissolved metals and nutrient levels in receiving water courses from mine activities with consequent effects on environmental values for the

aquatic ecosystems and livestock using the water supply.

Recommendation

- Conduct detailed studies for the ecology of the area
- Preserve habitat of vulnerable or threatened species
- Manage the protection of vulnerable and threatened species
- Control the impact to threatened and vulnerable species via reserves and parks free from pollution
- Save the forests from underground mining and use them as carbon offset for the mining operations
- Conserve wetland and vegetation in foresight for the mitigation measure pre, post and during the mining operations
- Produce detailed studies of the pollution emissions for the coal mined and exported.
- Control and study pollution to surrounding areas via regular environmental studies and checks
- Prevent all pollution to wetlands
- Prevent pollution entering into the water and food chain

Response

Addressed in the EIS.

Further information is available in the AEIS in the form of responses to submission by DAFF, DNRM and EHP as submitters 4 to 8, 13 and 10 respectively.

10.15.009 Cultural Heritage

Comment

- Protection of indigenous and cultural heritage rights
- The rights and values of Wagon and Jagalingou people
- Implementation of a management plan.

Recommendation

- Respect the rights and heritage of local people and the use of the land and the spiritual connection to the environment.

Response

AEIS, Part 9.14 SIA;

- Action Plan 3 - Regional Business Development and Local Content
 - 1.8 Indigenous Participation

10.16 Skills Queensland

10.16.001 Government Name Changes

Comment

The document needs to be updated to reflect machinery of government changes, for example, Government department names and programs.

Recommendation

There needs to be further consultation and a specific time for the delivery of an updated Workforce Management Plan. Skills Queensland would recommend further discussion and an updated WMP in consultation with Skills Queensland at Financial Investment Decision.

At this time further detail on recruitment, sourcing, occupations in need may be finalised in the WMP.

Potential skills shortages need to be part of the response to aid the development of any action plan or mitigation actions.

Response

AEIS, Part 9.14 SIA, Action Plan 1 - WMP. The WMP has been updated. Meetings with key agencies were undertaken as part of the AEIS SIA. ACM notes that Skills Queensland is now absorbed into DETE.

10.16.002 Project Workforces Needs

Comment

Although details are provided on some government projects or programs these are statements with no alignment to the project workforce needs.

The EIS states WMP will be developed in consultation with the WMP working group (to include Skills Queensland, DoC and BRC). The detail provided on the workforce requirements in each area is very comprehensive. The document does not identify any potential areas where supply may be an issue, even in the most general terms.

The Strategic Investment Fund and the Skills Formation Strategies are not recruitment strategies. An Indigenous Employment strategy is referred to but no detail provided.

There is a statement that strategies for recruitment attraction will be identified for the list provided in the workforce criteria of the Terms of Reference. No other details about the strategies are provided.

The document states strategies in this section address the identified potential impacts associated with the recruitment and retention of SGCP employees and contractors and the training needs associated with the SGCP workforce. However there are no strategies provided just reference to discussion with the WMP Working Group.

There is no reference on where the anticipated skills shortage areas might be in order to have strategies or actions/mitigations to address. There is no commitment except to use this WFM group.

Table 2 indicates the regional areas where workforce may be sourced and is quite detailed in numbers provided. There is no detail on how these workers will be recruited, if there is knowledge of their availability in these locations, which category they fit – skilled, unskilled or if there is any issue in supply.

Recommendation

Skills Queensland would like to see a formalisation of this group as a condition to progress the Workforce Management Plan and the group should include Skills Queensland and DETE and DATSMIA.

There is a need to have some indication of the commitment and potential workforce management actions as contractors would need to have these requirements in their tender and contract documentation.

Response

AEIS, Part 9.14 SIA, Action Plan 1 - Workforce Management Plan.

The WMP has been updated. Meetings with key agencies were undertaken as part of AEIS SIA. We note that Skills QLD now absorbed into DETE. Key actions outlined in WMP 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.9.

10.17 Private Submitter

10.17.001 Ground Water

Comment

Ground Water Investigation

Recommendation

It is submitted that the independent expert review of the EIS in respect of groundwater identifies major and very numerous, unacceptable defects in the Proponent's groundwater assessment. The Coordinator-General should require this part of the EIS to be thoroughly revised in a way that clearly demonstrates the defects have been corrected.

Response

AEIS, Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS includes the revised Groundwater Model and associated analysis.

Refer to responses to submissions by DNRM which is presented in Section 10 as submitter 13.

10.17.002 Make Good Agreements

Comment

Ground Water

Recommendation

It is submitted that any approval of the EIS by the Coordinator-General should be conditional upon the Proponent first entering into a make-good agreement with each owner of private bores which will potentially be affected by the mining; alternatively if that is not acceptable, that such agreements be a prerequisite before the Proponent is issued a water licence

Response

AEIS, Part 9.4 South Galilee Groundwater Model 2013 update for AEIS - Section 3.3 Monitoring, Evaluation, Reporting and Improvement states; " The SGCP will develop water supply agreements with landholders who will potentially be impacted by mine dewatering, as identified in section 3.2.3."

Also refer to Commitment Register in the AEIS Part 9.16 - Make Good Commitment.

10.17.003 Baseline Testing

Comment

Groundwater

Recommendation

It is submitted that, as part of the EIS process and before any approval is given, the Coordinator General should require baseline testing by a suitably qualified and experienced and genuinely independent expert of each potentially-affected private bore, with the following parameters addressed:

- standing water level
- sustainable yield/specific bore capacity (where necessary measured by temporary installation of a larger pump)
- water quality (pH, conductivity, temperature plus other appropriate lab-test parameters)
- methane gas concentration (if appropriate in the particular case)
- a declining yield trigger value
- a declining water quality trigger value
- physical description of the bore installation.

Response

Much of the information is already provided in the groundwater database (GWDV) review and bore census reports (EIS Appendices D and E, respectively) and is discussed in the EIS Section 4.4.3 (RPS 2012). This information is summarised below:

Results of groundwater sampling from regional bores (DNRM data, Appendix B) indicate that the groundwater in the area generally has elevated concentrations of nitrate and some metals (e.g. iron, zinc and manganese) which exceed ANZECC environmental guideline criteria for fresh aquatic ecosystems and / or and irrigation (EIS Appendix C) (RPS Aquaterra 2012).

Two rounds of groundwater quality sampling were conducted for MB01-04 during EIS activities. The results of groundwater sampling from the on-site monitoring bores (MB01 to MB04) show that all tested analyses were reported to be either below laboratory reporting limits or below the adopted ANZECC environmental criteria, with the exception of zinc, boron and ammonia.

The exceedence for the on-site monitoring bores (MB01 and MB04) were as follows:

- concentrations of zinc were reported to exceed the fresh aquatic ecosystem 95% species protection limit of 0.008mg/L in all four bores MB01 to MB04.
- concentrations of boron were reported to exceed the fresh aquatic ecosystem 95% species protection limit of 0.37 mg/L in one monitoring bore MB03.

- concentrations of ammonia were reported to exceed the fresh aquatic ecosystem 95% species protection limit of 0.9 mg/L in monitoring bores MB01 and MB04.

The overall groundwater quality analysis indicates that the baseline groundwater is compliant with irrigation and stock water criteria (where salinity of groundwater allows), but is not generally suitable for drinking purposes due to its high salinity, and compliance with 95% fresh aquatic ecosystems criteria for zinc, boron and ammonia.

Groundwater monitoring will continue using a Groundwater Monitoring Program (GMP) discussed in Section of the EIS Groundwater Assessment (RPS Aquaterra 2012). The GMP will be prepared and submitted for review in accordance with project approval conditions and any groundwater-related licenses. The plan will be designed to monitor groundwater levels and quality to confirm the extent and magnitude of impacts from mine dewatering, including consideration of any triggering of the application of management responses (e.g. mitigation measures), which will also be detailed in the GMP.

Assessment of background data will be used as a basis for proposed release contaminant trigger levels for metals above the default guideline levels (ANZECC/ARMCANZ 2000). These levels can only be modified in those cases where the 80th percentile of background site data is significantly different to the default ANZECC trigger. Both minimum site data and criteria indicated in Section 4 of the Queensland Water Quality Guidelines (2009) need to be considered in the derivation of local water quality guidelines. Modified trigger values will be developed using data collected by proponent in accordance with these methods.

10.17.004 Groundwater Monitoring

Comment

Groundwater

Recommendation

It is submitted that any approval of the EIS should establish the process by which it is guaranteed that there will be ongoing, regular monitoring by a suitably qualified and experienced, genuinely independent expert of those same parameters in each such private bore.

Response

The Koburra Trough and Barcaldine Ridge are not included in the model because of Eastern Part of the Koburra Trough is located in the Northern Galilee Basin, and the SGCP is in the southern basin. The Barcaldine Ridge forms the boundary between North and South Basins. The Model is developed at a regional but not basin scale, so basin-scale structure is not relevant in this case. Additionally, minor faults in the Rewan Fm are accounted for in the model with conservatively high K of Rewan.

10.17.005 Groundwater

Comment

A make-good regime which relies on baseline and monitoring data limited to water level and quality at the Proponent's monitoring bores (as does the Coordinator General's recommended water licence conditions for the Alpha Coal Project) will fail to protect bore owners. It cannot satisfy the necessary standard of proof of adverse effect and its cause. It purports to give the bore owner protection without the need for proof of the baseline capacity or water quality of the subject bore and of adverse effect on that bore.

Recommendation

To provide evidence of the required standard, whether as the basis for an official directive or for private make-good agreements, there must be testing which includes the parameters –

- a. Individual baseline assessment of all at-risk private bores before mining starts, then regular (eg. quarterly) monitoring
- b. Comprehensive baseline testing of each bore using the parameters (as mentioned above)
 - standing water level
 - sustainable yield/specific bore capacity (by pump-testing, where necessary measured by temporary installation of a larger pump)
 - water quality (pH, conductivity, temperature plus other appropriate lab-test parameters)
 - methane gas concentration (where appropriate)
 - a declining yield trigger value
 - a declining water quality trigger value
 - physical description of the bore installation.
- c. For periodic monitoring each private bore should be equipped by the Proponent with appropriate time series data loggers and sensors (with continuous power supply – solar or battery) to measure and record –
 - date and time of measurement
 - instantaneous standing water level
 - cumulative yield since last record.

Response

Much of this information is already provided in the groundwater database (GWDB) review and bore census reports (EIS Appendices D and E, respectively).

The most important factors governing the ability of an aquifer to produce water are thickness of the water bearing strata and permeability. In general, the greater the

thickness of water-bearing strata adjacent to the bore screen, the greater the yield because more of the water-bearing strata is available to the bore. Therefore, assuming that the permeability does not change, then a change in saturated thickness water-bearing strata will result in a decline in yield. Subsequently, monitoring for declining groundwater level across the study area, proposed in the EIS and is current practice at mines across Australia, is sufficient for evaluating any potential decline in yield for bores in the area.

10.17.007 Make Good Measures

Comment

The EIS states that where bores are affected, the Proponent will undertake make-good measures. They state that deepening of bores will be effective because water is available at lower depths. However, such undertakings are vague and unenforceable. The State must not put us at such risk.

Response

AEIS, Part 9.4 - South Galilee Groundwater Model 2013 Update for AEIS, Section 3.3 Monitoring, Evaluation, Reporting and Improvement states:

- “The SGCP will develop alternative water supply agreements with landholders who will potentially be impacted by mine dewatering as identified in section 3.2.3.”
- “The Proponent will seek to reach mutually agreeable arrangements with affected neighbouring groundwater users for the provision of alternate supplies throughout the mine life, and after mine completion while the aquifer recovers.”

10.17.008 Existing Bores

Comment

The Proponent concedes that existing bores such as ours will be affected (by falls in water level of up to 100 metres) and proposes ongoing monitoring, but only at its monitoring bores and only of the water levels and quality.

Response

AEIS, Part 9.4 - South Galilee Groundwater Model 2013 Update for AEIS, Section 3.3 Monitoring, Evaluation, Reporting and Improvement states:

- “The SGCP will develop alternative water supply agreements with landholders who will potentially be impacted by mine dewatering as identified in section 3.2.3.”
- “The Proponent will seek to reach mutually agreeable arrangements with affected neighbouring groundwater users for the provision of alternate supplies throughout the mine life, and after mine completion while the aquifer recovers.”

10.17.009 Destruction of Bores

Comment

The Proponent is conceding that destruction of our bores is inevitable - we therefore submit the Coordinator General should make any approval conditional upon the Proponent providing us, before mining commences, with equivalent volume and quality of replacement supply through new, deeper bores or some alternative method.

Response

AEIS Volume 1, Part 9.4 - South Galilee Groundwater Model 2013 Update for AEIS, Section 3.3 Monitoring, Evaluation, Reporting and Improvement states:

“ The SGCP will develop alternative water supply agreements with landholders who will potentially be impacted by mine dewatering as identified in section 3.2.3.”

“ The Proponent will seek to reach mutually agreeable arrangements with affected neighbouring groundwater users for the provision of alternate supplies throughout the mine life, and after mine completion while the aquifer recovers.”

10.17.010 Noise Levels

Comment

The Noise and Vibration report of the EIS, at paragraph 12.5.3 and Table 12-13, shows that evening and night time noise levels at our Creek Farm residence would exceed the goals to avoid background creep for about 15% of the time.

The main source of this excessive noise at our residence is said to be trucks operating at posed locations and the shovel operating close in the pit but close to natural surface. We will take action if the noise limits are exceeded at our residence as predicted.

Recommendation

We submit that the Coordinator General should impose whatever conditions are considered most efficient to ensure that the evening and night noise limits are not exceeded.

Response

Refer AEIS, Part 9.9.2 and Part 9.9.3 presents the revised Air Quality Assessment and Noise, Dust and Vibration Report. The report establishes the baseline by which the subsequent noise assessed will be measured against.

The noise generated on site will be managed by the Management Plan MP10.7 Noise and Vibration Management Plan.

10.17.012 Groundwater Data

Comment

2.2 Groundwater Data

Recommendation

Drilling logs are not provided for monitoring bores in the EIS.

Response

The bore logs are now provided and are in appendix D of AEIS Part 9.4.2 Groundwater.

10.17.013 Groundwater Database

Comment

Ground Water

Recommendation

DNRM advice: In the DNRM groundwater database, data is held for some bores, for the elevation of ground level at a bore and the elevation of the top of the bore casing (reference point). Generally only the department monitoring bores (identified by 8 digit numbers such as 12030045) have had elevation details accurately determined by surveying methods. This is identified in the precision filed of the database. Elevations are stored for a number of private bores but these have generally been obtained historically from contour maps or more recently from GIS software. These are entered as estimates. For the majority of private bores no elevation details are recorded in the groundwater database. For the purposes of the EIS, RPS have utilised a GIS derived elevation for all bores where a water level was recorded in the DNRM groundwater database.

Response

The DNRM GWDB was used to obtain level data for water levels and bores and to benchmark the VWP water levels.

AEIS, Section 9.4 South Galilee Groundwater Model 2013 Update for AEIS, includes the revised model and analysis of data as requested by DNRM.

10.17.014 Geological Structures

Comment

Geological Structures

Recommendation

DNRM advice: It may well be that the knowledge of geological structures in the area has not been articulated as well as it could have been by RPS but it would appear that the use of all drilling log data available and interpretation of formation top and bottoms in the logs to assist in developing model layers has generally gone a long way to allaying concerns about the effects of structures on groundwater flow. RPS has identified that the model will need constant updating to incorporate any new information obtained on geological structures as mining progresses. DNRM proposes this problem could be resolved with a better description in the text.

Response

AEIS Volume 1, Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS:

- Figure 1 - Conceptual Groundwater Model shows the model layer and associated formations;
- Figure 2 - Cross Section of Revised Model Layer Structure and Schematic Geological Cross Section
- Figures 18 to 33 - show the predicted drawdown impacts in the various layers.

10.17.015 Hydraulic Conductivity Data

Comment

Hydraulic Conductivity Data

Recommendation

DNRM advice: Waste solutions raises concern about quoting hydraulic conductivity data from Alpha and Galilee (Waratah) given the distances of these mines from South Galilee. However, DNRM are of the opinion this is a positive as all nearby work should be

Response

We acknowledge the limited available site specific data. In the absence of adequate data, adopting published information on similar geological formations is a standard practice and consistent with the guidelines. Sensitivity analysis of parameters and uncertainty analysis on prediction were conducted to address this issue.

10.17.017 Groundwater Salinity

Comment

Groundwater Salinity

Recommendation

DNRM agree with Waste Solutions that contours of salinity should be drawn using data from individual aquifers not multiple aquifers. Waste Solutions are concerned that most discussion about water quality is based on data from 4 bores on the mining lease although it appears that other data is used. DNRM are in support that more detail/discussion of water quality in private bores, actually likely to be affected, would be productive.

Response

Groundwater has been reassessed and is presented in the AEIS Part 9.4, the aspect of individual aquifers is addressed here.

10.17.018 Bore Census Measurement

Comment

Bore Census Measurements

Recommendation

DNRM advice: Waste Solutions recommend that pumping tests be carried out on farm bores to provide baseline yield data. DNRM agree this would assist with any mitigation. And have made several comments in relation to the weakness of the EIS in regard to mitigation.

Response

Information provided in the bore census measurements was obtained with land holder approval. Several bores were not sampled during the bore census for several reasons. The majority of the bores identified in the bore census were abandoned, closed or otherwise inaccessible, and, therefore, were not sampled. Another attempt at collecting water quality data, specifically from Betanga property, could be made, though it is unlikely to yield useful information.

10.17.019 Groundwater Recharge

Comment

Groundwater Recharge

Recommendation

DNRM advice: Waste Solutions have raised a number of issues with the numerical model as has DNRM. Firstly it should be stated that it is a difficult assignment to calibrate a transient groundwater model with the data that is available in the area. The proponent has gone down the correct path by using the best of the data available from the adjacent mine investigations. DNRM do agree with Waste Solutions in that there is a weakness in the RPS transient model in the manner that recharge has been applied. It is an averaging process that does not reflect observed data in DNRM alluvial and tertiary bores. DNRM has provided comment on the recharge issue. Waste Solutions makes comment about lumping four formations into layer 2 of the model which was also raised by DNRM.

Waste Solutions also has concerns about maps showing different predicted drawdown levels to hydrographs and this may be related to model runs which include effects from South Galilee only and those that include other mines. These concerns appear reasonable and perhaps some better descriptions would resolve the matter. Waste Solutions raise a number of other issues about the modelling which DNRM has not addressed within the department's submission. Given the general model concerns that DNRM has raised and Waste Solutions has also raised, it may be prudent to require a review of any updated model by an independent consultant, prior to the SEIS stage. This is in line with what was required for Kevin's Corner.

Response

AEIS Volume 1, Section 9.4 presents the revised SGCP ground water analysis.

Action Required - to be addressed fully with further model revision and other response.

Local scale response in the alluvium due to ephemeral creek flows that do not significantly affect the regional fractured rock aquifers, which are the systems affected by the proposed mining, and the mining effects do not impact significantly on the alluvium; thus the model has been designed and calibrated appropriately. However, there are some aspects of the model construction that will be addressed with a re-calibration of the model per the outcome of the meeting with DNRM.

10.17.020 Groundwater Conceptual Model

Comment

Groundwater Conceptual Model

Response

GWDB salinity data (expressed as conductivity) was averaged and grouped by aquifer and reviewed. The data shows that the average salinity generally ranges from 967mS/cm for the Clematis Sandstone to 10,023mS/cm for the Colinglea Sandstone. Salinity in alluvial aquifers shows a high degree of variability across bores screened in discrete creek alluvial deposits, and is generally fresh to slightly brackish. The data shows that there is a great deal of variability across the aquifer units, including alluvial aquifers, meaningful salinity trends cannot be identified. Therefore, the hydrogeological conceptual model is confirmed in the sense that while the data is too sparse to define the exact 3D distribution of salinity, the data shows that salinity and groundwater levels are consistent with the conceptualisation as described.

Average salinity by aquifer is presented in Table 5 of the AEIS Part 9.4.3.

10.17.021 Groundwater Numerical Model

Comment

Groundwater Numerical Model

Response

Refer to response to 17.019.

10.17.022 Groundwater Study

Comment

Groundwater Study

Recommendation

4.3 Creek Farm: The groundwater study as currently presented, does not provide sufficient information for the landholders to assess their situation. The impacts predicted by the numerical groundwater model are questionable (drawdown information is contradictory). Without final, consistent drawdown information, the potential impact cannot be estimated. With the correct information, the impact on the Creek Farm bores could be assessed in detail, e.g. is there an option to deepen the bores in order to sustain the yields.

Response

The bore census and other information identify current conditions (bore yields, salinity and operations, etc.) and indicate that groundwater is present under the target coal seams.

The AEIS, Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS, Section 3.3 recommends that the model be used as a management tool for the prediction of groundwater impacts throughout the SGCP life and the preparation and implementation of monitoring and management plans. A difference in observed groundwater levels from predicted drawdown of 20% or more should trigger review and recalibration of the numerical groundwater model to the measured data, and preparation of appropriate reports. These data will be reviewed as part of the Water License Annual Aquifer Performance Review, or as required by environmental authorities and water license requirements.

10.17.023 Make Good Commitment

Comment

A make-good regime which relies on baseline and monitoring data limited to water level and quality at the Proponent's monitoring bores (as does the Coordinator General's recommended water licence conditions for the Alpha Coal Project) will fail to protect bore owners. It cannot satisfy the necessary standard of proof of adverse effect and its cause. It purports to give the bore owner protection without the need for proof of the baseline capacity or water quality of the subject bore and of adverse effect on that bore

Response

AEIS, Part 9.4 South Galilee Groundwater Model 2013 Update for the AEIS, provides a list of the bores predicted to be affected by SGCP in section 3.2.

Section 3.3 Monitoring, Evaluation, Reporting and Improvement details the make good commitment to affected landholders.

AEIS, Part 9.16 presents the proponents Commitment Register, which includes a Make Good Commitment.

10.17.024 Make Good Agreement

Comment

Submitter attached Annexure A - make good agreement CSG generic.

Response

AEIS, Part 9.14 SIA

- Section - Landholder Management, which includes the following commitments;
- Ongoing consultation with landholders, regarding the alignment of stock routes;
- Establishing make good agreements that address the concerns regarding groundwater impacts resulting from SGCP;
- Minimising the impacts to visual amenity, air and noise on neighbouring landholders by taking into account the interests of landholders in the development of infrastructure and operating procedures during the design phase;
- Pest and weed management;
- Compensation on a case-by-case basis with some landholders; and
- Developing land access agreements and appropriate protocols with landholders to minimise access impacts.

10.18 Barcaldine Regional Council

10.18.001 Support Personnel

Comments

Part A 1. ..'In addition to the mine personnel, support personnel would be required for operating an accommodation camp and there would be periodic increases of 'maintenance contractors' for shutdown work on the major plant and infrastructure.

Recommendations

There is little detail in the EIS to account for the 'increases' and additional support personnel.

Response

In the AEIS Part 9.12 South Galilee Coal Project Transport Assessment, makes provision for indirect workforce impacts of 20 number per day. The camp staff are included in the direct workforce numbers. Shutdown maintenance occurs during non mining activities (all or part) and accordingly on site accommodation is available. The on site maintenance facilities recognise the remoteness of the mine site.

Refer to response to Queensland Police Service - Issues 13.004.

The workforce profiles include contractors and this is set out in Appendix 1 of the AEIS Part 9.14 SIA. Additional specific references to the fact that workforce profile includes contractors has also been referenced in the section of the SIA relating to Project Workforce and the Housing and Accommodation and Workforce Management Plans.

10.18.002 Water Resources

Comments

The mine will be supplied from a combination of groundwater, collected internal site runoff, recycled and potentially treated process water and an external raw water supply. Initial construction works may be undertaken prior to finalisation of the external raw water supply pipeline, and would propose to utilise existing groundwater resources in conjunction with surface water storages, water importation and recycling/reuse of water resources.

Recommendations

The information provided in the EIS is not consistent with the TOR. Further information is required to address the TOR.

Response

Part 3 of the AEIS presents the scheduling restraints associated with the staged development of the mine. Stages 1 to 3 will not be developed until an adequate external water supply is available.

- Groundwater has been reassessed and is contained in the AEIS, Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS.
- Surface Water has been reassessed and is contained in the AEIS, Part 9.3 Surface Water - Flood Model.
- SGCP Tenure policy is present in the AEIS, Part 9.8 Tenure.

The existing bores and surface water storages in the properties to be purchased; Creek Farm, Betanga and Sapling; will provide sufficient water for the initial Epsilon construction needs. This supply combined with the open cut pit dewatering will provide the supply required for the balance of the construction and operation of Epsilon Mine.

10.18.003 Coal Rejects

Comments

S 1 'Coal reject materials (coarse and fine) would be transferred to appropriate containment facilities. Coarse rejects will be deposited to a stockpile adjacent to the CHPP, while tailings material would be pumped to a tailings dam for future rehabilitation.'

This method is no longer mentioned in the EIS and there is no proposal for a tailings dam on lease. Any proposal to use the excavated coal pit as the main disposal point without adequate processing is not supported by council or the community. In order to service the mine 40+ years an appropriate collection facility is required.

Recommendations

Change in the terms of reference project summary and inconsistent with the EIS as no tailings dam is proposed.

Response

The Epsilon processing plant wastes will be dry and will be handled as PAF material. In stage 1, 2 and 3 the waste from the wash plant will be separated into solids and dirty water. The solid component will be filter pressed and then handled as for the PAF material. The dirty water component will be routed to the dirty water dam. No dirty water will be discharged into the pit. The capacity of the dirty water dam will be that which complies with processing parameters, the local climate and industry standards.

10.18.004 EIS Appendix B

Comments

Council note Appendix B was difficult to navigate responses to the TOR and the table.

Recommendations

Suggest that topic table also be provided in simple format as presented in EIS for future documentation.

Response

Noted

10.18.005 Administering Authorities

Comments

Administering authorities require update (i.e. DERM)

Response

Refer to table in the AEIS, Part 6 Government Department Name Changes.

10.18.006 Off-Lease Permits

Comments

There is an indication of off-lease permits which may be required.

Recommendations

Council requests an early indication and notice of intended off-lease development under the SPA. Council will need to dedicate additional resources and engagement of technical specialists where required and any development attributable to the mining expansion is in excess of current application rates.

Council requests a commitment that the proponent will provide early notification of any intended development applications and that any requests to council will include sufficient documentation and information to assist in processing.

Response

The SGCP commits to maintaining ongoing regular discussions with BRC regarding future works programs and providing advance notice of off-lease works approval requirements.

10.18.007 Local Roads

Comments

There is no indication of approvals for local roads.

Response

It is not envisaged that “approvals for local roads” will be required. The main access road will be a private road. If circumstances change, approvals will be sought under the prescribed approach as per issue 18.006.

10.18.008 Consultation Report

Comments

Last draft report dated 28/9/2011 (January 2011).

Recommendations

Nil

Response

Refer to the AEIS Section 8 Post AEIS Consultation

10.18.009 Technical Reference Group

Comments

Technical Reference Group - no attendance sheet provided and no information on meeting minutes or outcomes.

Response

Please see below the minutes for the TRG Meetings held on the following dates:

- 3 March 2011
- 11 October 2011
- 21 June 2011
- 25 November 2010

South Galilee Coal Project Technical Reference Group Meeting Minutes

3 March 2011

Date: Thursday 3 March, 2011

Location: Training Rooms 1 & 2, Department of Transport and Main Roads, Emerald

Meeting Commenced: 10.45 am

Meeting Concluded: 2.00 pm

Attendees:

Mark Bouffler	AMCI
Keith Hosking	AMCI
Colleen Fish	MET Serve
Jessie Keast	MET Serve
Brett Harwood	Department of Infrastructure and Planning
Stephanie Keedy	Department of Local Government and Planning (via teleconference)
Greg Bell	Department of Employment, Economic Development and Innovation
Rex Cowan	Department of Transport and Main Roads (DTMR)
Jim Kelly	QLD Police Service (Alpha Police Station)
Mick Keys	QLD Police Service
Mac Hulbert	Halcrow
Des Howard	Barcaldine Regional Council (BRC)
Rob Bauer	BRC

Chairperson Name: Colleen Fish (MET Serve)

Apologies: Rob McNamara (AMCI), Don Cook (DIP), Colin Watson (Hill Michael Associates), Louise Pinn (DERM), Rick Rolfe (DTMR), Michael Nelles (DTMR), Warren Kellett (Department of Community Safety), Michael McCabe (Capricorn Conservation Council), Tim Donaghy (Sunwater), Michael Heritage (Sunwater), Martin McAdam (North Queensland Bulk Ports) and Trevor Aitken (Ergon Energy)

Next Meeting: May 2011

Agenda for Next Meeting: TBC

Notes:

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
Transport and Transport Infrastructure				
1	Project presentation provided by Colleen Fish	See following notes.	Copy of presentation will be provided on South Galilee website.	MET Serve
Road Transport				
2	Rex Cowan indicated that he thought that the State Government had stipulated that there would only be a single rail line to the Galilee Basin.	Brett Harwood confirmed that both the Federal and State governments have a preference for a single rail corridor, although in reality, this will be dictated by commercial arrangements.	Watching brief for rail corridor approvals.	AMCI / MET Serve
3	Des Howard asked if there has been discussion between the Galilee Basin proponents.	Mark Bouffier indicated that AMCI recently met with the Acting General Manager of Waratah and they are optimistic about an ongoing relationship with Waratah Coal, which may encourage cooperation from other Galilee Basin proponents.	AMCI will continue to encourage and participate in discussions with other Galilee Basin proponents.	AMCI
4	Keith Hosking outlined the importance of establishing fair and equitable third party access agreements for infrastructure.	Infrastructure is the major issue for development of the Galilee Basin. Full utilisation of resources and infrastructure will be required for the economic benefits of the Galilee Basin to be realised.	Take appropriate action to ensure full utilisation of resources and infrastructure for the Galilee Basin.	All – regulators, proponents and community.
5	Rex Cowan emphasised the importance of co-ordination of transport loads. Mick Keys agreed.	Inspector Virginia Nelson was recommended as the person to speak with regarding coordination of wide loads and heavy transport.	AMCI to contact Virginia Nelson to discuss the SGCP and ongoing consultation.	AMCI / MET Serve
6	Rex Cowan indicated that DTMR's main concern is construction transport, rather than operational transport. DTMR doesn't have a preference for Fly-In/Fly-Out or local, as this is a commercial decision for the proponent.	AMCI are aware that the peak of transport occurs during the construction period and places the greatest pressure of transport infrastructure. Options to minimise / disperse the transport spikes will be assessed as part of the EIS.	AMCI to assess transport options (particularly during construction) and provide summary of construction and operational transport in the EIS.	AMCI / MET Serve / Halcrow



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
7	Rex Cowan indicated that DTMR is concerned about the condition of the highway from Emerald to Alpha.	Transport assessment specialists (Halcrow) have been commissioned to undertake a transport impact assessment for the SGCP, for inclusion in the EIS. This work will include an assessment of the condition of the local/regional road network and their suitability for the proposed traffic increase resulting from the SGCP.	EIS to include an assessment of recommendations for local/regional roads.	AMCI / MET Serve / Halcrow
8	DTMR is currently preparing a regional strategic transport study to help identify regional priorities for road upgrades. Should funding become available, recommendations from this study would be fed into the Regional Infrastructure Plan.	A copy of this study was requested for EIS assessment purposes, however Rex noted it may be for internal use only. Priorities identified through the study may be made available at a later date.	MET Serve / Halcrow to follow up with Rex regarding the availability of this report once it is complete.	MET Serve / Halcrow
9	Brett Harwood queried how the QLD Police would manage wide loads for all four Galilee Basin proposals.	<p>Mick Keys advised that there had been some preliminary assessment/questionnaires undertaken for internal planning purposes. He advised that the number of wide loads could be in the order of 1000/annum.</p> <p>Mick advised that QPS has set up a core business unit group (with Brisbane, Central QLD and North QLD branches) to handle wide loads.</p> <p>Rex Cowan advised that after the recent floods, QPS and DTMR have aligned their efforts, and going forward there will be much more co-operation between these departments.</p> <p>Jim Kelly described the back-log of wide loads in the region during the 2008 and recent floods.</p> <p>Des Howard indicated that developers often have to wait in line to move houses etc.</p>	<p>AMCI will continue to discuss potential impacts with other Galilee Basin proponents and seek coordination opportunities for management/mitigation of impacts.</p> <p>MET Serve / Halcrow will incorporate a section on cumulative impacts in the technical report and the final EIS.</p> <p>MET Serve / Halcrow to contact Inspector Virginia Nelson and Warwick Williams re coordination of transport requirements.</p>	<p>AMCI</p> <p>MET Serve / Halcrow</p>

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
10	Mac Hulbert discussed the difficulties associated with predicting the implications of cumulative transport impacts.	The difficulties of predicting cumulative impacts are recognised throughout the EIS, particularly where information from other projects is not available.	AMCI to ensure cumulative impacts are assessed to the degree that information is available.	AMCI / MET Serve
11	Jim Kelly indicated that once the Bruce Highway is closed due to wet weather, increased traffic occurs on local roads. This could result in ongoing repairs being required for the local roads unless they are properly upgraded, therefore road works may occur during the SGCP construction period and would need to be allowed for.	Transport assessment specialists (Halcrow) have been commissioned to undertake a transport impact assessment for the SGCP, for inclusion in the EIS. This work will include an assessment of the condition of the local/regional road network and their suitability for the proposed traffic increase resulting from the SGCP.	SGCP EIS to include an assessment of recommendations for local/regional roads.	AMCI / MET Serve / Halcrow
12	Des Howard indicated that the BRC is considering the possibility of constructing a new road to the north of Alpha (following Saltbush Road).	Keith Hosking asked if BRC could provide details to AMCI of the potential road location.	Des Howard to provide details of proposed new road.	Des Howard
Rail Transport				
13	Rex Cowan advised that DTMR's focus is on all transport assets, not just roads.	Noted.	AMCI will ensure DTMR is consulted on all aspects.	AMCI / MET Serve
14	Rex indicated that although there are identified deficiencies in the rail network, DTMR's preference is still for as much material to be transported by rail as possible.	AMCI have already identified rail transport as an option and will be assessing this as a preferred option during the EIS approval process and mine design.	AMCI to consult with Lawrie Hannah. AMCI to assess options for pre-fabricated, train-size components where possible.	AMCI / MET Serve
15	Mick Keys and Des Howard confirmed QLD Police and BRC would prefer material transported on the rail network from a safety perspective.	Comments from DTMR, Police and Barcaldine Regional Council all correspond and have been noted, as above.	AMCI to consult with Lawrie Hannah.	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
Air Transport				
16	Des Howard indicated that BRC has commenced background work on upgrading the Alpha Airport. BRC is looking at buying additional land to upgrade the airstrip to ~2,300 m long and 45 m wide. The BRC has been and is currently in discussion with Waratah Coal on this issue.	It was suggested that BRC consider including all proponents for the Galilee Basin in early discussions for upgrading Alpha Airport.	Des Howard noted this comment and will pass it along to the BRC.	Des Howard
17	Des indicated that at least one of the proponents is looking to fly in jets. The BRC has had a lot of interest from airline companies.	Keith Hosking noted that the predicted traffic through the airport would be extremely lucrative for the successful carrier, and that options should be investigated for the carrier to fund the upgrade of the airport.	AMCI will discuss airport options next opportunity they have with BRC. (Des may choose to raise this option directly to the BRC).	AMCI
18	Des indicated that at this stage, Adani are not looking planning to use the airport.	Noted.	Nil.	Nil
19	BRC believes the airport can be upgraded fairly quickly.	Airstrip testing indicates initial construction is to a reasonable standard and there are no significant drainage issues.	Nil.	Nil
Sea Transport/Port Infrastructure				
20	North Qld Bulk Ports has an approved master plan for the Abbot Point Coal Terminal.	Details of the future upgrade plans for the NQBP and utilisation by the various Galilee Basin proponents were discussed in general. AMCI are in discussions with NQBP and have sought allocation at the proposed Terminal 4 development.	AMCI will continue discussions with NQBP to ensure sufficient allocation for the SGCP.	AMCI
21	Des queried whether the possibility of backhauling fuel and other supplies on the rail line from Abbot Point has been considered.	Keith Hosking indicated that this option has been considered. Once the SGCP is operational, AMCI is hoping the mine will be serviced almost exclusively by rail infrastructure.	SGCP EIS to include an overview of construction and operational transport.	AMCI / MET Serve/ Halcrow



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
Emergency Services				
22	The Queensland Ambulance Service (QAS) provides and maintains the ambulance vehicle at Alpha, a hospital nurse provides medical attention. Need to consult with Qld Health not QAS with regards to manning ambulance.	AMCI will investigate opportunities to incorporate mine emergency response equipment and infrastructure with Alpha. Keep BRC updated as they are also talking to other Galilee Basin proponents.	AMCI to consult with QAS, Qld Health and BRC. Investigate emergency coordination opportunities.	AMCI / MET Serve
23	Development of an Emergency Response Plan will be required for the EIS. Under a MOU, all response services in district will require an induction to the mine site in advance.	Inductions will be kept current for emergency access. This includes local police, crime scene and criminal investigators.	AMCI will incorporate this requirement in the EIS, but no action is required until SGCP has been approved.	AMCI
24	In a disaster situation, aim to get cooperation and assistance from across sites.	All proposed mines in the Galilee Basin will have site based infrastructure and equipment that may be useful in a disaster situation. A process for assistance across sites should be developed.	AMCI will discuss options with BRC, and will cooperate with any Galilee Basin initiatives.	AMCI
25	QPS and agencies may require additional resources in the region if/when mines are approved. It was noted these agencies are slow to approve additional resources.	Will require several years lead time for public service agencies to prepare for the proposed 2014 construction phase for the SGCP.	AMCI to consult with relevant public agencies to identify potential timeframes.	AMCI
26	Past police experience suggests that longer term live-in employees take more interest and care. Despite statistics from QPS that indicate no increase in 'crimes against the person' in the Moranbah region from FIFO operations, police believe that with employees on rotating/FIFO rosters, there is more chance of increased crime, rape levels etc.	The SGCP will have strong protocols in place to control alcohol and community interaction. AMCI's position is that accommodation in Alpha would be permitted if the employee was to build and own the accommodation, otherwise camp accommodation would be provided on-site.	AMCI to consult with QPS for appropriate protocols that could be incorporated into employment and accommodation agreements to minimise the risk of increased crime.	AMCI / MET Serve / QPS



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
27	Mick Keys indicated that a MAC camp will not reduce crime. Mick advised that figures in the presentation do not reflect his experience. Greater concern about road safety than theft or personal offences.	AMCI indicated that HR and accommodation policies would be established to deal with these issues at the relevant time.	AMCI to consult with QPS for appropriate protocols that could be incorporated into employment and accommodation agreements to minimise the risk of increased crime.	AMCI / MET Serve
28	The RFDS is already in high use as there is no full-time doctor in Alpha. Even with a doctor, there is insufficient support to manage serious patients in town.	Noted that RFDS would continue to be required for the Alpha region.	AMCI to consult with RFDS.	AMCI / MET Serve
29	There is no helicopter available in the region as there is no fuel supply within the required safety limits.	Helicopter access is not currently planned for the SGCP, but may be assessed as an option in the transport study.	AMCI will investigate opportunity / requirement for helicopter access on site, with potential for utilisation in emergency by local community.	AMCI / MET Serve / Halcrow
30	The Central Queensland emergency service is based in Mackay and Townsville. It was indicated that there would need to be a local branch if mining goes ahead in the area, with a helicopter available locally.	Emergency services will be consulted as part of the EIS.	AMCI will assess options onsite and will cooperate with any Galilee Basin initiatives.	AMCI
31	The current Alpha Hospital is 97 years old and BRC have proposed that the hospital be relocated.	Noted.	Nil.	Nil
Other				
32	Des Howard asked if more Brigalow Scaly-foot have been found at the site.	Colleen advised that only one individual has been found to date, near Sapling Creek.	Nil.	Nil



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
33	Des Howard advised that one of BRC's main concerns will be accommodation.	Keith Hosking indicated at this stage accommodation for construction and operation phases will be contained within the Mining Lease.	AMCI are aware of BRC and social concerns regarding accommodation and will assess impacts in the EIS.	AMCI / MET Serve
34	The BRC is establishing another reference group to discuss mining etc.	AMCI look forward to participating in any relevant reference group for cooperative management within the Galilee Basin.	AMCI will wait for notification of any applicable reference groups being developed, and will respond accordingly.	AMCI

Galilee Basin Technical Reference Group Meeting Notes

Date:	Tuesday, 11 October 2011	
Location:	Emerald Explorers Inn	
Meeting Commenced:	9.00am	
Meeting Concluded:	11.30am	
Chairperson Name:	Jessie Keast	MET Serve
Attendees:	Mark Bouffler (MB)	AMCI
	Jessie Keast (JK)	MET Serve
	Andrew Ellis (AE)	MET Serve
	Lyn Hopewell (LH)	Department of Employment, Economic Development and Innovation – Social Impact Assessment Unit (DEEDI SIAU)
	Mike Finlayson (MF)	SIA & Development Pty Ltd
	Natasha McIntosh	Yeats
	Andrew O'Brien (AO)	Yeats
	Jennifer Pilcher (JP)	Queensland Health
	Stephanie Keedy (SK)	Department of Local Government and Planning (DLGP)
	David Thompson (DT)	DEEDI
	Rob Bauer (RB)	Barcaldine Regional Council (BRC)
	Rod Hutchin (RH)	Queensland Health
	Greg Bell (GB)	DEEDI
	Michael McCabe	Capricorn Conservation Council
	Rick Rolfe	Department of Transport and Main Roads (DTMR)
	Warren Kellett	Department of Community Safety
	Glenda Sacre	Skills Queensland
	Robin Zakharov	Housing Planning Supply & NRAS
	Roger Meany	Public Health
	Mick Keys	Queensland Police Service (QPS)
Next Meeting:	Tentatively scheduled for February 2012	



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
1	Introduction of new members	Nil	Nil	Nil
2	JK explained the broader scope of the TRG going forward (i.e. the TRG is now named the 'Galilee Basin TRG' and will include representatives from Waratah Coal). The broader scope of this forum will allow more information sharing and provide opportunities to discuss cumulative impacts.	Nil	Nil	Nil
3	JK provided a copy of the revised Galilee Basin TRG Charter and invited members to review and provide any comments/queries.	Nil	TRG members to review the revised Charter and provide any comments/queries directly to MET Serve.	All TRG members
4	JK provided an overview of the methodology for developing Social Impact Assessments (SIA) and Social Impact Management Plans (SIMP).	Nil	Nil	Nil
South Galilee Coal Project (SGCP) – Preliminary SIA Findings				
5	JK described the approach used to define the study areas for the SGCP SIA.	Various responses provided (detailed in Items 6 and 7 below).	Nil	Nil
6	SK asked why Rockhampton was not included in the SIA study area, as this area has good growth opportunities from a planning perspective. GB indicated that the identified source locations align with the areas identified by the State Government but suggested that Rockhampton be included in the regional study area as there is currently ~5% unemployment.	JK indicated that the basis for not including Rockhampton was that the LNG industry is expected to draw heavily on the Rockhampton area. GB indicated that the SGCP is in a strong position to attract employees from this area, and when compared to the SGCP, LNG offers relatively short-term employment.	MET Serve/AMCI to consider and/or address in the SGCP SIA.	MET Serve and AMCI
7	DT questioned why western Queensland wasn't considered as an employment source and indicated that Woorabinda	AMCI accepted this information. MB indicated that AMCI will seek a skilled workforce where necessary and	MET Serve/AMCI to consider and/or address in the SGCP SIA.	MET Serve and AMCI



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	and Mt Morgan have the highest unemployment rates in Queensland. DT also noted that unemployment statistics may not be accurate in western Queensland as many do not claim unemployment benefits as they pick up odd jobs. DT indicated that not including these locations as potential workforce sources penalised people for living out west and meant that they cannot participate.	appropriate.		
8	JK provided an overview of the workforce profile and the assumptions underpinning workforce planning.	Various responses raised (detailed in Items 9 to 14 below).	Nil	Nil
9	In relation to the proportion of the SGCP workforce residing in Alpha, RB indicated that the proposed level of 0.5% was not acceptable to the BRC. RB indicated that the BRC would like to meet with proponents to discuss what the breakdown will be. DT supported this by stating that income disparity will occur with only a small number of employees taken from/living in Alpha.	AMCI accepted this information.	AMCI to arrange a meeting with BRC to discuss.	AMCI/BRC
10	DT indicated that many people in western Queensland are used to driving long distances and already drive over five hours to work in the Bowen Basin.	JK indicated that AMCI has consulted with the QPS and DTMR throughout the EIS process in regards to road safety, transport impacts, fatigue management etc. These discussions have led AMCI to commit to the FIFO approach and restrict the drive time for employees to 20 minutes. DT indicated that if people from	MET Serve/AMCI to consider and/or address in the SGCP SIA.	MET Serve and AMCI



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		western Queensland worked in Alpha, they would be driving for less time than if they continued working in the Bowen Basin.		
11	DT indicated that many people in western Queensland had investment properties closer to the coast and if they were not able to FIFO/DIDO from the west, they may travel to these investment properties in order to access employment opportunities.	AMCI accepted this information.	MET Serve/AMCI to consider and/or address in the SGCP SIA.	MET Serve and AMCI
12	DT believes that the benefits of mining are likely to flow to south-east Queensland which doesn't help small communities to move forward.	This statement was accepted by SGCP.	Nil	Nil
13	RB indicated that it is contradictory for AMCI to commit to minimising employee travel times and nominate Emerald as the preferred service centre for the mine.	JK indicated that AMCI would develop a procurement policy which encourages the use of local businesses where they are technically capable and commercially competitive. MB indicated that service providers will have the choice of how they wish to operate their business (i.e. base location, satellite locations etc.). MB indicated that most of the main contracts would be based on-site.	Nil	Nil
14	There was some confusion over the proposed 20 minute daily drive time for SGCP employees.	MB indicated that those SGCP employees who are not accommodated on-site and drive to the mine site each day must live within a 20 minute drive from the site.	Nil	Nil
15	JK provided an overview of potential social impacts and proposed mitigation measures.	Various responses (detailed in Items 16 to 19 below).	Nil	Nil



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
16	RH enquired as to the level of service provided for on-site emergencies, patient transport, recreational drug use, mental health and injury.	JP responded by stating that base health services are the major issue for Alpha and that access to these base services is the key. These base level health services will need to adapt with each stage of the life of the mine (i.e. construction and operation). JP indicated that Queensland Health examines the residential population to determine the base level of health services.	Nil	Nil
17	RB indicated that he believed the Office of Economic and Statistical Research (OESR) figures and projections are not realistic.	This statement was noted by AMCI.	Nil	Nil
18	RB indicated that the Alpha community wanted a permanent doctor and ambulance to service the town.	AMCI accepted this information and indicated that this had been raised previously through the CRG forum.	Nil	Nil
19	RB indicated the one of the mines near Clermont was working to build cheap housing in town to address housing impacts on people not employed in the mining industry. This would make it easier for other organisations (e.g. councils) to house their employees.	AMCI and Waratah accepted this information.	Nil	Nil
Galilee Coal Project – SIA Findings				
20	MF provided an overview of the Galilee Coal Project, the existing social environment and the potential positive/negative impacts associated with the project.	Various responses (detailed in Items 21 to 26 below).	Nil	Nil
21	MF indicated that approximately 28 Galilee Coal Project employees would	Nil	Nil	Nil



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	relocate to Alpha, most of which would be senior managers.			
22	MF indicated that Waratah will be holding a third round of public meetings and agency briefings shortly.	Nil	Nil	Nil
23	RB queried whether there could be more consultation with the BRC.	Waratah Coal accepted this request.	Nil	Nil
24	GB enquired whether there would be one or multiple rail lines. GB indicated that if there were multiple rail lines, there would be landholders with multiple corridors on their property.	MF stated that the decision on the number of rail lines ultimately rests with the Coordinator-General. AO stated that the State Government is well aware of the number of projects requiring rail infrastructure, the capacity of the proposed rail lines and arrangements for third party access. AO indicated that Waratah has in-principle agreement with other players (including AMCI) for third party access to Waratah's proposed rail line. The Waratah rail line would have a capacity of 400 Mtpa. MF indicated that Waratah's current alignment affects ~ 38 properties. MB indicated that AMCI was not proposing a separate rail line, but would construct a rail spur to connect with the approved rail line. The approach for the rail spur was to minimise impacts on landholders by aligning the rail route along property boundaries and existing easements.	Nil	Nil
25	Waratah is working with a Sunshine Coast property developer to look at planning for development in Alpha	Nil	Nil	Nil



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
26	(specifically in relation to housing and the Alpha Aerodrome). MF indicated that there needs to be some sort of coordinated effort with the BRC to provide community assistance in Alpha. This could be guided by the BRC and their planning framework.	Nil	Nil	Nil
SIMP Development/Implementation Approaches				
27	JK invited discussion on the development/implementation of SIMPs.	Various responses (detailed in Items 28 to 38 below).	Nil	Nil
28	RH suggested developing a specific reference group to address health issues. The health group could examine the following: <ul style="list-style-type: none"> • composition of on-site emergency services units; • accident/trauma management (e.g. where these patients would be taken); • recreational drug and alcohol issues; • mental health issues; and • cumulative impacts. 	This suggestion was received well by the group. JP indicated that Queensland Health hasn't looked too closely at the Galilee Basin in terms of planning.	MET Serve/AMCI to progress this approach.	MET Serve/AMCI
29	JP indicated that future health services depend largely on the base residential population. QLD Health monitors population growth in consultation with OESR and the QRC and planning is based on medium range population projections. JP would need to adapt health services to match population peaks (e.g. construction).	Nil	Nil	Nil



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
30	JP indicated that emergency cases would most likely to be flown out to bigger centres (e.g. Rockhampton, Townsville and Brisbane).	Nil	Nil	Nil
31	JP indicated that GP services are largely not government controlled.	Nil	Nil	Nil
32	JP indicated that the Basins Plan prepared by QLD Health is currently being reviewed by the Minister for Health.	Nil	Nil	Nil
33	JP indicated that a key issue in remote locations like Alpha is the delivery of health services as it is very difficult to attract and retain health staff. JP indicated that there are also industrial issues that need to be addressed for medical staff to work as FIFO employees.	AMCI and Waratah accepted this information.	Nil	Nil
34	DT indicated that recruitment and training is another key issue which would benefit from the development of a specific sub-group.	This suggestion was received well by the group.	MET Serve/AMCI to progress this approach.	MET Serve/AMCI
35	DT discussed the potential development of training programs for Traditional Owner and non-Traditional Owner Indigenous groups.	Nil	Nil	Nil
36	GB suggested that mining proponents in the Galilee Basin could develop a generic multi-company training approach.	AMCI and Waratah noted this suggestion.	Nil	Nil
37	DT asked about the status of Native Title negotiations with the Traditional Owner group/s.	MB indicated that the identified Traditional Owner group is the Wangan and Jagalingou people. An approved CHMP has been developed for the	AMCI to continue RTN process.	AMCI



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		SGCP and AMCI has recently commenced the Right to Negotiate (RTN) process. MB indicated that AMCI intends to complete the RTN process prior to having discussions with any non-Traditional Owner groups about training/recruitment.		
38	JK asked the group to suggest key areas/issues that they feel warrant a specific SIMP reference group.	The suggested topics for reference groups include: <ul style="list-style-type: none"> • health; • recruitment and training; • housing and accommodation; • education; and • local industry participation. 	MET Serve/AMCI to progress this approach and identify key players to be involved in each group.	MET Serve/AMCI/DEEDI SIAU
Other				
39	The next meeting was tentatively scheduled for February 2012.	Nil	Nil	Nil
40	RB requested that the next TRG meeting be held in Alpha.	This request was noted.	Nil	Nil
41	MB indicated that depending on the timing for establishment of the issue-specific reference group, these meetings may take place prior to the next TRG meeting. Alternatively, the broader TRG meetings may no longer be required.	RB indicated that it is important that the separate reference groups don't go off on tangents. As many of the issues are interrelated, there needs to be some level of overlap or continuity between groups. RB indicated that the BRC should be involved in all sub-groups.	MET Serve/AMCI to progress this approach and identify key players to be involved in each group.	MET Serve/AMCI/DEEDI SIAU

South Galilee Coal Project Technical Reference Group Meeting Notes

Date:	Tuesday, 21 June 2011, 10.30am to 12.30pm
Location:	Conference Rooms 1 & 2, Department of Environment & Resource Management, Emerald
Meeting Commenced:	10.30am
Meeting Concluded:	12.30pm
Chairperson Name:	Brett Harwood (BH), MET Serve
Attendees:	Mark Bouffler (MB), AMCI Sonya Booth (SB), DEEDI Lyn Hopewell (LH), SIA Unit, DEEDI Rob Bauer (RB), Barcaldine Regional Council Michael Brewer (MB SW), SunWater George Thomson (GT), Department of Emergency Services Stephanie Keedy (SK), Local Government & Planning Rebecca Blades (SB), DERM Graham Smith (GS QPS), Queensland Police Glenda Sacre (GS SQ), Skills Queensland Ken Hudspith (KH), DEEDI Greg Bell (GB), DEEDI Ann Smith, DEEDI (by phone) Sue Rogers (SR), MET Serve
Apologies:	Michael McCabe, Capricorn Conservation Council Des Howard, Barcaldine Regional Council Colin Watson, Hill Michael Associates
Next Meeting:	TBC but proposed for September /October 2011
Agenda Items:	Introductions Recap from previous meeting Project update Workforce profile and planning Workforce profile Workforce planning Cumulative assessment Next meeting



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
Introductions				
1	BH welcomed attendees and provided an overview of the TRG and its role, and the purpose of the meeting. MB explained changes to the MET Serve SGCP team and asked attendees to introduce themselves.	Changes include: <ul style="list-style-type: none"> BH joined MET Serve replacing previous PM, Colleen Fish SB now PM role at Coordinator General's office SR joined MET Serve in Community Consultation role. 		
Recap from previous meeting on 3 March 2011				
2	BH provided an overview of meeting on 3 March 2011 that focussed on transport, transport infrastructure and Emergency Services.	MB confirmed that AMCI will work with Emergency Services and relevant agencies to develop an emergency response plan and protocols for site access.	MET Serve and AMCI to develop plans and protocols for further discussion with Emergency Services and relevant agencies.	AMCI / MET Serve
Project update – Infrastructure corridor				
3	BH explained that baseline studies are being undertaken within the proposed infrastructure corridor.	MB: <ul style="list-style-type: none"> noted that the infrastructure corridor follows existing property boundaries and avoids environmental sensitive areas and will reduce from its current width of 500m to 100m when finalised noted that corridor includes SunWater and Powerlink infrastructure confirmed the rail link will cross under the Capricorn Highway and over the existing QR rail line. 	AMCI to provide further details of the corridor's crossover points of the Capricorn Highway and QR rail line when available	AMCI / MET Serve
Project update – EIS process				
4	BH: <ul style="list-style-type: none"> confirmed that the pre-feasibility study for the project is complete - a 	BH noted that the EIS is expected to be released for comment early in 2012.	AMCI and MET Serve to keep stakeholders informed of EIS timing and any changes to the infrastructure	AMCI / MET Serve

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	<ul style="list-style-type: none"> major project milestone advised the EIS is currently being developed and baseline studies are being undertaken noted SGCP will link to another Galilee Basin project rail line. 		corridor.	
Workforce profile & planning				
5	BH: <ul style="list-style-type: none"> advised that as the mining industry was well established around Emerald and Clermont, compared to local area around the Galilee Basin, significant infrastructure and social issues will need to be addressed noted that there was reduced capacity to recruit a skilled and qualified workforce from local and regional areas. 	MB confirmed: <ul style="list-style-type: none"> where possible AMCI intends to recruit locally and regionally and to utilise a FIFO workforce that accommodation will be on-site as housing availability will be limited. 	AMCI and MET Serve to provide further detail on recruitment strategies for future discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
6	RB advised that the Barcaldine Regional Council preferred mining projects in the Galilee Basin were not 100% FIFO and had raised objections in relation to another EIS.	MB: <ul style="list-style-type: none"> confirmed that the majority is proposed to be FIFO and a very small percentage of the workforce would live in Alpha stated that most of the workforce would fly to Alpha and transfer to the mine site by bus. 	AMCI and MET Serve to provide further detail on workforce transportation arrangements for future discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
Workforce profile – three phases				
7	BH advised that there are three general mining development phases: <ul style="list-style-type: none"> construction operations decommissioning. 	BH confirmed the: <ul style="list-style-type: none"> construction phase is expected to start in 2013 and require a workforce of 1500 people operational phase is planned to start in 2015 with workforce 	AMCI and MET Serve to provide more detail of workforce numbers and skill requirements for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		<p>numbers increasing from 500 people to 1300 by 2019 over three stages</p> <ul style="list-style-type: none"> workforce numbers provided are approximate only. 		
8	MB (SW) asked if the mine would be fully automated.	MB stated that the mine would not be fully automated.	AMCI and MET Serve to provide further detail of mining techniques and automation opportunities for discussion with relevant stakeholders.	AMCI / MET Serve
9	GS (QPS) asked about the proposed life of the mine.	MB confirmed that current mine planning and the SGCP EIS is based on a mine life of 35 years. There is some possibility that the mine life may extend beyond this time (depending on resource delineation and market demand).		
10	KH asked if the workforce numbers included support contractors - people who were required to maintain specialist equipment.	MB advised that the numbers were indicative only and based on the pre-feasibility report. They probably didn't include that level of detail.	AMCI and MET Serve to provide further detail of workforce numbers and contractor opportunities for discussion with relevant stakeholders.	AMCI / MET Serve
11	GS (QPS) inquired about heavy equipment haulage to the mine site as this has an impact on police resourcing. He explained that wide load vehicles required a police escort that these resources were taken from regular policing duties. GS (QPS) advised that Hancock Coal was planning to transport its bulk sample loads by road.	MB confirmed that AMCI planned to utilise the existing rail infrastructure as much as possible and the new rail line during the construction and operation phases to minimise road haulage impacts.	AMCI and MET Serve to provide further detail of wide load and heavy equipment haulage impacts for discussion with QPS and other relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
12	GT advised that increase in coal mining and associated activities had a negative impact on road safety. He also	MB advised that fatigue management plans will be developed for the construction and operational phases.	AMCI and MET Serve to provide further detail of fatigue management plans for discussion with Emergency	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	suggested there were a number of 457 visa drivers using the roads who were unfamiliar with Australian road rules.		Services and other relevant stakeholders prior to finalising the EIS.	
13	GS (QPS) inquired about AMCI's accommodation policy and what was likely to happen if a contractor failed a drug test.	<p>MB advised that:</p> <ul style="list-style-type: none"> the workforce health and safety policies for the SGCP still needed to be developed and would be done in collaboration with the appropriate agencies AMCI planned to undertake worker drug and alcohol testing prior to boarding a plane to Alpha. 	AMCI and MET Serve to provide further detail of accommodation management plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
14	SK inquired about plans to minimise the potential impact on the local community if workers were dismissed from the mine site – would they need accommodation in Alpha?	<p>MB:</p> <ul style="list-style-type: none"> advised that there would be no compromise for rule breakers confirmed that some mine management employees would live in Alpha and that private vehicle use would be restricted to a 15 to 20 minute drive to the mine site confirmed that most employees would be FIFO and BIBO to/from the Alpha airport. 	AMCI and MET Serve to provide further detail of accommodation management plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
15	RB restated Barcaldine Regional Council's preference was not to have 100% FIFO as this would not benefit the local community or improve services/facilities. RB stated Alpha Airport would be heavily impacted if all Galilee Basin project proponents utilised FIFO workforces	MB confirmed that some of the workforce could choose to live in Alpha but the majority would be housed in Single Men's Quarters (SMQs) on-site.	AMCI and MET Serve to provide further detail of workforce transport management plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
16	GS asked if the rosters would be based	MB	AMCI and MET Serve to provide	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	on 24 hour shifts or different planning requirements?	<ul style="list-style-type: none"> advised that rostering had not yet been determined and rostering would need to meet mine workers lifestyle choices suggested that the planned FIFO workforce would likely require up to 10 flights a day in/out of, the Alpha airport confirmed that further discussions with local, state and federal government are required to develop Alpha airport to accommodate a FIFO workforce advised that the transport study, part of the EIS, was about to begin. 	further detail of rostering and shift work plans for discussion with relevant stakeholders prior to finalising the EIS.	
17	BH confirmed that AMCI was still developing workforce details including numbers and skill requirements.		AMCI and MET Serve to provide further detail of workforce numbers and plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
18	BH advised that plans for the decommissioning phase will be included in the EIS and some decommissioning and rehabilitation works would progressively be undertaken throughout the life of the mine.	MB added that high rise buildings in city centres require 'deconstruction plans' at the time of applying for development approvals.	AMCI and MET Serve to provide further detail of decommission workforce plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
Workforce profile – transport				
19	BH restated that AMCI proposed to have a 100% FIFO workforce to the Alpha airport and that they would travel to/from the mine site by bus. Travel by car would be restricted to the Alpha area and shift rosters are yet to be finalised.		AMCI and MET Serve to provide further detail of rostering and shift work plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
Workforce profile – accommodation				
20	BH confirmed that an on-site accommodation village would: <ul style="list-style-type: none"> house the construction and operational workforces be located in the NE corner of the MLA and approx. 4kms from the mine. At its peak, this village would house up to 1600 people provide accommodation for support contractor consultants and specialists. 	MB confirmed that the village location had been chosen to reduce environmental impacts, utilising a natural ridge between the mine infrastructure and accommodation village.		
21	SK asked how many people would be housed in Alpha.	MB suggested it would be a relatively small number and possibly only senior managers and their families.	AMCI to provide further detail of local workforce housing strategy.	AMCI / MET Serve
22	GS (QPS) asked if the road to the village would be sealed and if there would be a security gate to manage traffic in/out of site.	MB indicated it could be card access security system and a phone to the main office and that entry and exit protocols would be part of the transport study.	AMCI and MET Serve to provide further detail of accommodation village management plans for discussion with relevant stakeholders prior to finalising the EIS.	
23	GS (QPS) inquired about on-site first aid management of and if it would be a shared facility suitable for Queensland Ambulance and police.	MB indicated that: <ul style="list-style-type: none"> on-site occupational health and safety requirements would be met and on-site facilities would have the capacity to accommodate QAS and police a specialist mines rescue group could be formed to meet the needs of all Galilee Basin mines. 	AMCI and MET Serve to plan for accommodating emergency services into on-site health and safety facilities.	AMCI / MET Serve
24	GT suggested that the mine's first aid team would be required to treat, and with QAS staff be required to provide advanced care and transport to the hospital.	MB: <ul style="list-style-type: none"> confirmed that mine access to emergency services would be provided and the workforce would receive ongoing first aid training, 	AMCI and MET Serve to provide Emergency Services and other relevant stakeholders with emergency response plans for discussion prior to finalising the EIS.	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	GT also stated that that MCI kits would need to be issued to the local hospital.	<p>with the police and ambulance involved</p> <ul style="list-style-type: none"> confirmed Emergency Services would be consulted in the development of the Emergency Response Plan. 		
25	KH inquired if a helipad service would be provided.	MB advised that no plans had been developed but would be considered as part of the risk management and occupational health and safety requirements.	AMCI to consider helipad plan in emergency response plans - AMCI and MET Serve to develop emergency response plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
26	GT suggested that it was critical to consider protocols for managing the media impact when developing health and safety plans in the event of a major incident/accident.		AMCI to consider media impact during major incidents in the project's emergency response plans - AMCI and MET Serve to develop emergency response plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
27	RB inquired if Alpha would become a refuelling site.	MB confirmed it was likely that the Alpha airport would become a refuelling site for aircraft.	AMCI to consider plans for refuelling at Alpha airport as part of its workforce transportation plans - AMCI and MET Serve to develop workforce transportation plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
Workforce profile – village facilities				
28	BH confirmed that the mine would need to offer good facilities to attract, recruit and retain skilled staff.			
29	GS asked if there would be a wet mess area.	MB advised that zero alcohol and drug tolerance would apply. Drug and alcohol testing would apply to all staff and contractors.	AMCI and MET Serve to develop workforce accommodation strategy based on zero tolerance alcohol and drug rules for discussion with relevant	AMCI / MET Serve

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
			stakeholders prior to finalising the EIS.	
Workforce profile – recruitment & training				
30	BH advised that AMCI plans to recruit from the local area and region and will develop a Human Resources Strategy.	Meeting participants recognised that there will be a shortage of skilled and qualified people and strong competition for human resources.	AMCI and MET Serve to develop a Human Resources Strategy for local and regional participation for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
31	GT advised that there is a new mining training facility in Emerald – Lennon Training.		AMCI and MET Serve to assess the suitability of all training and reskilling options as part of the project's recruitment and skilling strategy for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
32	GS (SQ) confirmed that training for the resource sector was a priority for the state government. Skills Queensland established a reference group to meet the recruitment and training needs of the resource sector. The group is also assessing impacts for employment in other sectors of the broader community and the education supply chain. GS (SQ) also stated that most people want meaningful work and that there are regional and local 'hot spots' for labour availability.	<p>BH confirmed that there were opportunities for further discussion. MB confirmed that AMCI would participate in further recruitment and training discussions with relevant stakeholders.</p> <p>GS (SQ):</p> <ul style="list-style-type: none"> advised it was best to start requirement and training discussions early and to invite all relevant agencies to the table. offered to participate in further recruitment and training discussions. confirmed that Skills Queensland has commissioned research and is preparing a strategy and activity plans confirmed that Skills Queensland is currently assessing initiatives to re-skill and up-skill the unemployed 	<p>AMCI and MET Serve to organise meeting in consultation with DEEDI and the Coordinator General's office with Skills Queensland, DEEDI and other appropriate stakeholders to discuss recruitment and skilling initiatives.</p>	MET Serve in conjunction with CG's office to organise meeting

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		<p>and part-employed and workforces in industries with low ongoing demand</p> <ul style="list-style-type: none"> indicated there were a number of government programs available, that Skills Queensland could be of assistance to the resource companies and that they could offer guidance around any workforce management plans. <p>GB:</p> <ul style="list-style-type: none"> confirmed that underemployed regions would be identified and stated growing demand for labour in the mining industry could be met from these regions stated that DEEDI were developing a number recruitment and training programs stated that government was active in developing these programs, especially for the indigenous community through the Strategic Investment Fund- a state and federal government initiative to create change. <p>LH:</p> <ul style="list-style-type: none"> stated that the SIA Unit has had preliminary discussions with Sue McCosker from DEEDI re workforce planning suggested that once workforce planning needs have been identified, the SIA Cross Agency (SIACAR) 		



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		Group could be utilised to discuss state agency input into the project.		
Cumulative impacts				
33	BH identified the other key projects proposed for the Galilee Basin and confirmed that there would be a significant demand for a skilled and qualified workforce in the near future.	MB confirmed that each project is progressing and could have varied commencement dates.	AMCI to continue to seek cooperative opportunities with other Galilee Basin projects.	AMCI / MET Serve
34	GS (QPS) suggested that big contracting companies will be responsible for project staffing.	MB confirmed that traditionally a contract workforce was not known for its loyalty.		
35	KH suggested that with up to 12 projects across the region, project proponents should talk to each other and find ways to work together to build infrastructure and develop programs to meet cumulative demands and mitigate potential impacts.	MB suggested that some organisations didn't have a cooperative management style and staff were reluctant to share information or work together.	AMCI to continue to seek and encourage cooperative opportunities with other Galilee Basin projects.	AMCI / MET Serve
36	RB confirmed that BRC had been requesting a meeting with all Galilee Basin project proponents for more than two years without success. The BRC has sent a letter to the Coordinator General requesting a meeting be arranged.	MB suggested that as the Galilee Basin projects commence implementation that there was likely to be a greater need for cooperation.	AMCI to continue to seek cooperative opportunities with other Galilee Basin projects. SB advised after the meeting that she would follow this up with the BRC.	AMCI / MET Serve
Next meeting				
37	BH confirmed that the TRG meetings were held quarterly and advised that the next meeting date would be advised and an invitation sent to TRG members.		AMCI and MET Serve to advise date and agenda for next meeting.	MET Serve

South Galilee Coal Project Technical Reference Group Meeting Notes

Date:	Tuesday, 21 June 2011, 10.30am to 12.30pm
Location:	Conference Rooms 1 & 2, Department of Environment & Resource Management, Emerald
Meeting Commenced:	10.30am
Meeting Concluded:	12.30pm
Chairperson Name:	Brett Harwood (BH), MET Serve
Attendees:	Mark Bouffler (MB), AMCI Sonya Booth (SB), DEEDI Lyn Hopewell (LH), SIA Unit, DEEDI Rob Bauer (RB), Barcaldine Regional Council Michael Brewer (MB SW), SunWater George Thomson (GT), Department of Emergency Services Stephanie Keedy (SK), Local Government & Planning Rebecca Blades (SB), DERM Graham Smith (GS QPS), Queensland Police Glenda Sacre (GS SQ), Skills Queensland Ken Hudspith (KH), DEEDI Greg Bell (GB), DEEDI Ann Smith, DEEDI (by phone) Sue Rogers (SR), MET Serve
Apologies:	Michael McCabe, Capricorn Conservation Council Des Howard, Barcaldine Regional Council Colin Watson, Hill Michael Associates
Next Meeting:	TBC but proposed for September /October 2011
Agenda Items:	Introductions Recap from previous meeting Project update Workforce profile and planning Workforce profile Workforce planning Cumulative assessment Next meeting



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
Introductions				
1	BH welcomed attendees and provided an overview of the TRG and its role, and the purpose of the meeting. MB explained changes to the MET Serve SGCP team and asked attendees to introduce themselves.	Changes include: <ul style="list-style-type: none"> BH joined MET Serve replacing previous PM, Colleen Fish SB now PM role at Coordinator General's office SR joined MET Serve in Community Consultation role. 		
Recap from previous meeting on 3 March 2011				
2	BH provided an overview of meeting on 3 March 2011 that focussed on transport, transport infrastructure and Emergency Services.	MB confirmed that AMCI will work with Emergency Services and relevant agencies to develop an emergency response plan and protocols for site access.	MET Serve and AMCI to develop plans and protocols for further discussion with Emergency Services and relevant agencies.	AMCI / MET Serve
Project update – Infrastructure corridor				
3	BH explained that baseline studies are being undertaken within the proposed infrastructure corridor.	MB: <ul style="list-style-type: none"> noted that the infrastructure corridor follows existing property boundaries and avoids environmental sensitive areas and will reduce from its current width of 500m to 100m when finalised noted that corridor includes SunWater and Powerlink infrastructure confirmed the rail link will cross under the Capricorn Highway and over the existing QR rail line. 	AMCI to provide further details of the corridor's crossover points of the Capricorn Highway and QR rail line when available	AMCI / MET Serve
Project update – EIS process				
4	BH: <ul style="list-style-type: none"> confirmed that the pre-feasibility study for the project is complete - a 	BH noted that the EIS is expected to be released for comment early in 2012.	AMCI and MET Serve to keep stakeholders informed of EIS timing and any changes to the infrastructure	AMCI / MET Serve

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	<ul style="list-style-type: none"> major project milestone advised the EIS is currently being developed and baseline studies are being undertaken noted SGCP will link to another Galilee Basin project rail line. 		corridor.	
Workforce profile & planning				
5	BH: <ul style="list-style-type: none"> advised that as the mining industry was well established around Emerald and Clermont, compared to local area around the Galilee Basin, significant infrastructure and social issues will need to be addressed noted that there was reduced capacity to recruit a skilled and qualified workforce from local and regional areas. 	MB confirmed: <ul style="list-style-type: none"> where possible AMCI intends to recruit locally and regionally and to utilise a FIFO workforce that accommodation will be on-site as housing availability will be limited. 	AMCI and MET Serve to provide further detail on recruitment strategies for future discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
6	RB advised that the Barcaldine Regional Council preferred mining projects in the Galilee Basin were not 100% FIFO and had raised objections in relation to another EIS.	MB: <ul style="list-style-type: none"> confirmed that the majority is proposed to be FIFO and a very small percentage of the workforce would live in Alpha stated that most of the workforce would fly to Alpha and transfer to the mine site by bus. 	AMCI and MET Serve to provide further detail on workforce transportation arrangements for future discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
Workforce profile – three phases				
7	BH advised that there are three general mining development phases: <ul style="list-style-type: none"> construction operations decommissioning. 	BH confirmed the: <ul style="list-style-type: none"> construction phase is expected to start in 2013 and require a workforce of 1500 people operational phase is planned to start in 2015 with workforce 	AMCI and MET Serve to provide more detail of workforce numbers and skill requirements for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		<p>numbers increasing from 500 people to 1300 by 2019 over three stages</p> <ul style="list-style-type: none"> workforce numbers provided are approximate only. 		
8	MB (SW) asked if the mine would be fully automated.	MB stated that the mine would not be fully automated.	AMCI and MET Serve to provide further detail of mining techniques and automation opportunities for discussion with relevant stakeholders.	AMCI / MET Serve
9	GS (QPS) asked about the proposed life of the mine.	MB confirmed that current mine planning and the SGCP EIS is based on a mine life of 35 years. There is some possibility that the mine life may extend beyond this time (depending on resource delineation and market demand).		
10	KH asked if the workforce numbers included support contractors - people who were required to maintain specialist equipment.	MB advised that the numbers were indicative only and based on the pre-feasibility report. They probably didn't include that level of detail.	AMCI and MET Serve to provide further detail of workforce numbers and contractor opportunities for discussion with relevant stakeholders.	AMCI / MET Serve
11	GS (QPS) inquired about heavy equipment haulage to the mine site as this has an impact on police resourcing. He explained that wide load vehicles required a police escort that these resources were taken from regular policing duties. GS (QPS) advised that Hancock Coal was planning to transport its bulk sample loads by road.	MB confirmed that AMCI planned to utilise the existing rail infrastructure as much as possible and the new rail line during the construction and operation phases to minimise road haulage impacts.	AMCI and MET Serve to provide further detail of wide load and heavy equipment haulage impacts for discussion with QPS and other relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
12	GT advised that increase in coal mining and associated activities had a negative impact on road safety. He also	MB advised that fatigue management plans will be developed for the construction and operational phases.	AMCI and MET Serve to provide further detail of fatigue management plans for discussion with Emergency	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	suggested there were a number of 457 visa drivers using the roads who were unfamiliar with Australian road rules.		Services and other relevant stakeholders prior to finalising the EIS.	
13	GS (QPS) inquired about AMCI's accommodation policy and what was likely to happen if a contractor failed a drug test.	<p>MB advised that:</p> <ul style="list-style-type: none"> the workforce health and safety policies for the SGCP still needed to be developed and would be done in collaboration with the appropriate agencies AMCI planned to undertake worker drug and alcohol testing prior to boarding a plane to Alpha. 	AMCI and MET Serve to provide further detail of accommodation management plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
14	SK inquired about plans to minimise the potential impact on the local community if workers were dismissed from the mine site – would they need accommodation in Alpha?	<p>MB:</p> <ul style="list-style-type: none"> advised that there would be no compromise for rule breakers confirmed that some mine management employees would live in Alpha and that private vehicle use would be restricted to a 15 to 20 minute drive to the mine site confirmed that most employees would be FIFO and BIBO to/from the Alpha airport. 	AMCI and MET Serve to provide further detail of accommodation management plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
15	RB restated Barcaldine Regional Council's preference was not to have 100% FIFO as this would not benefit the local community or improve services/facilities. RB stated Alpha Airport would be heavily impacted if all Galilee Basin project proponents utilised FIFO workforces	MB confirmed that some of the workforce could choose to live in Alpha but the majority would be housed in Single Men's Quarters (SMQs) on-site.	AMCI and MET Serve to provide further detail of workforce transport management plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
16	GS asked if the rosters would be based	MB	AMCI and MET Serve to provide	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	on 24 hour shifts or different planning requirements?	<ul style="list-style-type: none"> advised that rostering had not yet been determined and rostering would need to meet mine workers lifestyle choices suggested that the planned FIFO workforce would likely require up to 10 flights a day in/out of, the Alpha airport confirmed that further discussions with local, state and federal government are required to develop Alpha airport to accommodate a FIFO workforce advised that the transport study, part of the EIS, was about to begin. 	further detail of rostering and shift work plans for discussion with relevant stakeholders prior to finalising the EIS.	
17	BH confirmed that AMCI was still developing workforce details including numbers and skill requirements.		AMCI and MET Serve to provide further detail of workforce numbers and plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
18	BH advised that plans for the decommissioning phase will be included in the EIS and some decommissioning and rehabilitation works would progressively be undertaken throughout the life of the mine.	MB added that high rise buildings in city centres require 'deconstruction plans' at the time of applying for development approvals.	AMCI and MET Serve to provide further detail of decommission workforce plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
Workforce profile – transport				
19	BH restated that AMCI proposed to have a 100% FIFO workforce to the Alpha airport and that they would travel to/from the mine site by bus. Travel by car would be restricted to the Alpha area and shift rosters are yet to be finalised.		AMCI and MET Serve to provide further detail of rostering and shift work plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
Workforce profile – accommodation				
20	BH confirmed that an on-site accommodation village would: <ul style="list-style-type: none"> house the construction and operational workforces be located in the NE corner of the MLA and approx. 4kms from the mine. At its peak, this village would house up to 1600 people provide accommodation for support contractor consultants and specialists. 	MB confirmed that the village location had been chosen to reduce environmental impacts, utilising a natural ridge between the mine infrastructure and accommodation village.		
21	SK asked how many people would be housed in Alpha.	MB suggested it would be a relatively small number and possibly only senior managers and their families.	AMCI to provide further detail of local workforce housing strategy.	AMCI / MET Serve
22	GS (QPS) asked if the road to the village would be sealed and if there would be a security gate to manage traffic in/out of site.	MB indicated it could be card access security system and a phone to the main office and that entry and exit protocols would be part of the transport study.	AMCI and MET Serve to provide further detail of accommodation village management plans for discussion with relevant stakeholders prior to finalising the EIS.	
23	GS (QPS) inquired about on-site first aid management of and if it would be a shared facility suitable for Queensland Ambulance and police.	MB indicated that: <ul style="list-style-type: none"> on-site occupational health and safety requirements would be met and on-site facilities would have the capacity to accommodate QAS and police a specialist mines rescue group could be formed to meet the needs of all Galilee Basin mines. 	AMCI and MET Serve to plan for accommodating emergency services into on-site health and safety facilities.	AMCI / MET Serve
24	GT suggested that the mine's first aid team would be required to treat, and with QAS staff be required to provide advanced care and transport to the hospital.	MB: <ul style="list-style-type: none"> confirmed that mine access to emergency services would be provided and the workforce would receive ongoing first aid training, 	AMCI and MET Serve to provide Emergency Services and other relevant stakeholders with emergency response plans for discussion prior to finalising the EIS.	AMCI / MET Serve



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	GT also stated that that MCI kits would need to be issued to the local hospital.	<p>with the police and ambulance involved</p> <ul style="list-style-type: none"> confirmed Emergency Services would be consulted in the development of the Emergency Response Plan. 		
25	KH inquired if a helipad service would be provided.	MB advised that no plans had been developed but would be considered as part of the risk management and occupational health and safety requirements.	AMCI to consider helipad plan in emergency response plans - AMCI and MET Serve to develop emergency response plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
26	GT suggested that it was critical to consider protocols for managing the media impact when developing health and safety plans in the event of a major incident/accident.		AMCI to consider media impact during major incidents in the project's emergency response plans - AMCI and MET Serve to develop emergency response plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
27	RB inquired if Alpha would become a refuelling site.	MB confirmed it was likely that the Alpha airport would become a refuelling site for aircraft.	AMCI to consider plans for refuelling at Alpha airport as part of its workforce transportation plans - AMCI and MET Serve to develop workforce transportation plans for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
Workforce profile – village facilities				
28	BH confirmed that the mine would need to offer good facilities to attract, recruit and retain skilled staff.			
29	GS asked if there would be a wet mess area.	MB advised that zero alcohol and drug tolerance would apply. Drug and alcohol testing would apply to all staff and contractors.	AMCI and MET Serve to develop workforce accommodation strategy based on zero tolerance alcohol and drug rules for discussion with relevant	AMCI / MET Serve

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
			stakeholders prior to finalising the EIS.	
Workforce profile – recruitment & training				
30	BH advised that AMCI plans to recruit from the local area and region and will develop a Human Resources Strategy.	Meeting participants recognised that there will be a shortage of skilled and qualified people and strong competition for human resources.	AMCI and MET Serve to develop a Human Resources Strategy for local and regional participation for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
31	GT advised that there is a new mining training facility in Emerald – Lennon Training.		AMCI and MET Serve to assess the suitability of all training and reskilling options as part of the project's recruitment and skilling strategy for discussion with relevant stakeholders prior to finalising the EIS.	AMCI / MET Serve
32	GS (SQ) confirmed that training for the resource sector was a priority for the state government. Skills Queensland established a reference group to meet the recruitment and training needs of the resource sector. The group is also assessing impacts for employment in other sectors of the broader community and the education supply chain. GS (SQ) also stated that most people want meaningful work and that there are regional and local 'hot spots' for labour availability.	<p>BH confirmed that there were opportunities for further discussion. MB confirmed that AMCI would participate in further recruitment and training discussions with relevant stakeholders.</p> <p>GS (SQ):</p> <ul style="list-style-type: none"> advised it was best to start requirement and training discussions early and to invite all relevant agencies to the table. offered to participate in further recruitment and training discussions. confirmed that Skills Queensland has commissioned research and is preparing a strategy and activity plans confirmed that Skills Queensland is currently assessing initiatives to re-skill and up-skill the unemployed 	<p>AMCI and MET Serve to organise meeting in consultation with DEEDI and the Coordinator General's office with Skills Queensland, DEEDI and other appropriate stakeholders to discuss recruitment and skilling initiatives.</p> <p>MET Serve in conjunction with CG's office to organise meeting</p>	

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		<p>and part-employed and workforces in industries with low ongoing demand</p> <ul style="list-style-type: none"> indicated there were a number of government programs available, that Skills Queensland could be of assistance to the resource companies and that they could offer guidance around any workforce management plans. <p>GB:</p> <ul style="list-style-type: none"> confirmed that underemployed regions would be identified and stated growing demand for labour in the mining industry could be met from these regions stated that DEEDI were developing a number recruitment and training programs stated that government was active in developing these programs, especially for the indigenous community through the Strategic Investment Fund- a state and federal government initiative to create change. <p>LH:</p> <ul style="list-style-type: none"> stated that the SIA Unit has had preliminary discussions with Sue McCosker from DEEDI re workforce planning suggested that once workforce planning needs have been identified, the SIA Cross Agency (SIACAR) 		



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		Group could be utilised to discuss state agency input into the project.		
Cumulative impacts				
33	BH identified the other key projects proposed for the Galilee Basin and confirmed that there would be a significant demand for a skilled and qualified workforce in the near future.	MB confirmed that each project is progressing and could have varied commencement dates.	AMCI to continue to seek cooperative opportunities with other Galilee Basin projects.	AMCI / MET Serve
34	GS (QPS) suggested that big contracting companies will be responsible for project staffing.	MB confirmed that traditionally a contract workforce was not known for its loyalty.		
35	KH suggested that with up to 12 projects across the region, project proponents should talk to each other and find ways to work together to build infrastructure and develop programs to meet cumulative demands and mitigate potential impacts.	MB suggested that some organisations didn't have a cooperative management style and staff were reluctant to share information or work together.	AMCI to continue to seek and encourage cooperative opportunities with other Galilee Basin projects.	AMCI / MET Serve
36	RB confirmed that BRC had been requesting a meeting with all Galilee Basin project proponents for more than two years without success. The BRC has sent a letter to the Coordinator General requesting a meeting be arranged.	MB suggested that as the Galilee Basin projects commence implementation that there was likely to be a greater need for cooperation.	AMCI to continue to seek cooperative opportunities with other Galilee Basin projects. SB advised after the meeting that she would follow this up with the BRC.	AMCI / MET Serve
Next meeting				
37	BH confirmed that the TRG meetings were held quarterly and advised that the next meeting date would be advised and an invitation sent to TRG members.		AMCI and MET Serve to advise date and agenda for next meeting.	MET Serve

South Galilee Coal Project Technical Reference Group Meeting Minutes

25 November 2010

Date: Thursday 25 November, 2010

Location: Conference Rooms 1 & 2, Department of Environment and Resource Management (DERM) Office, Emerald

Meeting Commenced: 9.40 am

Meeting Concluded: 12.00 pm

Attendees:

Rob McNamara	AMCI
Mark Bouffler	AMCI
Jessie Keast	MET Serve
Brett Harwood	Department of Infrastructure and Planning
Louise Pinn	DERM
Greg Bell	Department of Employment, Economic Development and Innovation
Colin Watson	Hill Michael Associates
Trevor Aitken	Ergon Energy
Greg Mylrea	Ergon Energy
Michael Heritage	Sunwater
Rob Bauer	Barcaldine Regional Council (BRC)
Stephanie Keedy	Department of Infrastructure and Planning (via teleconference)
Marie Spicer	Senior Site Executive

Chairperson Name: Jessie Keast (MET Serve)

Apologies: Colleen Fish (MET Serve), Warren Kellett (Department of Community Safety), Mick Keys (Queensland Police Service), Martin McAdam (North Queensland Bulk Ports), Rick Rolfe (Department of Transport and Main Roads), Michael Nelles (Department of Transport and Main Roads), Tim Donaghy (Sunwater), Don Cook (DIP) and Michael McCabe (Capricorn Conservation Council)



Next Meeting: February 2011

Agenda for Next Meeting: Transport and transport infrastructure
Emergency services

Notes:

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
1	Introduction to the Technical Reference Group (TRG) forum provided by Jessie Keast.			
2	Project presentation provided by Rob McNamara.			
TRG Logistics				
3	Rob McNamara indicated that community engagement in the Galilee Basin is very important, and AMCI are establishing three consultation forums – the Community Reference Group, TRG and Aboriginal consultation. AMCI will commence cultural heritage and Native Title consultation/negotiations early in 2011.			
4	The group discussed the TRG venue – agreed that the venue will be determined based on the attendance. It was agreed that TRG meetings will be held bi-monthly.	A copy of the draft TRG Charter was distributed for review. Rob McNamara asked the TRG members to advise AMCI if they had any comments/edits to the TRG Charter.	TRG members to review the TRG Charter.	All



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
5	Jessie Keast queried whether all members were happy to have their contact details distributed in a TRG contacts matrix.	All members confirmed that they are happy for this to occur.	MET Serve to distribute a TRG contact list.	MET Serve
6	Mark Bouffler asked the TRG members to consider specific issues to be raised at future meetings.			All
7	Mark Bouffler indicated that Des Howard had advised at the last Common Issues Forum that the BRC had some issues to discuss in the TRG forum.	Rob Bauer indicated that he hadn't been briefed on these issues, but that BRC's specific interests were the Alpha Airport, Fly-In-Fly-Out (FIFO), land, water/power infrastructure and demand.		
8	Discussed the timing of the next TRG meeting.	It was agreed that the next meeting will occur in early February 2011.		
Project Schedule				
9	Rob McNamara indicated that AMCI is currently undertaking a Pre-Feasibility Study which is expected to be released during the first quarter of 2011.			
10	Final Terms of Reference for the EIS are expected to be released shortly. The SGCP EIS is expected to be finalised late in 2011.			

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
11	The project timeframe will be largely dependent on the availability of and access to infrastructure (e.g. water, electricity and rail). The SGCP will have a construction period of approximately two years, with construction expected to commence ~2015/2016. This timing also depends on definitive planning and feasibility.			
12	Rob McNamara indicated that AMCI may consider the possibility of a smaller project before the SGCP.			
Collaborative Galilee Basin Approach				
13	<p>Rob McNamara discussed the potential for a collaborative approach by the three major Galilee Basin proponents (i.e. Waratah, Hancock and AMCI/Bandanna) to:</p> <ul style="list-style-type: none"> • assess socio-economic impacts; • strategically plan for regional post-mine landscapes; and 	Rob Bauer indicated that it often takes a bit longer for the wheels to turn in government, but that BRC see this as being a worthwhile exercise.	Rob Bauer will pass on AMCI's request for BRC to invite the proponents to a meeting to discuss Galilee Basin issues and potential collaboration.	BRC



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	<ul style="list-style-type: none"> establish an integrated approach to community donations/compensation. <p>Rob McNamara suggested that Rob Chandler could respond to each of the companies and invite them to attend a meeting to discuss.</p>			
14	<p>Rob McNamara indicated that compensation handouts tend to encourage nepotism and often fail to address the identified impacts.</p> <p>Rob McNamara suggested that a committee be formed (with members from AMCI, Hancock, Waratah, BRC and possibly DIP) to agree the framework for compensation.</p>	<p>Rob Bauer indicated that the three companies commit to these things separately, but there needs to be a mechanism to force the companies to come together and negotiate these outcomes.</p> <p>Brett Harwood indicated that requirements like this can be made conditions of the development through the Coordinator-General's Assessment Report.</p>	To be discussed further at a meeting with proponents and BRC (see Item No. 13 above).	
Socio-Economic Issues				
15	<p>Rob McNamara discussed the need to manage community expectations and find a workable balance between the community's desire to remain unchanged and the desire to experience the positive effects of growth (e.g. increased services, infrastructure etc.).</p>			

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
	One of the key tasks is to predict population growth and associated impacts on the community.			
16	Rob McNamara queried the status of study that has been done and raised the possibility of case studies on other similar towns (e.g. Ernest Henry or Cloncurry).	Rob Bauer advised that he was aware of the study but was unsure why it had not been publicly released. Rob Bauer indicated that to visit Emerald 20 years ago, you would never have predicted that it would reach the size it is now.		
17	Discussion regarding the BRC's recent \$120 million compensation request.			
18	Discussion regarding FIFO arrangements. AMCI indicated that local employment opportunities will be encouraged, but noted that it would be difficult to attract a workforce if all employees had to be based in Alpha.			



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
19	Brett Harwood indicated that employment will be a big issue and finding skilled people to fulfil roles will be a challenge. Suggested that there will be an increasing role for government training schemes.	<p>Rob McNamara indicated that this highlights the importance of FIFO. Mentioned that the profile of social and economic issues is increasing and are now the 'big ticket' items in terms of project planning and assessment.</p> <p>Colin Watson noted that given the proposed developments in the region over the next five years, there will be a huge industry demand for workforce.</p> <p>Mark Bouffler indicated that there is a widespread lack of qualified people in fields like geology, etc.</p>		
20	Brett Harwood mentioned that he had read an article in the Central Queensland News recently about Hancock salaries and the concern that councils and other industries might lose staff to the mining industry.	<p>Rob Bauer acknowledged that this may be an issue.</p>		
21	Rob McNamara suggested that operating the Alpha Airport could be a significant business opportunity for the BRC.			



Item No.	Discussion / Issue Raised	Response	Action	Responsibility
Mine Planning/Design				
22	Brett Harwood enquired what strike length was proposed for the SGCP open cut? Brett advised that the Hancock open cut is 24 km.	Rob McNamara advised that the proposed strike length is approximately 9 km.		
23	Trevor Aitken queried which of the two exploration tenements AMCI propose to mine on, as there is potential for interference with some of Ergon's electricity infrastructure.	Mark Bouffler indicated that the coal resource to be targeted is on EPC 1049. AMCI has not yet commenced exploration on EPC 1180 and there is not expected to be coal of economic interest on this tenement. Most of the disturbance will be on EPC 1049 – there may be waste dumps, dams etc. outside of EPC 1049. Mark confirmed that based on Trevor's description, the SGCP will not disturb the Alpha-Tambo Road.		
24	Greg Bell queried whether the SGCP will involve running test samples on public roads (as Hancock is doing).	Rob McNamara indicated that although AMCI were always looking for a potential option to commence mining earlier on a smaller scale, they probably won't plan to do a test pit.		
25	Greg Bell enquired how variable the Galilee Basin coal resource is and whether Hancock are planning to mine thermal coal as well.	Mark Bouffler indicated that there is a huge range of variation in coal quality locally, in terms of the coal's ash, sulphur, calcium, iron and moisture content. The mine schedule accounts for this variation and coal will be blended to achieve consistent average coal quality. Despite local variability, the coal in the region was all formed in the same way and		

Item No.	Discussion / Issue Raised	Response	Action	Responsibility
		during the same period of geological history so there might be 1-2% difference in coal quality between the mines (provided others are also blending the coal).		
26	Rob McNamara indicated that the general thinking is that demand for energy (particularly in Asia) will absorb the supply of thermal coal from the Galilee Basin.			

10.18.010 BRC Consultation

Comments

‘Regular meetings were held with representatives of relevant government departments’ – this is not true for BRC as the meetings held have been ad-hoc, with limited notice and largely

without agenda or description of discussion content prior to meetings. The engagements by the proponent to date have been [submission point ends].

Response

Consultation with stakeholders will be formalised to include:

- the issue of agendas in advance
- recording of minutes
- any action items.

10.18.011 CRG

Comments

‘5.2 Government departments are not represented on the CRG’ – however information discussed at the CRG has included council related matters which were not referred to council for comment either at the time or at subsequent engagements with the proponent.

Response

Refer to response to issue 10.18.010.

10.18.012 EIS Appendix D

Comments

App D Media ...These mines are going to be around for 40-50 years time.

Response

Refer to response to issue 10.18.013.

10.18.013 Tenure

Comments

There is a lack of clarity about the future for landholders within the mining lease and surrounding areas. Concerns include, opportunities for investment, investment in infrastructure and long term economic viability without certainty on the mine proceeding or timelines.

Recommendations

Local residents need surety about investment and the ability to plan their economic and residential future as the majority of the community intend to stay long term and there is a long traditional of intergenerational farming. The loss of these residents is a major impact to the community and the diversity of the region.

Response

AEIS, Part 9.8 describes the tenure policy for SGCP.

Management plans inclusive of monitoring controls; e.g. noise, dust, ground water, pest and weeds, surface water management; refer to AEIS, Part 9.10 Management Plan; will be in place to mitigate impacts on surrounding properties. Those properties which potentially will be negatively impacted in terms of ground water will be identified in advance of mining and make good alternatives will be provided. Refer to the AEIS, Part 9.16 Commitment Register which includes the "Make Good Commitment".

The timeline restraints for the development of the SGCP are presented in AEIS, Part 3, and contains the schedule adopted for the AEIS. The Epsilon mine operation is independent of the external infrastructure requirements associated with stages 1, 2 and 3, and can continue until the external infrastructure is available.

10.18.016 Lifestyle

Comments

The survey respondents regarded quiet country lifestyle, sense of safety/freedom, sense of community and had a clean environment as what they most value about their lifestyle and surroundings.

Recommendation

Please provide information how SGCP will contribute to and retain the values most valued by the community.

Response

The SIA is provided in Volume 1, Part 9.14 of the AEIS. The EIS SIA assessed a broad spectrum of potential social conditions and impacts and these were described and assessed in the context of a number of 'key aspects' (i.e. settlement patterns, demographics, education and training, economy, employment and income, housing and

accommodation, community health and safety and culture and community). These key aspects have been used to illustrate the baseline environment and assess the potential project impacts and have been used in this AEIS SIA to flow into the mitigation and enhancement strategies contained in the Action Plans set out in AEIS Volume 1, Part 9.14 SIA, Section 4.

Social impact management strategies have been prepared for each of the main social impacts identified in AEIS Volume 1, Part 9.14 SIA, Table 3.2. These mitigation and management measures are detailed in four (4) specific Action Plans:

- i) Housing and Accommodation
- ii) Regional Business Development and Local Content
- iii) Workforce Management
- iv) Community Safety and Wellbeing.

Direct cross referencing to specific actions (mitigations to minimise negative impacts or opportunities to maximise positive benefits) as set out in the Action Plan are detailed in the AEIS Volume 1, Part 9.14 SIA, Section 4 and shown in Table 3.2. A range of mitigations including Fly In Fly Out workforce, 100% on-site accommodation and development of policies such as Good Neighbour Policy and Workforce Code of Conducts will minimise negative impacts on local community and assist in maintaining community values referred to in survey.

This SIA has been prepared for inclusion in the Additional Environment Impact Statement (AEIS) to address the core SIA principles as set out in the Queensland Governments' Social Impact assessment guideline (July 2013) to assess impacts (both detrimental and beneficial) arising from the project and provide mitigation of impacts directly related to the project.

10.18.017 Lifestyle

Comments

The survey respondents regarded quiet country lifestyle, sense of safety/freedom, sense of community and had a clean environment as what they most value about their lifestyle and surroundings.

Recommendations

Please provide information how SGCP will contribute to and retain the values most valued by the community.

Response

The SIA is provided in Part 9.14 of the AEIS. The EIS SIA assessed a broad spectrum of potential social conditions and impacts and these were described and assessed in the context of a number of 'key aspects' (i.e. settlement patterns, demographics, education and training, economy, employment and income, housing and accommodation,

community health and safety and culture and community). These key aspects have been used to illustrate the baseline environment and assess the potential project impacts and have been used in this AEIS SIA to flow into the mitigation and enhancement strategies contained in the Action Plans set out in AEIS Part 9.14 SIA, Section 4.

Social impact management strategies have been prepared for each of the main social impacts identified in AEIS Part 9.14 SIA, Table 3.2. These mitigation and management measures are detailed in four (4) specific Action Plans:

- i) Housing and Accommodation
- ii) Regional Business Development and Local Content
- iii) Workforce Management
- iv) Community Safety and Wellbeing.

Direct cross referencing to specific actions (mitigations to minimise negative impacts or opportunities to maximise positive benefits) as set out in the Action Plan are detailed in the AEIS Part 9.14 SIA, Section 4 and shown in Table 3.2. A range of mitigations including Fly In Fly Out workforce, 100% onsite accommodation and development of policies such as Good Neighbour Policy and Workforce Code of Conducts will minimise negative impacts on local community and assist in maintaining community values referred to in survey.

This SIA has been prepared for inclusion in the Additional Environment Impact Statement (AEIS) to address the core SIA principles as set out in the Queensland Government Social Impact assessment guideline (July 2013) to assess impacts (both detrimental and beneficial) arising from the project and provide mitigation of impacts directly related to the project.

10.18.018 BRC Consultation

Comments

Engagement activities held with council were largely of the inform nature and were not 'consultation' as per IAP2 Public Participation Spectrum. There was limited opportunity and a reticence by the proponent in dealings with council to involve, collaborate or empower.

Response

ACM is committed to continuing meaningful and proactive engagement with the community and its stakeholders and recognises that this can lead to better outcomes and increased community ownership of policies, programs and projects. A framework for the SGCP Community and Stakeholder Engagement Plan (CSEP) is set out in the AEIS SIA.

The proponent is committed to working closely with local communities to maximise the project benefits and avoid negative impacts from their operations. This will be done by engaging openly and honestly with all our stakeholders and responding to community complaints and enquiries through fair and equitable grievance and conflict resolution processes.

This commitment has already commenced with significant community and stakeholder engagement undertaken by the proponent during the EIS SIA phases of the project. To date this has included one on one consultation with key stakeholders and participation in community and technical reference group meetings.

The proponent will encourage dialogue with all stakeholders as it works in partnership to implement SIA Action Plans and address cumulative impacts with other proponents through the Galilee Basin Roundtable. Local, state and federal agencies, other proponents and other key stakeholders have already begun to work collaboratively to investigate opportunities for the future, to address negative potential impacts, to enhance positive impacts and agree on outcomes for the local community, the region and the state.

A more detailed CSEP will be further developed prior to Phase 1. To ensure a well-managed and planned process for Community and Stakeholder Engagement, the SGCP's CSEP will be developed using best practice methods based on the International Association for Public Participation (IAP2) guidelines. These guidelines provide a methodology for determining what level of influence the community and stakeholders have over decisions and what level of engagement is appropriate.

In line with these guidelines, the stakeholder engagement process for SGCP is outlined in Figure 5.1. (Part 9.1 of AEIS). It shows the 4 key steps of information, consultation, participation and evaluation that will be used by SGCP to achieve positive project and community and stakeholder outcomes.

10.18.019 Community Impact

Comments

Nov 2011 council meeting the proponent said that they would not engage, commit or participate. They denied that their workforce, operations, transport or business would have any impact on the community.

Recommendations

The lack of assessment of impacts and reflection of the overall operations of the mine and support functions does not meet the TOR and is a major concern to some in the community. The reliance on FIFO without any plan for offset of impacts or impact assessment to the point of origin e.g. withdrawal of labour workforce from SEQ, social impacts, separation of family, family friendly rosters etc lacks detail and an understanding of direct and indirect impacts.

Response

The perception was corrected by the proponent at subsequent meetings in Q4, 2012. The proponent has engaged with Skills Queensland and organisations within the nominated regional centres to establish the availability of the work force. Stakeholder consultation with key agencies including DETE, DATSIMA and DSDIP has continued through the preparation of the AEIS SIA and updated workforce profiles are included in Appendix A (Part 9.14 of the AEIS).

The Proponent acknowledges in their Community Safety and Wellbeing Action Plan (Part 9.1 of AEIS) that Alpha is a small rural town with a strong identity and sense of community. A “changing sense of place” was identified by stakeholders as being of concern related to the potential changes in the local, physical and social environment of mining. In order to retain as much as a possible the values of the local community, a planned and sustainable approach to development will ensure community safety is not negatively impacted. ACM will do this by ensuring that the future wellbeing of the local community and personnel associated with the mine are proactively managed to provide positive benefits of the local community and their employees.

Development of the Galilee Basin, will impact on the township of Alpha in the future. However, the Proponent is committed to working with the local community to ensure it contributes to improved livelihoods and amenity in project impacted communities. It will do this by working collaboratively with locals, other mining companies, key stakeholders and employees to ensure the wellbeing of the community.

Based on the impacts identified in the EIS Part 9.14 SIA, this Community Safety and Wellbeing Action Plan (Section 9.1) contains specific actions that address:

- The potential for an impaired road safety environment;
- Concerns over potential of increased pressure on Emergency Services and Service providers in the region such as police and hospitals;
- Concerns regarding the influx of a large workforce into the area which has the potential to decrease residents’ feeling safe and secure in their community due to potential for anti- social behaviour.

10.18.021 Mining Parameters

Comments

Construction activities are expected to commence in 2013, following granting of the required Environmental Authority. Operations are expected to commence in 2015 with a scheduled mine life of 33 years until 2047. However, it is possible that there will be sufficient economic coal reserves to extend the operational life of the Project beyond the currently planned 33 years.

Recommendations

There is a concern that the impacts to surface water diversions and potential releases or sedimentation which may impact on downstream and end users has not been fully considered and that there is intent for extension of the mine beyond 33 years without planning to reflect this.

Response

Mining parameters will be confirmed in the projects EA/ML and any changes will be subject to amendment of these approvals. The surface water assessment has been reassessed in AEIS, Part 9.3 Surface Water. The assessment is inclusive of comments from EHP/DNRM and private persons as a consequence of the public review period of the EIS.

10.18.023 Rail Transport

Comments

A number of hazardous and oversized loads will be transported to site during the construction by rail.

Recommendations

Central Qld rail integrated road project provides some infrastructure to move freight to the project areas however there will be a number of users competing for same service. Traffic Assessment is required to include the 9 rails loads as potential road traffic as amendment to Traffic Plan if third party rail access is delayed (i.e. rail construction) or not available. The assumption regarding guaranteed rail access and diversion of road traffic impacts to a rail load does not appear to be finalised based on the information provided during consultation Agency Briefing and the impacts of diversion from rail to road are needed as part of the overall EIS and are integral to assess cumulative impacts also. The LOS of the road network and potential need for additional surfacing requirements or traffic management i.e. at intersections may be required. There is currently little detail on any road/rail crossings and the impacts of these for community, safety, road management or social impacts.

Response

AEIS, Part 3 introduces the new project stage Epsilon.

AEIS, Part 9.12 includes traffic reassessment.

Epsilon is dependent on the upgrading of the existing QR railway between Alpha and Nogoa River Bridge (Emerald), access to the Aurizon Blackwater railway system and port capacity at Gladstone. Contraction freight for Epsilon will be by road. Operational freight for Epsilon will be by this upgraded railway. Construction and operational freight for the other southern Galilee Basin mines can also utilise this infrastructure. A new narrow gauge railway spur connecting Epsilon to the QR Network is proposed.

Road surfacing, intersection design and maintenance contributions are addressed in the response to DTMR under submitter 10.9. Freight inter-modal establishment at Alpha will be the subject of a subsequent submission.

10.18.024 T-Intersection

Comments

Three way T-intersection proposed 8.8km west of Alpha.

Recommendations

The site road access and intersection needs to be considered as a broader strategy for the Capricorn Highway with access for all proponents required for safe and direct road access whilst considering local traffic and the additional traffic generated from the aerodrome to

the west of Alpha.

Response

The mine access road will be a private road. The transport study in the AEIS, Part 9.12 Transport includes a cumulative component, which has been developed after discussions with DTMR. Refer to the responses to DTMR as Submitter 10.9.

10.18.025 Mine Access Intersection

Comments

SGCP mine access intersection will increase traffic greater than 5% at this intersection and will include B-doubles and oversized vehicles.

Recommendations

An AUR and AUL would likely mean need for indication and traffic lights at this intersection with an increase in lane width to accommodate turning and oversized loads.

Response

As per issue 18.007, local road approval is not anticipated.

AEIS, Part 9.12 Transport, Section 9.2.7.4.3 details the proposed intersection treatment to the Capricorn Highway and the new site access road.

AEIS, Part 9.12 Transport, Section 9.2.9.4 details mitigation for the access-way via intersection control.

10.18.026 Trip Origins

Comments

Trip Origin average % -

- 50% Brisbane
- 30% Gladstone
- 20% Mackay

Recommendations

Council are concerned about the travel distances and quantity of goods being moved including hazardous chemicals, fuels, treatment chemicals, oils and explosives amongst the oversized and over dimensional loads. There is little detail provided on how these loads will be managed and the social/community impacts (i.e. from delays)

Response

As per issues 18.023, operational freight for all of the southern Galilee Basin mines will be predominately by rail. SGCP will develop procurement policies that will maximise the rail freight approach. AEIS, Part 9.12 includes an assessment of overweight and over dimensional loads. The management plan for road or rail hazardous material impacts will be addressed as per the requirements in DTMR /EHP.

The Emergency Response Plan (ERP) and the Road Use Management Plan (RUMP) development will include consultation with BRC. Refer to AEIS, Part 9.13 Management Plans.

10.18.027 PIA Percentage Increase

Comments

Based on the PIA percentage increase and ESA for SGCP.

Recommendations

Based on the percentage increases the standard DTMR PIA methodology should be applied.

Response

Refer to:

- AEIS Volume 1, Part 9.2 Transport presents the revised SGCP traffic assessment.
- AEIS Volume 2, Submitter 10.9 DTMR.

10.18.028 Air Movements

Comments

8-17 air movements based on 115 person aeroplane.

Recommendations

The basis for air movements assumes an upgrade prior to 2013/14 construction. The proponent has made no commitment to provide support for or assistance to mitigate the impacts they will make due to the proposed FIFO workforce. Support is required from the proponent to facilitate a FIFO workforce via larger planes than are currently able to service the runway. The current runway does not facilitate movement of aeroplanes with 115 passengers at Alpha.

Response

Refer to AEIS, Part 3 details the Scheduling Constraints.

Off lease works will be addressed as part of a subsequent approval process.

The overwhelming majority of the workforce will be Fly in Fly out (FIFO) and will be sourced from regional, coastal and south–east Queensland. Locals will also be encouraged to apply for positions at the mine and if they are located within 20 minutes of the site will not be required to live on site. There will be no FIFO Emerald to Alpha nor BIBO Emerald to Alpha as it is intended that the project workforce will be identified elsewhere. The workforce would be required to fly into the Alpha Aerodrome with a bus service to be used to transfer staff to and from the mine.

10.18.029 Clermont-Alpha Road

Comments

Clermont - Alpha Rd- Type 1 and Type 2 road trains & B-doubles (23 and 25metre).

Recommendations

Please review the type of vehicles able to utilise the Clermont Alpha Road as there are currently restrictions on the size and weight capacity including a number of bridge crossings which would limit the type of materials being carried.

Response

The revised traffic study is in AEIS, Part 9.12, which eliminates the Claremont / Alpha Road as a freight haul route.

Also refer DTMR responses in the AEIS, Part 10.9.

10.18.030 Traffic Information

Comments

Traffic Information

Recommendations

The traffic information provided does not note the type of vehicles. The traffic peak volumes were conducted in two events on the same day. Further counts are required to obtain a verifiable statistical average. Additional information is required to verify background counts for monitoring of the additional traffic flow generated by SGCP. Council need to conduct additional traffic counts and assessments to establish the existing peak flows and background prior to the mining expansion. Support is required to ascertain the current numbers of contractors, exploration and drilling numbers and monitor the vehicle purpose and class transiting the same locations.

Response

Refer to AEIS, Part 9.12 Transport Study.

- Tables 15 to 19 - Generated Construction Traffic
- Tables 20 to 23 - Operational Traffic
- Section 9.2.4.3.5 - Traffic volumes with development.

10.18.032 Traffic Management

Comments

Issues of traffic management with school transport and other transport routes.

Recommendations

There is little or no detail provided and this is required in the Traffic Management Plan and should assess impacts from origin to site where routes may intersect (i.e. hazardous / oversized / over dimensional goods and school route including timing).

Response

RUMP to be developed, refer to the AEIS, Section 9.10 Management Plans, MP10.14 Road Users Management Plan.

AEIS, Part 9.12 Transport, Section 9.2.9.5 presents the Transport Management Plan as part of the mitigation section.

10.18.033 Fatigue Management

Comments

DIDO and fatigue management policies.

Recommendations

There is little or no detail and this is required in the Traffic Management Plan and related policies.

Response

Refer to response to issues 10.18.032.

10.18.034 Journey Management

Comments

Whole of journey management and turn around including contractors and sub-contractors.

Recommendations

There is little or no detail and this is required in the Traffic Management Plan.

Response

AEIS Volume 1, Part 9.10 Management Plans, includes:

- a fatigue management plan
- traffic management plan.

If travel time of a person exceeds 20 minutes, the person will be required to rest for a prescribed period before commencing work.

AEIS Volume 1, Part 9.12 Transport Assessment:

- Section 9.2.9.5 Transport Management Plan
- Section 9.2.9.8 Road Use Management Plan

10.18.035 Heavy and Over Dimensional Vehicles

Comments

Heavy vehicles and over dimensional vehicles requiring escort and /or police escort as determined by mass/physical size are not indicated.

Recommendations

Need further information on timing and point of origin for classifications for load and predicted daily traffic flows.

Response

AEIS, Part 9.12 South Galilee Coal Project - Traffic Assessment, has been updated to include revised figures for traffic volumes including Over Dimensional trips. Section 9.2.7.2 Over Size / over mass vehicles movements.

- Tables 15 to 19 - Generated Construction Traffic
- Tables 20 to 23 - Operational Traffic.
- Section 9.2.8.2 Over Size / Over Mass Vehicles.

10.18.036 Integration of Heavy Vehicles

Comments

Cumulative impacts for the project depend on the integration of heavy vehicles with other projects.

Recommendations

The timing indicated by the proponent will likely conflict and compound the traffic management and cumulative impacts. There is little evaluation in the Cumulative Impacts noted on how the proponent plans to work around current traffic flows proposed for Galilee Basin Projects. Further detail on integration and understanding of the compound impacts with additional loads from SGCP are required.

Response

Cumulative impacts were addressed in the EIS. They are again presented, inclusive of the Epsilon stage, in the AEIS, Part 9.12 Transport Assessment:

- Section 9.2.7.1 considers the cumulative impact:
- Section 9.2.9.5 Transport Management Plan
- Section 9.2.9.8 Road Use Management Plan

AEIS, Part 9.10 Management Plans, specifies the development of a Traffic Management Plan and Road Users Management Plan.

10.18.037 Road Users Management Plan

Comments

Road Users Management Plan

Recommendations

Road Use Management Plan to incorporate preparation of plans with BRC and include other stakeholders i.e. QPS inspector, officers.

Response

AEIS, Part 9.10 details the Management Plans to be developed, specifies the development of a Traffic Management Plan and Road Users Management Plan.

AEIS, Part 9.12 Transport Assessment:

- Section 9.2.9.8 Road Use Management Plan.

10.18.038 Traffic Safety

Comments

traffic safety resulting from project impacts - use of Local Government Roads as a preferred or short-cut to bypass sections of State Roads which may cause additional damage and impacts and also increase noise, air and safety impacts.

Recommendations

Please provided detail on mitigation actions and controls proposed by the proponent.

Response

The use of Local Government Roads as a preferred short cut to Bypass sections of State Road is not and will not be included in any SGCP transport management plan. Refer to AEIS, Part 9.12, Section 9.2.4.2 Route Selection.

10.18.039 Subcontractors Vehicles

Comments

Traffic movements indicated by the proponent are limited to onsite construction and operation- is it all that is occurring?

Recommendations

What numbers of subcontractor vehicles are being used? Is there any back loading of loads for off-site e.g. transport and disposal of goods, wastes or recyclables etc. Where will the trips originate? What number of vehicles /day etc.

Response

Revised Traffic Assessment is contained in AEIS, Part 9.12 Transport

- Section 9.2.2.5.1 Operating Personnel Requirement details the operating personnel requirements including subcontractors.
- Section 9.2.2.5.2 Construction Personnel Requirements details the construction manning levels.

10.18.040 Ongoing Traffic Data Collection

Comments

Ongoing data collection and provision.

Recommendations

Need further information e.g. 3 monthly basis on FID to provide monitoring data for traffic and transport to quantify start (journey origin) quantify product and type, and what is

delivered?

Data provision by the proponent is requested to local and state administrative authorities to assist on ongoing road and transport planning for the region (e.g. DTMR, BRC, SGCP, and QES). This will also provide data in readily available format for review and monitoring of cumulative impacts.

Response

Data collection will be a part of the RUMP.

Refer to AEIS,

- Part 9.12 Transport Assessment, Section 9.2.9.8 Road User Management Plan.
- Part 9.10, MP 10.14 Road Users Management Plan

10.18.041 Traffic Enforcement

Comments

Traffic enforcement details and methods to control contractors/subcontractors/ ancillary workers and support staff and travel movements are required. Previous examples for similar industry sites have shown that traffic plans are not always adhered to and that there is an economic and time incentive for traffic to/from site to save time and money. There is a concern that there are limited controls or notation under the current documentation and EIS provided.

Recommendations

Traffic enforcement needs for the area covered and the hours for fatigue management need to be managed on 24 hr basis. Whilst there will likely be a traffic management plan in place and fatigue policy, further information on how the proponent will assess, review, monitor and report on delivery/supplier and off-site traffic relating to the project is required.

Response

Refer to AEIS,

- Part 9.12 Transport Assessment, Section 9.2.9.8 Road User Management Plan.
- Part 9.10, MP 10.14 Road Users Management Plan

10.18.042 Local Workforce

Comments

The proponent information has limited impact assessment to 8 resident workforce (max 20mins trip).

Recommendations

The extent of local traffic and additional traffic generated by the SGCP will likely generate more than 8 resident workforce. There is no detail provided on contractor, subcontractor and smaller service vehicle numbers or those indirectly contracted to assist in the mining expansion (i.e. additional generation of traffic and indirect workers such as to service FIFO workforce 700+ with aerodrome predicted by ACM in council discussion to need in order of 100 workforce). Further planning and detail is required by the proponent. Further information is required to assess the impacts and necessary upgrades required which may include upgrade of the local intersection and/or local roads as necessary.

Response

AEIS, Part 9.12 Transport Assessment,

- Section 9.2.9.8 Road User Management Plan.
- Table 15 to 19 Generated Construction Traffic
- Table 20 to 23 Operational Traffic.
- Table 24 Summary of Personnel Trips per Year.

10.18.043 Cumulative Traffic Impacts

Comments

The cumulative impacts noted are limited to other proponents.

Recommendations

Further information and simplification of the existing information to recognise the cumulative impacts is required. Cumulative Impacts would include an evaluation of total peak and predicted traffic numbers based on EIS information for all proponents to date and should reflect class of vehicle also as well as predicted totals provided, as this is key to traffic assessment.

Response

Refer to AEIS, Part 9.12 Transport Assessment, Section 9.2.7.1 Cumulative Impacts.

10.18.044 Third Party Impacts

Comments

The proponent notes a number of impacts which it attributes to other third parties such as facilitation of rail, water, power among others. These direct, indirect and facilitated impacts have not been adequately addressed in the EIS.

Recommendations

As per the EPBC Act these impacts are 'facilitated impacts' which require consideration as per all adverse impacts and also the indirect impacts. BRC requested the Federal Government via the mechanism to the Queensland State Government assessors to review these impacts and to ensure that they are adequately addressed as part of the EIS and appropriate conditions put in place. The importance of the SGCP at the top of the water catchment and in a productive agricultural area adjoining an existing rural community can not be underestimated and the proposed offsets for the project do not even match the current local contribution from the local properties and landholders within the mining lease area. The predicted groundwater drawdown and potential impacts to adjoining and/or other landholders from surface water diversions and dewatering have not been adequately addressed in the EIS and there is no detailed 'make-good' or compensation. BRC request the State Government to make provision and adequate conditions to ensure that these obligations are met. A clearly defined process is required from the proponent, particularly as there are currently no alternative water sources and the local area is reliant on the seasonal surface water flows (corroborated by historic documentation) and alternating reliance on groundwater. BRC is reliant on existing groundwater for town water supply year round. Further detail from the proponent is required.

Response

AEIS Volume 1, Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS:

- Section 3.2.3 Details the predicted drawdown effects due to Mine Dewatering.
- Figure 18 - shows the bores that will be impacted by SGCP
- Section 3.3 Monitoring, Evaluation , Reporting and Improvement, states " The SGCP will develop alternative water supply agreements with landholders who will potentially be impacted by mine dewatering, as identified in section 3.2.3."

Diversion of Sapling Creek is no longer required - Refer to revised Water Study.

10.18.045 Existing Land Uses

Comments

The Galilee Basin is a predominantly rural agricultural area and until now has been a green field area in terms of mining. Comments such as 'the remote location and lack of supporting infrastructure have historically precluded large-scale coal mining in the Galilee Basin' do not acknowledge the existing land uses.

Several utility providers have also recently proposed large-scale power and water supply projects to the Galilee Basin.' A number of utilities projects have been postponed or cancelled all together.

Recommendations

Please update to reflect current utility proposals: - postponement of Galilee Power Station - cancellation of SunWater bulk water pipeline Moranbah- Alpha This bulk infrastructure or alternative will be essential in order for the project to proceed.

Response

Utility proposals are:

Power:

Power for Epsilon will be generated on site.

Stage 1 , 2 and 3 were investigated via PowerLink, the connection point being Lilyvale. The timing for the provision of external power is unknown and dependant on other Galilee mining proposals.

Water:

Epsilon Coal will be produced without a wash plant, the coal will be treated using a dry density separation process. The water generated on site will be sufficient for the Epsilon operation.

Stages 1, 2 and 3, will include a wash plant and has a greater reliance on external water source. The provision of the external water source is dependant on other Galilee Basin mining proposals.

10.18.046 Regional Economy

Comments

This expenditure will represent a significant boost to the regional and state economy.

Recommendations

The EIS project has little detail or likelihood of major contribution to the local economy with limited local based positions only for senior management, no roles for locals (based on information provided). With the service centre to be located outside of the local area any income derived will not be invested locally. The royalties collected need to include local contribution over the LOM. The local area will be negatively affected both economically and socially by the SGCP and the EIS has provided little real mitigation actions and has rejected suggestions by the community and council outright throughout the engagement process. The loss of local properties and their employees, particularly for landholders and their families within the mining lease area (MLA) will not be replaced by the proposed SGCP local workforce (3-6 operational from 2015 onwards).

Response

The proponent recognises the importance of local industry participation and the potential economic benefits for local and regional businesses as a result of the SGCP. The potential benefits of the project include increase in personal income levels due to direct employment but also flow on economic impacts resulting from increased spending and opportunities for local business development and expansion. Some key examples of where positive benefits are likely to arise from, are significant expansions of infrastructure in the local community of Alpha including the planned Airport expansion and ultimate development of an inter-modal rail freight facility to facilitate expansion of Epsilon Mine to more intensive stages of the SGC Mine.

SGCP is likely to enhance regional business development by bringing numerous benefits to local and regional areas including the procurement of local products and services. Strengthening local supply chains will occur via the Local Content Plan and complementary Regional Capacity Building Programs undertaken in partnership with key stakeholders and other projects, as appropriate. This will serve to strengthen the proponent's relationship with the community from the outset and provide a foundation for sustainable regional development.

To ensure positive benefits are enhanced, a detailed Local Content Plan will be developed in accordance with Queensland Resources and Energy Sectors Code of Practice for Local Content that gives local industry full, fair and reasonable opportunity to be considered for SGCP contracts.

The AEIS SIA Regional Business Development and Local Content Plan addresses:

- Increased revenue, diversification and expansion opportunities for local and regional business revenue as a result of SGCP;
- Strategies to reduce economic vulnerability of local businesses when mining ceases; and
- Plans to encourage fair and equitable access for local and regional small business to register as a supplier or to tender for supply opportunities and develop the required capabilities.

10.18.047 Contribution to Local / Regional Community

Comments

The SGCP will also contribute to cumulative local/regional population growth, leading to impacts on infrastructure, community services (e.g. health, education, housing and accommodation) and non-mining industries.

Recommendations

The EIS notes impacts from the SGCP which have not been fully detailed and no mitigation has been proposed including: - additional impacts on housing and accommodation, - their impact and offset to local infrastructure with no contribution proposed, - contribution or support to mitigate impacts including local roads, sewer, water, waste, aerodrome, health and emergency services.

Response

The SGCP is one of number of large mining projects that will be developed in proximity to Alpha. To date there has been three projects that have been previously granted approval by the Queensland Government Coordinator General. ACM acknowledge that SGCP (specifically Phases 2 & 3) will contribute to cumulative social impacts, if developed at similar timeframes to other projects. For ongoing cumulative impact monitoring and response to be successful, ACM will support and participate in the following:

- Galilee Basin Roundtable
- Local Area Infrastructure Program(LAIP)

It is not the purpose of this AEIS SIA to develop mitigation and management measures to address cumulative social impacts, but rather highlight a commitment from ACM to participate in future planning coordination processes to deal with such matters via Galilee Basin Roundtable and LAIP.

10.18.048 Income Levels

Comments

Increased income levels.

Recommendations

The increased income levels specified within the EIS will increase the wealth divide in the local community and likely increase the cost of living without any additional benefits proposed from the SGCP to mitigate these impacts locally. The sentiment of segregation on economic lines is not one the local community want and the engagement activities have reflected that the community want an integrated and participatory relationship between mining and the locals. The strategy proposed by the proponent is not consistent with discussions and local engagement and meetings with council.

Response

Social impact management strategies have been prepared for each of the main social impacts identified in Table 3.2 (Section 9.10 of AEIS). These mitigation and management measures are detailed in four (4) specific Action Plans:

- I. Housing and Accommodation
- II. Regional Business Development and Local Content
- III. Workforce Management
- IV. Community Safety and Wellbeing

Specific actions (mitigations to minimise negative impacts or opportunities to maximise positive benefits) as set out in Action Plans are detailed in Section 4, are shown in Table 3.2 (Section 9.14 SIA of AEIS).

10.18.049 Local Business Development

Comments

Opportunities for business development/expansion in service and support industries.

Recommendations

The lack of detail on business requirements and typical services (including quantity, skills, volumes and materials) which will be outsourced, developed or needed for support means that a full evaluation of the impacts is not able to be conducted. The claims that there will be a benefit or contribution have not been demonstrated within the EIS and are not substantiated. Also in order for local business and support industries to be developed or expanded locally further information is required and the proponent has noted during previous engagements that they are not looking to source local and the restrictive conditions on engagement make it unlikely that local businesses will be considered. With a majority FIFO workforce this will increase the local losses and contribute to the impacts on infrastructure and services including the ability to develop or expand locally without full support and flexibility in these industries.

The local media have reported the article from Murdoch School of Psychology that mining FIFO is notes that partner satisfaction that spouses, particularly with children aged 6-12 years suffer. Many of these impacts will not be registered and will be considered.

The BRC suggests to the Co-ordinator General that further evidence of business development and service/support industry strategies and include sufficient data to enable those affected to make informed decisions about the project's effect on local business and plan for the provision of support or services.

Response

Refer to response to issue 10.18.046. Consultation with the BRC and other key stakeholders including local industry representatives has been identified in the AEIS SIA Regional Business Development and Local Content Plan.

10.18.050 SGCP Contributions

Comments

The SGCP will also contribute to cumulative local/regional population growth, leading to impacts on infrastructure, community services (e.g. health, education, housing and accommodation) and non-mining industries.

Recommendations

The BRC suggests to the Co-ordinator General that further evidence of SGCP contribution to impacts including contractors and additional locally sourced service numbers with sufficient data to enable those affected to make informed decisions about the project's effect on local business and plan for the provision of infrastructure and community services.

Response

The traffic study in section 9.12 of the SEIS includes a "visitor" allowance and the response in 18.1 further expands on the support personnel. Section 9.13 addresses the social issues. Off lease infrastructure will be assessed as part of a subsequent approval process.

During the construction period, provision has been made to accommodate construction staff onsite using existing farm dwellings (refer to Tenure Policy) from property purchases on the mining lease. An onsite accommodation village will be developed in stages to accommodate all phases of the project (Epsilon through to full operation for the peak overlap of 1,600 personnel). The village will also include additional accommodation provided for specialist contractors and consultants.

The Proponent have detailed in the SIA Appendix A (Section 9.14 of the AEIS) workforce profiles for all phases of the project, which it will continue to update and provide to key stakeholders as project planning is further refined.

ACM acknowledges that with a population of approximately 430 residents (Estimated Resident Population (ERP) 2010) in 300 private dwellings and key land development constraints such as infrastructure limitations and flooding, Alpha is vulnerable to demand pressures on its limited housing and temporary accommodation supply. The proponent is therefore willing to work with local council, government agencies and other regional mining proponents to monitor impacts which have been identified by the BRC and local community as high priority. This will involve working as a member of the Galilee Basin Roundtable to proactively address cumulative housing supply and demand issues.

The Housing and Accommodation Plan provides accommodation solutions for the SCGP workforce (permanent and contract staff) and facilitating the provision of housing in Alpha for a small number of senior SGCP employees.

10.18.051 PFS

Comments

The PFS does not provide an optimum development strategy and does little to mitigate the local impacts of the project. It is evident from the text and the EIS documentation that the driving force and sole imperative is to 'maximise return on the investment' with little consideration or willingness to address the impacts of the SGCP locally.

Recommendations

BRC implore the Co-ordinator General that the SGCP does not currently provide an 'optimum development strategy' with consideration of all the impacts and lacks any indication of the SGCP contributing significantly to any local or regionally significant infrastructure i.e. aerodrome, water etc. The optimum strategy for development would be for the project to develop to enhance the region and also acknowledge the timing and contribution to the cumulative impacts.

Response

The onsite accommodation village will have capacity for contractors who are retained to work on site. Existing properties owned by the Proponent in Alpha together with existing houses on properties to be acquired will provide management accommodation for the Epsilon Stage. Subsequent stages depend on the availability of an external to site water and power supply (together with rail and port infrastructure). SGCP has and will continue to support a collaborative approach to these infrastructure issues.

During the construction period, provision has been made to accommodate construction staff onsite using existing farm dwellings (refer to Tenure Policy) from property purchases on the mining lease. An onsite accommodation village will be developed in stages to accommodate all phases of the project (Epsilon through to full operation for the peak overlap of 1,600 personnel). The village will also include additional accommodation provided for specialist contractors and consultants.

The Proponent has detailed in the SIA Appendix A (Section 9.1 of the AEIS) workforce profiles for all phases of the project, which it will continue to update and provide to key stakeholders as project planning is further refined.

The Proponent acknowledges that with a population of approximately 430 residents (Estimated Resident Population (ERP) 2010) in 300 private dwellings and key land development constraints such as infrastructure limitations and flooding, Alpha is vulnerable to demand pressures on its limited housing and temporary accommodation supply. The proponent is therefore willing to work with local council, government agencies and other regional mining proponents to monitor impacts which have been identified by the BRC and local community as high priority. This will involve working as a member of the Galilee Basin Roundtable to pro-actively address cumulative housing supply and demand issues.

Refer to response to issue 18.050.

10.18.053 Central Rail Line

Comments

The proposed upgrade to the Central Line by QR National could potentially allow for the transportation of coal to other Queensland ports.

Recommendations

BRC suggest that further information about the alternative export options are required to demonstrate that the proponent has explored the alternative options with feasibility and alternatives to third party access to APCT.

Response

With the introduction of Epsilon refer to AEIS, Part 2 Epsilon for details, the initial start of the mine is no longer dependant on the exporting of the coal through Abbot Point.

The approval to export coal through Abbot Point will be the subject of a subsequent evaluation process.

10.18.054 Abbot Point Coal Terminal

Comments

The Abbot Point Coal Terminal (APCT) has been selected by the State Government as the preferred site for the long-term expansion of Queensland's coal export capacity.

Recommendations

BRC suggest to the proponent and the Co-ordinator General that the proponent has not demonstrated that they have approval or an export allocation from the APCT and that suitable alternatives for export from South Galilee project are needed to ensure that the project can proceed.

Response

Refer to response to issue 10.18.053.

10.18.056 SGCP Workforce

Comments

As the township of Alpha does not have adequate infrastructure or land available for housing required to support the proposed workforce, and to minimise potential social impacts,

Recommendations

BRC response is that there is land available for development in private and State ownership suitable for expansion, which under the existing planning scheme.

The proponent and Queensland Government can now attempt to identify cumulative effects from the various projects proposed in the region and provide a strategy to help the local communities assess, process, manage and cope with the developments.

Response

Refer to response to issue 10.18.047, 10.18.050 and 10.18.051.

10.18.057 On Site Accommodation

Comments

the SGCP workforce is proposed to be housed at an on-site accommodation village located in the north east of MLA 70453.

Recommendations

How will construction workforce be accommodated? Will the construction contractor or similar seek approval for the temporary workers villages? What will be the impacts of alternative accommodation options?

Response

AEIS, Part 9.8 presents the SGCP Tenure Policy. The properties will be purchased and vested in the SGCP prior to pre-construction activities. The existing residences and facilities on these properties, in conjunction with other mobile facilities, will be used by the initial work force. The construction schedule will nominate access, water supply and the accommodation village as, among others, initial priorities. The village will be developed in stages. As the staged become available, they will be occupied by the construction workforce. The construction schedule will reflect the village availability.

The SIA clarifies construction workforce and living arrangements, by stating in the The Housing and Accommodation Plan rationale that "During the construction period, provision has been made to accommodate construction staff on site using existing farm dwellings (refer to Tenure Policy) from property purchases on the mining lease. An on-site accommodation village will be developed in stages to accommodate all phases of the project (Epsilon through to full operation for the peak overla of 1600 personnel). The village will also include additional accommodation provided for specialist contractors and consultants.

10.18.058 Accommodation Village Location

Comments

The proposed accommodation village location (refer to Section 4—Project Description) has been selected to minimise visual, air quality, noise and vibration impacts associated with the mining operations.

Recommendations

Modelling for the accommodation village showed elevated levels of concern for the workforce accommodation and attraction of Alpha as a preferred place to work. The location of the proposed accommodation village does not meet the intent for minimisation of impacts. The siting of the accommodation as proposed includes unacceptable impacts and is reliant of operational control measures which will not be in place for a number of years.

Response

AEIS Volume 1, Part 9.10 presents the management plan scope, timing and stakeholders. Those required for the accommodation village will be in place from the day of occupancy.

AEIS Volume 1, Part 9.11 presents the Environmental Management Plan and it include reference to monitoring and event action plans.

10.18.059 Permanent Personnel

Comments

Other than a small number of permanent personnel who would be required to relocate to Alpha (i.e. up to eight personnel during construction and up to six personnel during operations), no alternative accommodation locations have been considered.

Recommendations

The proponent has not considered any local staff options (other than senior management), nor any alternative accommodation options. Lack of consideration of alternatives shows that conditions of EIS have not been met.

Response

Issue 18.033 provides some detail of the SGCP fatigue policy. Locals are not excluded from the work force.

10.18.060 Underground Mining Techniques

Comments

Underground mining techniques result in reduced impacts on surface environmental and agricultural values due to the minimal surface disturbance. Mining induced subsidence may, however, result in impacts on surface environmental values, such as flora and fauna, cultural heritage, groundwater and surface water resources.

Recommendations

The impacts from the underground mining component and the resulting subsidence as part of the SGCP are excessive and the proposed mitigation is limited or nil. The agricultural values will be impacted by large disturbances with subsidence on average 3-4m+ along with the noted groundwater and surface water impacts will largely devoid the lease and surrounding areas of productive grazing land. The selection of mining methods has not demonstrated sensitivity to the environment and values. Further detailed planning is required prior to approvals.

Response

SGCP policy regarding tenure is presented in the AEIS Part 9.8.

After purchase, the properties will not be used for grazing, undisturbed acquired land is allocated as a biodiversity offset area. Refer to Part 9.13.1 of the AEIS.

10.18.061 Delivery Strategy

Comments

The Proponent has considered a range of delivery strategies for the SGCP including 'build, own and operate', 'build, own, operate and transfer' and various contracting strategies. The selection of the most appropriate delivery strategy will be determined as part of the DFS process.

Recommendations

BRC note the possible intent of the SGCP to be subject to 'transfer' and request that the proponent make clear their intentions prior to State Government approval.

Response

All approval compliance / conditions will be transferable should project ownership change. Currently, change of ownership has not been considered.

10.18.062 Alternative Mining Methods

Comments

Mining Method Alternatives

Recommendations

The mining methods have not been related to the site or local context and there is no detail on how this will impact SGCP operations. There is no true evaluation of the alternatives or a preferred alternative with drivers seemingly limited to economic and temporal. The surface disturbance impacts have not been largely abated by the selection of the underground mining option.

Response

The extensive site drilling has enabled the resource to be geologically modelled. This model has been examined by experienced mining engineers and the mining methods selected are based on established industry techniques for this particular deposit. No coal seam gas has been found during the drilling program.

10.18.063 CHPP

Comments

The SGCP CHPP will use a conventional wet beneficiation process. Each element of the project needs to be addressed (e.g. mine, beneficiation).

Recommendations

This is not consistent with the engagement process where proponent indicated that the process would be a dry process without the need for washing. There are disparities between EIS and public consultation on the selected process to be used and the supporting infrastructure (such as tailings dam) and assets required (e.g. water).

Response

The EIS makes no reference to a “dry process”. The AEIS Part 2 covers the Epsilon stage including a dry density separation process to beneficiate the ROM coal. Water requirements are limited to dust control in this process. Subsequent stages use a wash plant to beneficiate the ROM coal.

The solid waste from the wash plant will be separated using filter presses, the liquid will be stored in a “dirty water” dam. Refer to AEIS Part 9.3.5 Water Management Plan for the water strategy.

The subsequent stages will not take place until the external to site infrastructure is available. They will be subject of a subsequent submissions.

10.18.064 Tailings

Comments

The selected option utilises proven technology and will allow tailings to be disposed of in the waste rock emplacement facilities along with the coarse reject material.

Recommendations

The disposal of tailings in the 'waste rock' will likely increase stability and contamination issues and hamper any reinstatement of grazing areas.

Unsecured waste rock areas will also likely to be impacted by adverse weather conditions (wind, dry etc). BRC request the State Government to review the conditions for waste and tailings management and the proposed disposal options. The current method proposed by the proponent does not take into account the particular weather conditions of the region and the minimisation of contamination in the upper catchment areas. The region also has periods of high rainfall and flooding which will also impact on the management of waste rock piles.

Response

Refer to Part 9.10 Management Plans and Part 9.3 Surface Water. The drawings included in Section 9.2 evidences that all out of pit dumps are well above the design event. Figures 9.1.4.1 to 9.1.4.7 in section 9.1 of the AEIS provide contours which further evidences the outer pit dumps well above flood levels.

The catch drains around the outer pit as shown on drawing 9.1.4.2 will be designed by experienced engineers to prevent pit inundation for the design event.

Refer to Section 9.6 and Section 9.10 for further information on Geochemical PAFF material aspects.

10.18.065 Dust

Comments

Minimise the generation of dust and fines.

Recommendations

The chosen method still has creation of levels of dusts and fines which are predicted to impact on the workers on-site accommodation, neighbouring properties and to the Alpha Community. Further assessment and alternatives to the current proposal are required and more active controls through process and extraction methods are needed to meet the EP Act and community expectations for human health and welfare.

Response

AEIS, Part 9.9 presents the revised Air Quality Assessment and Noise and Vibration Report and Part 9.10 Management Plans.

Also refer to the response to issue 10.10.002.

Review of Alternatives

It is beyond the scope of the air quality assessment to assess alternative mining operations. The air quality assessment addressed two cases that represented peaks in production / overburden movement. This assessment has assessed a low-product early start phase. The modelling was designed to represent a typical mine with average levels of dust control. This industry standard position for dust control was adopted as it means that management may react and improve dust control if the monitoring phase shows elevated offsite dust levels. Significant improvements are possible with watering, chemical suppressants etc.

Currently the model complies with the EP Act and community expectations for human health and welfare.

The Epsilon case, being a low production early start phase, provides management with an opportunity to investigate dust emissions in detail prior to the ramping up of operations as described in the EIS. This will permit all aspects of the operations including watering rates, dust emission and adverse meteorology to be thoroughly understood and these investigations to be incorporated into the dust management plan associated with the EMP.

10.18.066 Fine Rejects

Comments

Fine rejects will be thickened and dewatered in belt press filters.

Recommendations

What system has been developed for collection and treatment of dewatering process water.

Response

Refer to Section 9.3.5 Water Management Plan.

10.18.067 Recyclable Waste

Comments

Recyclable waste which will be transported off-site by recycling contractors.

Recommendations

The disposal location of recyclables is needed along with alternatives for waste management. How will the proponent deal with construction wastes?

Response

The movement of construction waste is detailed in the AEIS, Part 9.12 which presents the revised Transport Assessment, which includes construction waste.

Also refer to the AEIS Part 9.10 Management Plan which specifies the development of MP10.9 Waste Management Plan.

10.18.068 On-Site Landfill

Comments

Disposed of in an on-site landfill designed and managed to the appropriate legislative standards.

Recommendations

If the proponent plans to utilise on-site disposal then the design of the waste landfill needs to reflect the hazard and risk of the likely contaminants. The current proposal has limited detail and is not suitable for the intended waste classes proposed by the proponent. The landfill should more likely reflect a mono-cell landfill with associated liners and leachate collection systems.

Response

Refer to response to Issue 10.18.067.

10.18.069 Mining Sapling Creek

Comments

A number of alternatives were considered, including an option not to mine Sapling Creek.

Recommendations

The alternatives including the 'not to mine Sapling Creek have not been presented in the documentation. More detail is needed to adequately assess the impacts and prior to State Government approvals or conditioning.

Response

The mine plan has changed and the diversion of Sapling Creek is no longer required, this is detailed in the AIES Part 9.2 Non Diversion of Sapling Creek. The revised Mine Plan is detailed in AEIS Part 9.1 Mine Schedule.

10.18.070 Drainage Channels

Comments

It will also be necessary to construct drainage channels to carry excess clean surface runoff around the outer precincts of the open-cut mining area into Tallarenha Creek.

Recommendations

The current proposal does not provide adequate protection for external drainage channels which will impact off-site and outside MLA boundary into Tallarenha Creek. This also has potential downstream impacts.

Response

Refer to the AEIS Part 9.3 presents the surface water flow and quality assessment and is inclusive of the aspects of Part 9.8 Tenure. No drains external to the mine lease are proposed. Drains within the lease will be designed to appropriate standards and will include sediment retention structures. Refer to response to DEHP and DNRM as submitters 6 and 7 respectively in Part 10 of the AEIS.

10.18.071 Power Supply

Comments

Ergon Energy's existing local 22 kilovolt (kV) diesel power station is operating at full capacity.

Recommendations

The existing power supply is noted as at capacity and has regular power outages and unreliable supply during peak or extreme weather (e.g. high temperatures). Any additional local housing will require additional power and place additional demand on a system which has limited or no capacity.

If the proponent intends to utilise additional power or supply additional housing then the impact is the need for additional supply capacity which needs to be offset by the proponent as a direct impact. Indirect impacts for the contract workforce residing locally will also need to be mitigated and is a predictable and foreseeable event to service the SGCP.

There is sufficient information to confirm that the State Government, proponent and power providers (i.e. Ergon/ Powerlink) will need to work to ensure that there is additional supply capacity to the mine and the community, notwithstanding any arrangements which

need to be made for bulk and household supply as part of the conditions for the project to proceed.

It is essential for public health and safety and business continuity that a reliable power supply connect to SGCP and be extended to Alpha Township for increased domestic supply and areas such as the aerodrome to facilitate the SGCP FIFO workforce component.

Response

AEIS, Part 2 Epsilon presents a new mining phase. Epsilon is a small scale open cut mining operation. Sufficient power will be generated on site to supply this construction and operation of this phase. Stage 1, 2 and 3 will not commence until an external power supply is available.

The external power supply will be part of a subsequent evaluation process.

10.18.072 Water Supply

Comments

On-site bore water is expected to provide adequate supply for the construction period.

Recommendations

There is no confirmed source for off-site water to ensure feasibility and viability of the SGCP and reliance on existing groundwater resources for construction/ operations will likely undermine the groundwater supply. The EIS has already predicted impacts and drawdown on the local groundwater supply including the potable water bores for the Alpha Community. Based on the estimates in EIS Table 4.1 Mine water summary demand the first year alone will require 1,485 ML during construction with approximately 3,000 ML during construction. BRC are concerned that the reporting is based on varied assumptions and that the more likely scenarios have not been modelled, nor the impacts to groundwater adequately reflected.

The spike in extraction may also cause an increase in contamination and promote processes i.e. such as salination or potentially acid forming substances from leaching. Further work is required for the impacts to groundwater and the cumulative impacts. As the construction period is the peak noted period this will be a high level impact over a short space of time and recharge (if possible) will occur over a longer timeframe (assuming the groundwater is not irreversibly affected for quality, quantity and structure). As there are frequent periods of drought and the groundwater is essential for the community and industry (such as agricultural productivity including stock watering) reliance on this source for construction including road and dust watering, surface excavation activities.

There is no indication in the modelling conducted as part of the EIS about utilisation on an ongoing basis or as an alternative if an off-site/third party source is not found or provision of water is delayed. Reliance on rainfall and runoff will not provide a reliable supply and will likely either be limited during dry or extended dry periods or excessive in wet periods

and limited to the storage capacity. The quality of runoff water can also vary highly and would be unlikely to be suitable for potable supply.

Response

SGCP has revised the mining plan which now includes a initial phase know as Epsilon. Epsilon is a small open cut operation which does not require huge quantities of water as it uses a dry beneficiation process to treat the coal. Groundwater and surface water storage will be sufficient to provide water to meet operational requirements. The details of Epsilon are described in the AEIS Part 2.

Epsilon will continue to operate until the external resources are available; such as:

- Water
- Rail transport to Abbot Point
- Port Facilities at Abbot Point
- Power.

10.18.073 Peak Water Demand

Comments

The peak water demand for the operation of the SGCP (i.e. 3,000 megalitres per annum (ML/a)) requires an off-site water source capable of supplying this volume of raw water. Section 9- 'Should groundwater inflow estimates reduce, the demand for imported raw water will correspondingly increase.'

Recommendations

Appendix F 'The demand peaks around Year 10 at 5,172 ML'. There is conflicting information in the EIS and there is a great difference in the order of 2,000ML/pa between noted estimates.

Section 9- Outflows: total water demand ranges between approximately 3,010 ML/a and 7,325 ML/a.

This conflicting information demonstrates the difference in understanding of the project between technical reports and direction of the EIS as the differences are misleading and underestimate the impact and required mitigation for the project.

The Terms of Reference have not been met and further clarification, reporting and potentially modelling is required. It is also not sufficient to rely on third party supply without adequate detail about supply, corridors, impacts, mitigation actions and consultation (which should include the community, local landholders, utilities and the local council(s)).

Response

AEIS Part 2 presents the introduction of Epsilon a preliminary stage of SGCP. Epsilon is small scale open cut operation which uses a dry beneficiation process, the on site surface water storage and groundwaters supply will be sufficient to supply the construction and operation of this stage. SGCP stages 1, 2 and 3 will not commence until an external water supply is available. The external water supply will be the subject of a separate evaluation process.

AEIS, Part 9.3.5 Water Management Plan presents the reassessment of the SGCP water plan, which includes Epsilon.

10.18.076 Alpha Aerodrome

Comments

Given the cost associated with constructing and operating an on-site airport and the proximity of the Alpha Aerodrome, the Proponent proposes to utilise the existing aerodrome facilities.

Recommendations

The existing aerodrome facilities are not currently suitable to service the SGCP FIFO component. The cost of additional construction and operational costs to service the SGCP FIFO for a predicted workforce of 1,600 and the larger planes proposed by the proponent requires significant capital investment by the local council and exceeds current utilisation and specifications for the aerodrome.

There is no indication that the proponent intend to off-set their impacts no contribute to the necessary upgrades to facilitate their impacts. Any delay in support and detailed information on workforce numbers, schedules, flights and operational aspects may result in additional delays as this is required for planning, design and expenditure. Despite comments during discussion with council from the proponent for privatisation of the aerodrome it is an essential public asset and currently provides an essential service.

The community wish to retain the aerodrome in the long term and recognise that the mining industry is intended for a limited 33+ year timeframe. The additional FIFO workforce numbers for the SGCP will have flow on effects and will require additional expenditure on controls, compliance, upgrades to facilities and additional workforce.

The proponent indicated that an additional estimated 100 non-mining employees will be required to service the operation of the aerodrome for the FIFO workforce. There is no mention in reporting of these additional impacts and any proposal for off-sets as part of the EIS. It is noted that the State Government has sufficient information from this EIS and the cumulative impacts of the intended FIFO numbers to consider the significance of the upgrade of the Alpha Aerodrome.

Response

The upgrade of the Alpha airport and related impacts will be the subject of subsequent evaluation process. The upgrading will be at not cost to Council and it will remain as a facility that can accommodate its current use. The scope will be developed in conjunction with BRC. It is intended that the construction and operation will be outsourced. Refer to AEIS Part 3.1, 3.2 and 4.0.

10.18.077 Drive In / Drive Out

Comments

Drive-in/drive-out and bus-in/bus-out alternatives from within the wider region were not considered further.

Recommendations

The lack of acknowledgement of a local drive in/drive out component eliminates a local workforce (except 3-6 senior staff) and demonstrates that the proponent does not intend to contribute to the local area. Any local support staff, contractors and suppliers would need to drive in the local area and these numbers have not been reported in the EIS.

Lack of Bus-in/out options also negate the wider regional area from employment at the mine (e.g. Emerald, Longreach, Jericho, Barcaldine etc). Further information is needed to account for contractor/ supplier numbers from the local and regional area. The proponent is also making an assumption that the Alpha Aerodrome will be sufficient to service the FIFO workforce for the construction phase.

As the proponent's proposal exceeds the current service capabilities for the aerodrome alternative transport options for the construction workforce (and possibly operational) are required.

Response

AEIS, Part 9.14 SIA, Action Plan 2 presents the Workforce Management Action Plan.

- 1.1 - Local Employment Policy
- 1.3 - Central Queensland Development Strategy
- 1.5 - Recruitment Policy
- 2.3 - Apprenticeships and Traineeships.
- 2.4 and 2.5 - Schools to Industry Pathways.

Local employees are not precluded from employment however they will be subject to the conditions of the fatigue management plan.

10.18.078 On Site Accommodation

Comments

No alternatives to the on-site accommodation village have been considered.

Recommendations

The State Government and associated infrastructure service providers need to work together to facilitate infrastructure and housing facilities. The proponent also has a role to play in the provision of suitable housing for contractors and subcontractors to service the mining sector. The limited on-site accommodation contractor numbers and the discrepancies in the data provided by the proponent show that there may be greater numbers than accounted for and/or the need for additional accommodation for indirect workforce.

The failure of the EIS to consider alternatives to the on-site accommodation village and the FIFO arrangement does not meet the Terms of Reference, nor does it adequately assess the social and economic impacts of such an arrangement.

Further consideration of alternatives, particularly during the construction phase are required.

Further information and planning detail is required on the accommodation of all direct and indirect workforce.

Response

AEIS Volume 1, Part 9.14 SIA;

- Table 2.3 - Workforce Profile - Epsilon Mine
- Table 2.4 - Workforce Profile - SGC Mine
- Action Plan 1 - Housing and Accommodation, the objectives of which are;
 - Providing accommodation solutions for the SGCP workforce (permanent and contract) and facilitating the provision of housing in Alpha for a small number of senior SGCP personnel;
 - implement with other stakeholders, an evidence based housing market monitoring program to monitor the adverse impacts of the SGCP on housing affordability and availability in Alpha and surrounding areas; and
 - develop co-operative partnerships with other stakeholders to manage adverse impacts of the SGCP on the availability and affordability of housing in Alpha and the surrounding areas.

Refer to the response to Issue 18.028.

10.18.079 Port Access

Comments

Any long-term 'Port' access would be subject to GVK obtaining approvals to expand the capacity of T3.

Recommendations

There is no current proposal to expand the capacity of the GVK APCT and there is no indication of additional capacity or export allowances to facilitate the SGCP. As the APCT is in an extremely sensitive environmentally significant area any significant increase in capacity will likely trigger an additional EIS as the terms of the current conditional approvals are restrictive to ensure that these values remain. The SGCP EIS has not demonstrated that there is approval or capacity under co-location arrangements to ensure the project viability nor have they addressed any additional impacts which their project and or transport will create. Additional approvals and processes have not been noted or addressed to meet this proposal.

Response

Part 3 of the AEIS presents the scheduling restraints for the SGCP development including the port capacity at Abbot Point. Stages 1, 2 and 3 will not occur until port access at Abbot Point is obtained. Port allocation and access is subject to a separate assessment process.

10.18.080 APCT Rail Access

Comments

The SGCP would not support its own rail line connecting to the APCT. 'Third party use of an already proposed rail line significantly mitigates the environmental, social and property impacts of rail line development and avoids duplication of impacts'.

Recommendations

The GVK Hancock railway proposal as part of the Alpha Coal EIS did not incorporate provision of operational capacities from mines other than Kevin's Corner. The existing GVK Hancock proposal does not include the intention by the proponent to transport 9-14 rail loads per week (15-20 Mtpa) through third party access.

That report also noted that additional capacity may be possible however this would require a duplication of the railway for which there are no current plans. Further information is required from the proponent and State Government to ensure that there is more than an intent for a single user railway but appropriate environmental assessment, stakeholder and landholder consultation and approvals.

Response

The logic applied to issue 18.079 also applies to the railway between the Galilee Basin and Abbot Point. Access agreement matters were well advanced with GVK at the time the EIS was presented for Public Review. The rail spur required for the SGCP from the mine site to the proposed alignment by Waratah is included in the SGCP EIS. That between Waratah and the point where it crosses the GVK alignment is contained in the Waratah EIS. The balance of the railway alignment is in either GK's or Waratah's EIS. Capacity is available with additional passing loops.

10.18.081 132 kV Electricity

Comments

The Proponent will be responsible for the construction of a 132 kV electricity transmission line from the proposed Waratah/SGCP Substation to the northern boundary of MLA 70453.

Recommendations

No details have been provided on who will supply power to employees residing in Alpha.

Response

Power supply will be subject to a separate assessment process. Refer to response to issues 10.18.057 regarding staff power for Epsilon. Operational power for Epsilon will be generated on site. Stages 1, 2 & 3 will be developed only when an external power supply is available to site.

10.18.082 External Water Supply

Comments

The majority of raw water for the SGCP will be provided from an external water supply.

Recommendations

No details have been provided on how water will be supplied, alignment and impacts/benefits. There is also no indication on how the proponent will co-locate water infrastructure.

Response

Refer to AEIS, Part 3 Scheduling Constraints, Stage 1, 2 and 3 will not commence until a suitable external water supply is available.

10.18.083 Workforce Source

Comments

The SGCP workforce will fly in to and out from the Alpha Aerodrome.

Recommendations

See section comments S2.2.2.8.3.

Response

Refer to Part 3 Scheduling Constraints:

- For the Epsilon stage personnel will be bused in and bused out from Emerald.
- Stages 1, 2 and 3 will not commence until suitable aerodrome facilities are available.

10.18.084 Central Rail Line

Comments

The Proponent proposes to utilise the existing Central Line Railway to transport the majority of the SGCP construction materials and equipment, where practicable, in order to increase efficiency and minimise potential impacts associated with road transport.

Recommendations

Rail haulage is dependent on a rail network via third party access, further planning is needed to demonstrate that the impacts have been measured and mitigated for the project. See also Appendix K comments. No details have been noted on the requirement for the proponent to have a 'standard gauge' rail, where the current Central Railway has a 'narrow gauge' and limited carrying capacity.

Significant upgrades to key sections and crossings, particularly those damaged or undermined during previous flooding are required before any ongoing heavy loads can be carried. Further information on the intended co-location including any transfer for narrow to standard gauge are required as based on the proponent's EIS these are likely and foreseeable and additional impacts should be assessed as part of the EIS process for SGCP. The additional construction impacts via road transport are dependent on rail transport during construction. Additional assessment of the alternative of road transport during construction is required.

Response

AEIS Part 2 details the introduction of Epsilon Mine. Epsilon which has a production of 3Mtpa of product, requires an upgrade of the existing narrow gauge line between Alpha and Nogoia River to transport product to the existing port facility at Gladstone. The upgrade of the QR Central Railway line will also see a significant amount of road freight to be diverted onto the existing railway. Refer to AEIS Volume 1, Part 9.12 Transport for

further information.

The upgrading of the existing line between Alpha and Nogoia River will be the subject of a future evaluation process.

10.18.085 Rail Transport

Comments

It is also anticipated that the majority of consumables and equipment required during operations would be transported to site on the proposed common user rail component

Recommendations

The current common rail proposals do not include provision for back loading of consumables as per the EIS process documentation. Please provide further information.

Response

Refer to response to issue 10.18.085.

10.18.086 Uneconomic Service Supply

Comments

Potentially making supply of services to the Galilee Basin uneconomic.

Recommendations

The previous EIS assessments for the Galilee Basin have not indicated that they are reliant on the SGCP to proceed and that there is no dependency.

Response

The EIS statement that the other proponents are dependant on the development of the SGCP is incorrect. A key addition of the AEIS for SGCP is "Epsilon Mine". This stage has been developed by the proponent as an innovate solution to the challenge of the remoteness of the site and lack of an existing dedicated coal haulage rail link to the coastal ports. The 'Epsilon Mine' is the only proposed development in the region that doesn't require extensive development of rail, port, water and power infrastructure. Instead the existing Central West railway will be upgraded and utilised for export of coal via Gladstone. The upgraded Central West line will then be used for operation freight haulage throughout the life of the mine, whereas the export of coal via this line will be limited to the Epsilon stage. Subsequent stages will export coal via a proposed new railway from the Galilee Basin to Abbot Point (by others).

The introduction of the Epsilon concept means that the existing Central West railway line can be used for supply of construction and operational materials throughout the Project. However, there are a number of upgrades (and a new spur line into the Project site) that are required before this line can be utilised. For this reason the supply of construction materials for the Epsilon Mine will be undertaken by truck. Following the construction

period of the Epsilon Mine, the upgraded Central West line will be utilised for supply of operation freight as well as construction freight for subsequent expansion stages and other mines.

The Epsilon Mine is a significant consideration for the SIA as it will provide the initial impetus for the resource development in the Galilee Basin. The negative social impacts of the mine at this scale are likely to be low. However, there is an opportunity for considerable positive enhancement of the project in this early phase, in terms of workforce and local and regional economic development, for subsequent phases of the project. This SIA Action Plan timings reflect this mine phasing and they will provide the foundation to commence implementation of key activities and planning for future phases of SGCP and other resource development in the Galilee Basin.

10.18.087 SGCP Not Proceeding

Comments

Consequences of Not Proceeding with the SGCP.

Recommendations

If the SGCP did not proceed there would not be a loss in local revenue of \$300,000-600,000+ pa est. based on information in the EIS. There would not be the unmitigated impacts on the local community and minimisation in noise, dust and vehicular impacts.

Response

If SGCP does not proceed then the SGCP is not a factor in terms of the regional economics and the environment when compared with those currently existing. The economics related to the development of the SGCP inclusive of Epsilon are presented in the AEIS Part 9.15 Economics.

10.18.088 Social Impact

Comments

2.3.1. Integration of Economic, Environmental, Social and Equitable Considerations.

Recommendations

See comments through reporting.

Response

Refer to response to issue 10.18.087.

10.18.090 Council Reference

Comments

The Jericho Planning scheme incorrectly references 'Jericho Shire Council'. The council is the Barcaldine Regional Council and the planning instrument is the Jericho Shire Planning Scheme.

Recommendations

Please correct information.

Response

The reference to Jericho Shire Council was incorrect. SGCP acknowledges that the Council is the Barcaldine Regional Council and that it administers the Jericho Planning Scheme.

10.18.092 Council Engagement

Comments

Nil

Recommendations

There is a lack of commitment to support and develop services and infrastructure within the EIS which leads from concerns from the community and council based on engagements BRC has had with the proponent in the limited consultation process. development of associated infrastructure and services.

Response

Infrastructure is not part of the July 2013 Social Impact Assessment Stage Government policy. AEIS Part 3 provides information on external infrastructure including water and power. The response to DAFF Submitter 10.8 makes reference to community access to the Epsilon communication tower.

Social impact management strategies have been prepared for each of the main social impacts identified in Table 3.2 (Section 9.10 of AEIS). These mitigation and management measures are detailed in four (4) specific Action Plans:

- V. Housing and Accommodation
- VI. Regional Business Development and Local Content
- VII. Workforce Management
- VIII. Community Safety and Wellbeing

Specific actions (mitigations to minimise negative impacts or opportunities to maximise positive benefits) as set out in Action Plans are detailed in Section 4, are shown in Table 3.2 (Part 9.14 of AEIS).

10.18.093 Freight and Passenger Rail Services

Comments

The Central West Regional Plan S6.1 notes the challenge of ensuring the continuation of freight and passenger rail services.

Recommendations

The proponent has not considered the impacts to existing freight and passenger rail services and there are no details on mitigation (e.g. increase costs for transportation, limitation on services due to mining demand, competition with existing business and commercial users).

Response

AEIS, Part 2 presents the Epsilon component of the SGCP.

AEIS, Part 3 explains that Epsilon is dependent on the upgrading of the QR railway and access to the Aurizon Blackwater railway system.

AEIS, Part 9.12 Transport.

Also refer to responses to issues 10.18.023, 10.18.026, 10.18.044 and 10.18.053. AEIS Part 9.12 Transport.

10.18.094 Social Baseline Study

Comments

The Barcaldine Regional Council Community Plan 2009 was developed in consultation with the local community.

Recommendations

See comments Appendix Q and R and Section 17 on Social Impact Assessment and draft Social Impact Management Plan. The EIS is highly dependent on the content of Community Plan which was developed for the local council prior to confirmation about expansion of mining in the Galilee Basin. There is an over-reliance on content within the document which has been taken out of context and used in place of formal and informal engagement relating to the South Galilee Coal Project.

Response

A social baseline study was undertaken by MET Serve on behalf of ACM to describe the existing social conditions within the SGCP study areas (local and regional) for the EIS SIA. This was informed by an extensive community engagement program undertaken as part of the EIS. The community engagement program that was implemented and key outcomes are summarized in Appendix D of the EIS also prepared by MET Serve. Relevant issues were addressed and incorporated in the EIS SIA.

Both the EIS SIA and community engagement activities have been used as a basis to prepare this revised SIA (Part 9.14 of AEIS). In addition the SIA sets out a more detailed Community and Stakeholder Engagement Plan (CSEP) framework for ACM to further develop prior to Phase 1. This approach that will be detailed in a CSEP and will ensure:

- SGCP maintains its reputation (social licence to operate) with key stakeholders;
- Key community and stakeholder concerns are identified;
- Key stakeholder roles and responsibilities are identified in relation to the SIA implementation; and
- Proactive and positive engagement with key stakeholders occurs throughout the duration of the project.

10.18.095 Mitigation Measures

Comments

SPP 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide

Recommendations

The proponent has not demonstrated fire fighting capacity during construction phase.

Response

The on site facility will comply with the Coal Industry standard. Refer to responses to DTMR, Queensland Health, DCR and QPS. The Emergency Response Plan will be developed in conjunction with stakeholders including the Balcaldine Regional Council. Construction and operation capabilities will be in accordance with the Coal Industry Standards. Operational on site Emergency Personnel, Equipment and Facilities will not be available for off lease incidents while mining is occurring.

10.18.097 Conceptual Mine Plan

Comments

Conceptual Mine Plan - Year 1.

Recommendations

The Conceptual mine plan for SGCP does not indicate the accommodation village nor development to the north east of the MLA. The landfill site is less than 1km from the raw water dam. The raw water dam appears to be situated less than 1km from the rail loop and load out facilities. There is no indication of the location of groundwater extraction (e.g. bores etc) as part of the essential water infrastructure, particularly for Year 1.

Response

AEIS, Part 9.1 Mine Scheduling presents the revised mine scheduling and related plans. These plans include the accommodation village.

Refer to response to issue 10.18.057 for further information on the delivery of the accommodation village.

The response to issue 10.18.002 provides information on water demand / availability.

Also refer to AEIS Part 9.3 Surface Water and Part 9.4 Ground Water for details on Water Management.

Also refer to response to AEIS Part 10 response to DNRM as Submitter 13.

10.18.098 Topography Lines

Comments

The topography lines have not been amended to reflect the mine plan e.g. surface ground level 400m in open cut pit. The landfill site is less than 1km from the raw water dam. The raw water dam appears to be situated less than 1km from the rail loop. The southern mine area includes rock placement between Sapling and Dead Horse creeks, however there are no additional sediment controls. The explosives storage facility is less than 2km from Dead Horse Creek. The drainage channel does not include controls, sediment removal or capacity storage. The figures do not include raw water pipeline as noted on utilities legend. HV refuelling is situated next to the drainage channels and may leach, release or spill into the open drainage channels. Additional controls should be considered to meet environmental, health and safety and compliance requirements. Fig 4.6 includes topsoil stockpiles on the light vehicle perimeter road (year 5). The encroachment of the underground mining toward Dead Horse Creek and across Sapling Creek are of major concern, particularly the potential for underground fracturing with groundwater infiltration or failure at creek. There are no access tracks or roads to vents indicated to the underground mining area. The topographical landforms with placement are not noted.

Recommendations

The figures should reflect the conceptual mine staging as mining progresses. A number of concerns and environmental issues have been noted and should be addressed prior to approvals being granted. Further information and clarification is required as noted.

Response

All facilities making up the mine will be designed by competent professionals to prescribed standards and will include local data where appropriate i.e. climate and geotechnical. The components will be subject to risk analysis and this exercise will identify the need for hazard removal / control such as leeching, sediment control, access, etc.

Mining under Sapling Creek and Tallarehna Creek does not now occur. The southern limit of mining is now North of Sapling Creek.

Refer to AEIS:

- Part 9.1 Mine Scheduling
- Part 9.2 Non-Diversion of Sapling Creek
- Part 9.3 Surface Water
- Part 9.4 Ground Water

10.18.099 Conceptual Mine Staging

Comments

Year 15+ includes extensive waste rock placement over vegetated areas and D2 seam underground excavations. The placement of waste rock is not a rehabilitative alternative to rehabilitation of subsidence areas. The ROM dump and sizing stations are situated between two drainage channels. There are no buffers between the drainage channel and Tallarehna Creek to the north-east. There is no indication of coal stockpile area or coal conveyor system to the rail spur loop. There are three water structures (pit water dam, sediment dam and drainage channel) intersected by a road in the north east corner which will likely have health and safety issues and potential accessibility issues. There are additional concerns that there may be mixing, cross contamination or release of dirty/contaminated water. There is no indication of Potentially Acid Forming (PAF) material locations or containment protection, including buffers.

Recommendations

The figures should reflect the conceptual mine staging as mining progresses. A number of concerns and environmental issues have been noted and should be addressed prior to approvals being granted. Further information and clarification is required as noted.

Response

Refer to response to issue 10.18.098

10.18.101 Land Acquisition

Comments

Stage 1 includes activities such as land acquisition 'prior to construction'

Recommendations

There are no mitigation or engagements noted for proposed land acquisitions. The impacts on the community are also required to be assessed with economic (loss agricultural income, local skills, segregation of grazing areas and land etc.), social impacts (loss local people, families and industry) and lack willingness to acknowledge via mitigation or compensation for reduced land values of properties adjoining but not within the MLA (particularly those within impact radius). The proponent has not demonstrated consultation and engagement regarding land acquisitions, nor review and mitigation of impacts. Purchase of properties is not a mitigation action to impacts from the mine as noted in the appendices.

Response

AEIS, Part 9.8 presents the SGCP tenure policy. The owners of the properties intended to be purchased have been advised of our intentions post the public review period of the EIS.

The SGCP is committed to managing direct social impacts as prescribed in AEIS Volume 1, Part 9.14 SIA.

Also refer to AEIS Volume 1, Part 9.15 Economics and responses to DAFF AEIS Volume 2, Submitter 10.4 to 10.8.

10.18.102 Surface Fleet

Comments

Indicative surface mobile fleet for construction Bus- 6, light vehicles (landcruisers and hilux dual cabs) 108.

Recommendations

The fleet vehicles exceed those noted in the traffic reporting Appendix K, including an additional 2 buses and large number of light vehicles. The information provided in the EIS is conflicting and requires clarification and potentially further transport assessment.

Response

AEIS, Part 9.12 Transport - presents the revised traffic study and other transport aspects. Section 9.2.2.5.5 details the transport method for personnel, Table 6 Transport (model split) for site personnel.

Also refer to the issues raised by DTMR AEIS, Submitter 10.15 to 10.17.

The offsite traffic study takes into account the fact that a number of site vehicles remain on site once on site.

10.18.103 Water Cart

Comments

Indicative surface mobile fleet for construction - water cart 1.

Recommendations

Only one water cart is proposed during construction and fails to demonstrate conformity to best practice and current environmental standards with multiple activities happening concurrently (e.g. access roads, construction rail, accommodation and surface excavation). The lack of water carts and wetting down infrastructure demonstrates lack of commitment to dust reduction and appropriate level of controls for a project which is occurring within 12 km of a residential centre and is already likely to be impacted by dust and airborne particulates. Strict conditions from the State Government and Co-ordinator General's office are needed in addition to requirements under the environmental authority. The proponent has not demonstrated a commitment to protecting the health and safety of workers or the local community. The BRC are extremely concerned that the lack of on-site controls will also compound cumulative impacts and request further detailed planning and consultation be undertaken prior to approvals.

Response

It is beyond the scope of the air quality assessment to review the adequacy or otherwise the numbers of plant and equipment to achieve the desired environmental outcomes.

It is noted the construction phase is typically much less intensive than the operational phase and involves smaller and lighter vehicles. All of which implies lower dust emissions. Furthermore it is expected that contractors on site will be responsible for dust control within their worksite and SGCP would be responsible for the common areas. Thus while it is not possible to be definitive at this stage, it is likely that more than one water cart would be on site during construction, some belonging to contractors, one belonging to SGCP.

AEIS, Part 9.9 Noise, Dust and Vibration , presents the revised Air Quality and Noise and Vibration Assessment.

AEIS, Part 9.3.5 present the revised SGCP Water Management Plan. The demand for water is significantly reduced with the introduction of Epsilon which is detailed in the AEIS Part 2. The resources to facilitate the demand will be provided.

AEIS, Part 9.10 Management Plans details the plan which will be developed. The Work Place Health and Safety Plan will be in accordance with Coal Industry Standards and will be developed in conjunction with Queensland Health. Dust monitoring in Alpha and on site has, and will continue. The resultant baseline data will be part of the compliance dust control management plan. Refer to responses to Queensland Health AEIS, Submitter 10.24.

10.18.104 Temporary First Aid Facilities

Comments

Temporary first aid, fire and emergency response facilities will be constructed where the MIA is proposed during the operations phase.

Recommendations

The temporary facilities are required and also need staffing, however no staff have been noted during the construction phase. Further information and clarification are needed, including staffing of the emergency facilities. The local emergency services as an alternative to adequate Health and Safety measures. Please respond.

Response

Construction and Operation medical and first aid facilities will comply with the coal industry standards. Epsilon mine is intended to be contractor operated and this operator will be the principle constructor. AEIS Part 9.14 provides staffing and workforce details.

The ERP is included in the AEIS, Part 9.11 Plans and also in responses to Queensland Health submitter 10.24 And DTMR submitter 10.15 to 10.17.

Refer to response to issues 10.18.057 for details on the accommodation village delivery strategy.

10.18.106 Production Schedules

Comments

The production schedule notes the peak total ROM coal production in years 10 and 17, however early production in the first 3 years is estimated to be 5.61Mtpa to 10.39Mtpa which will be highly reliant on third party access.

Recommendations

A realistic schedule based on confirmation of third party access and incorporation of approvals timeframes (e.g. export permits for coal quantities).

Response

AEIS, Part 2 - introduces the SGCP mining phase Epsilon. Epsilon is not dependent on external resource for water and power, and will utilise the upgraded QR central line to transport product to Gladstone. Epsilon is a small scale open cut contract mining operation. Epsilon can continue until the external requirement are made available.

10.18.110 Lighting Towers

Comments

Nil

Recommendations

See Section 7- land comments.

Response

The issue of illumination has been addressed in three ways:

- a vegetation corridor containing mature trees will protect the Capricorn Hwy;
- the topography inclusive of 7 Mile Ridge will screen the properties on the east side;
- the tenure policy will acquire those properties which will be affected by SGCP operations, properties not acquired are sufficient distance from site to not be affected.

10.18.111 Emergency Vehicles

Comments

Ambulance (1), fire/ emergency vehicles (4).

Recommendation

There were no emergency vehicles proposed during the construction phase. There are no 'spare' emergency vehicles in the Alpha Township and any reliance on existing community service provisions and the volunteer labour who assist these services will be a direct impact on the community. Any delay in response either to community member or mining operation may be life threatening and is not taken lightly by BRC and the community. The proponent has not proposed to mitigate this impact. The community noted during consultation and engagement with ACM and similar comments to other proponents that they expect mining activities to assist in attracting and improving emergency and health services.

Response

Refer to the AEIS:

- Section 9.14 SIA, Action Plan 4 - Community Safety and Well-being in particularly 1.6 to 2.0 which details disaster and emergency management.
- Section 9.10.15 Emergency Response Management Plan.

10.18.112 PAF Material

Comments

All potentially acid forming (PAF) material will be selectively handled where practicable to ensure that the potential for acid rock drainage is limited. The EIS indicates that PAF will be quarantined, or separated, stockpiled together and then capped.

Recommendations

The sensitive handling of PAF is required to ensure that there is no contamination or off site impacts. Appropriate controls and mapping to indicate PAF placement is essential particularly in the post mining phase.

Response

AEIS, Part 9.3 Surface Water, Part 9.4 Ground Water and Part 9.6 Geochemical presents the reassessment and/or new study for each.

Refer to response to DNRM as submitter 10.15 to 10.17.

AEIS, Part 3 details the scheduling constraints, including that of the external water supply.

Also refer to the responses of 10.18.002, 10.18.044, 10.18.0752, 10.18.082 and 10.18.103.

10.18.113 Mining Safety

Comments

The roadways will form the ventilation passages and provide access for personnel, machinery and other equipment. A series of pillars will be left in place to support the overlying strata and protect the roadways as mining proceeds.

Recommendations

With highly volatile coals and 350m width underground mine panels additional venting should be considered and included in the engineering design prior to approvals. Whilst fewer surface disturbances will assist in rehabilitation there is a greater risk with lack of access from external points with collapsing of goaf. Any methods need to be best current practice based on available technologies and resources and be upgraded as technology progresses. The elevated risk of entrapment and collapse with panels up to 5,000m in length and depth of cover of 140m.

There are concerns about the selected methodology and controls which are indicated. The proponent has assumed negligible gas content however the EIS documentation indicates otherwise, particularly near to the seams. Details to demonstrate adequate ventilation, health and safety accessibility, maintenance access and underground air quality are needed prior to approvals and are not dependent on later processes. The DFS should be used as a period to refine plans rather than an opportunity to develop them. Mine ventilation modelling should have also been included in noise/dust assessment, further

assessment of impacts and appropriate mitigation measures are needed. This needs to include seam gas and potential mitigation measures for seam gas including possible capture and treatment. Seam gas should also be considered also in the greenhouse gas assessment and carbon outputs for the mine.

Response

The response to issue 18.098 addresses the design regime of the SGCP components; they include safety. Similarly, the operation of the mine will comply with the Coal Industry Safety Standards.

10.18.114 Underground Mining

Comments

The underground mining with utilise 2 longwall machines in Stage 2 however only 1 mobile bolting rig.

Recommendations

BRC ask if this is correct or if 2 bolting rigs will be used as the seams will be mined concurrently according to the EIS.

Response

Up to two bolting rigs will be used.

10.18.115 Dam Sizing

Comments

A dewatering system comprising electric and air operated pumps will be used to pump accumulated water through mains dewatering pipelines to storage facilities or dams on the surface.

Recommendations

The dams are not sized to accommodate 10-20ML a day and the pit water dam is up to 8km from the southern underground excavation area.

The proponent needs to demonstrate that water management measures are adequate. This also needs to include provision for water treatment if required, however the waste water treatment is nearly 2km away from the pit water dam. Storage volumes also need to have capacity for additional surface flows, rainfall and runoff.

The proponent will also need to account for power outages and reliance on alternatives for pumping.

Response

Refer to responses to issues 10.18.112 and 10.18.098.

The responses to Queensland Health in AEIS as, Submitter 10.24, includes water and waste water treatment.

10.18.116 CHPP

Comments

The CHPP will operate 24 hours per day (hr/d), seven days per week with a ROM coal feed capacity of approximately 2,000 tph.

Recommendations

The 24 hour operations, particularly close to an inhabited area will have impacts on local community and this may also impact on local businesses. This includes potential impacts on the agricultural industry. The proponent may need to consider review of shifts and periods of time without operation (such as peak noise/dust) periods. There is no indication that the proponent has accounted for down time, hazardous condition control nor additional time for maintenance outages.

Response

Mine scheduling is based on 330 working days per year. The ERP referred to in AEIS Volume 1, Section 9.10, recognises that operations may be disrupted in certain circumstances.

10.18.117 24 Hour Operations

Comments

Nil

Recommendations

The TOR note: 'Coarse rejects will be deposited to a stockpile adjacent to the CHPP, while tailings material would be pumped to a tailings dam for future rehabilitation. Overburden will be stockpiled in out-of-pit spoil dumps and will also be used to partially backfill the pits'. The details in the EIS vary from the TOR. Please respond.

Response

Refer to the response to issue 10.18.003.

10.18.118 Reject Coal

Comments

Reject coal product disposal to pit

Recommendations

Disposal of coal rejects into the pit heighten the risk of collapse and development of voids. The voids may also hold or distribute water through cracks or fracturing and potentially contaminate or alter the aquifers. There is a potential for irreversible impacts and the alterations to topography and landforms on the surface add to the potential. Although the EIS has indicated that there will not be impacts the use of reject coal in the pit and the recharge rates will increase pit water levels over time and for hundred or more years. The disposal of rejects in pit need consideration of placement to minimise land slips, erosion, dust generation and contamination (such as acid leaching).

Response

The AEIS Part 9.6 Geochemical and 9.10 Management Plans address the handling off PAFF material inclusive of coal rejects.

AEIS Part 9.6 evidence of PAFF material, other than coal is minimal and that where it occurs is known. This enables the management plan which will contain the PAFF material within the spoil dumps, both in and out of pit, with at least a 10m non PAFF buffer. The design batters of the in pit and out of pit dumps are based on onsite geotechnical characteristics and will be stable.

10.18.119 Slurry Separation

Comments

Includes slurry separation of between 2235 m³/hr to 6176 m³/hr at process stages.

Recommendations

Although the process indicates that slurry will be separated, provision is needed or process downtime and also for maintenance periods.

Response

Refer to response to issue 10.8.116.

10.18.120 Product Stockpile

Comments

Four product stockpiles with a capacity of 230,000t each.

Recommendations

At maximum capacity there will be approximately 920,000t. Appropriate controls are required to manage these stockpiles. Further details on stockpile management and wetting down for dust control and conveyor system.

Response

AEIS, Part 9.9.2 Air Quality and 9.9.3 Noise and Vibration presents the revised SGCP assessments.

AEIS, Part 9.10 presents the templates for the Management Plan, refer to MP 10.2 Air Quality.

10.18.121 Internal Road Use

Comments

On site, light vehicle roads and haul roads will be unsealed.

Recommendations

There is no indication from the EIS about speed limitations for unsealed roads and reliance on management controls for safety and dust. Other Galilee Basin proponents have indicated maximum on-site speed restrictions and it is expected that the SGCP also adopt best practice in the utilisation of unsealed roads also. There is concern that the surface materials are prone to loss of trafficability with minimal rainfall and particularly where no hard surface is installed or the heavier the vehicle. In order to maintain sustainability and year round operation it is recommended that the proponent review heavy trafficked or essential internal haul roads. Loss of productivity from access to unsealed areas will likely impact on the proposed benefits of the project and may result in delays or damage to infrastructure/vehicles.

Response

AEIS, Part 9.12 Transport, presents the revised Transport assessment

- Section 9.2.9.5 Transport Management Plan, which will be developed in conjunction with DTMR
- Section 9.2.9.8 Road Use Management Plan, which will be developed in conjunction with DTMR and other stakeholders.

10.18.122 Upgrades to Local Roads

Comments

The upgrades do not include local roads as indicated for upgrade.

Recommendations

The proponent has not indicated which local roads will be accessed. Also there is an indication that an additional intersection upgrade with turning lane may be required at Alpha in addition to the mine access road. Based on the traffic indicated and the additional EIS measures which have not been assessed there is likely to be a larger contribution to traffic utilising the turn-off than has been estimated.

The missing information or sections 'to be detailed in later planning' indicates a larger number of vehicles and loads than has been considered as part of the EIS assessment.

Further information is required.

Response

AEIS, Part 9.12 Transport,

- Section 9.2.7.40 describes the Intersection Analysis of the Capricorn Highway / Clermont - Alpha Road / Shakespeare Street intersections.
- Section 9.2.7.4.3 describes the proposed mine access road intersection lane configuration and directional movement.
- Section 9.2.9.1 Proposed Tee-Intersection design, states "The proponent will liaise with DTMR to develop a suitable intersection configuration for site access off the Capricorn Highway and for the integration of the new railway with the Capricorn Highway."

10.18.123 Mine Access Intersection

Comments

installation of a new auxiliary left turn lane on the Capricorn Highway for the mine access road turn-off.

Recommendations

If an auxiliary turn off lane is required a corresponding merge lane on the alternate side of road is needed for vehicles and road transport exiting the site to safely merge (speed and visibility) and to ensure that there is a safe turning distance for lane crossing across a main road. These measures would include provision for heavy, oversized and other similar vehicles and minimise peak daily impacts. Further information and assessment is required.

Response

Refer to response to Issues 10.18.122.

10.18.124 Train Movements

Comments

Approximately two diesel trains per day would be required to transport product coal to the APCT. Each train would consist of four locomotives and 182 wagons (the Proponent and Bandanna Energy, 2011). Product coal trains will generally operate continuously, 24 hours per day, seven days per week for approximately 330 days each year. It is anticipated that the majority of bulk consumables and equipment required during operations would also be transported to site on the common user rail line. The existing Central Line Railway will be used to transport the majority of the SGCP construction materials and equipment (9 loads per day construction).

Recommendations

The assumed operations and capacity of the two current proposed third party rail lines is not consistent with the proponent's proposed rail. The Hancock GVK does not include capacity for dual rail or greater than 60 Mtpa Waratah propose a 300 day operation, not 330 days

None of the current proposals include detail on connection to SGCP, although with further assessment and investigations with potential formal EIS process for change in scale of project and variance in the TOR.

Please respond.

Response

Refer to response to Issue 10.18.080.

10.18.125 SGCP Rail Spur

Comments

The figure shows: SGCP Rail Spur terminating at the Waratah Common User Rail.

Recommendations

The terms of reference note: 'the SGCP will include the construction of a rail spur to connect to the proposed common user rail and port infrastructure that is currently under consideration for environmental approval by Hancock Coal Pty Ltd, Waratah Coal Pty Ltd and North Queensland Bulk Ports Corporation Limited'.

Details on the terminating of the rail spur are required and may have impacts on landholders etc based on rail alignment. The track and signalling, particularly to the common user rail component is not noted.

Response

Refer to response to Issue 18.080.

10.18.126 Air Services

Comments

A contract fly-in-fly-out (FIFO) air service provider will be used to transport the SGCP workforce to and from the site. The Alpha Aerodrome will be upgraded as required, with upgrades expected to be undertaken by the air service provider.

This is the entirety of the information provided in the project description by the proponent on Air. For a majority FIFO workforce this lack of detail is indicative of the expectation of third party (yet to be identified) to provide infrastructure, support and facilitation without any contribution by the proponent to mitigate the impacts.

As the FIFO is reliant on air transport, which exceeds the current needs of the community and business to service the 400+ local residents and largely is used for emergency access and evacuations, it is therefore considered that these impacts exceed the level of service for use without mining expansion.

Recommendations

No details of the FIFO arrangements and air service provider have been included. The contracting of an external provider also increases the indirect contractor and employment requirements.

The proponent has not provided details of the impacts for air transport and the contracting of services.

The expectations of upgrades to facilitate the FIFO workforce for the SGCP with the benefit in favour of the proponent with no mitigation, support or contribution is an assumption. The proponent has not engaged with the Barcaldine Regional Council on their airport service needs. The expectation that the community will directly facilitate an airport upgrade solely for the interests of the mining companies and the SGCP including the demands in the EIS (larger planes, additional runway/ runway upgrade resourcing, etc). The proponent has also failed to address the cumulative impacts of the FIFO component.

Please provide firmer detail on likely utilization of the Alpha Aerodrome which are required in order to support the expansion of the mining industry in the region and to enable BRC to maintain or develop the airport facilities and infrastructure at an appropriate level to cater for demand.

Just as the SGCP are required to 'provide capital to increase the capacity of common user rail infrastructure' the utilisation of the public airport for private interest would likely require capital investment or similar contribution. The proponent has indicated that their expectations exceed the current level of service and purpose of the facility. This also increases the impacts from infrastructure, resourcing, business, staffing, security, transport, hours of operation etc. Any contribution could be used as an offset and potentially discounted from airport costs, Royalties or other similar State or Federal payments as considered by prior arrangement.

The impacts from any upgrade to meet the requirements of the SGCP FIFO component

are to facilitate the nearly the entirety of the workforce (99.95%) and it is up to the proponent to mitigate these 'facilitated' impacts. Based on the proposed 115 person aeroplane (larger than other proponent proposals) an entirely new duplicate runway may be needed. It is more likely that smaller planes with an increase in flight numbers will be required unless a significant contribution is made by the proponent. There is no detail about the maintenance staff increases and additional flights etc required. It is assumed that no transport, freight or materials will be brought in by air to the Alpha Aerodrome as there is no detail in the EIS and thus no such allowances are made.

The proponent has not provided any detail to BRC regarding their intended contractor, loads, frequency, participation, seasonal fluctuations, shift structures (all FIFO) and expectations for contractors and subcontractors to access the airport. The cumulative impacts of an additional 17 to 30 flights has not been included and the proponent accommodation village is likely to be located within 3-5km if as indicated. There is no indication that the proponent has considered its proximity to the existing airstrip on the location, design, layout and mitigation controls for the accommodation village.

Response

Epsilon will be bus in / bus out from Emerald airport.

The SGCP approach is to utilise the upgraded Alpha Aerodrome to service its FIFO work force. Its development is presented in the response to issues 18.076.

Responses to issues 18.006, 18.016, 18.044 and 18.049 relate.

AEIS, Part 4 identifies the external to site infrastructure that will be subject to a subsequent approval process.

Refer to response to Issue 18.028.

10.18.127 APCT Access

Comments

The APCT is currently undergoing significant expansion as part of the X50 project to increase capacity to 50 Mtpa. ... There is potential for the SGCP to secure interim and long-term port capacity at GVK's Abbot Point Terminal 3 (T3). Any long-term access would be subject to GVK obtaining approvals to T3 expansion.

Recommendations

HC IPL proposes to develop the T3 Project to enable the export of up to 60 Mtpa of coal delivered by a standard gauge rail line from new mines in the Galilee Basin. The proposed development includes both onshore (coal stockpile catering for throughput of up to 60 Mtpa).

The expansion in addition to the Hancock GVK proposal has not been part of the recent preliminary documentation or SEWPaC process, nor as part of the documentation

provided for public comment for the T3 terminal. There is variability in the expectations for coal production from the different projects and there is only a proposal for 60Mtpa noting the combined quantities from Hancock Coal, Kevin's Corner as the main contributors. Nowhere does it mention the South Galilee Coal Project or agreement.

The proponent assumes that the APCT will be subject to an additional EIS, however there is no current EIS nor additional export capacity outside of the 60 Mtpa currently proposed.

Further information is required from the proponent.

Response

AEIS, Parts 3 and 4 address the Abbot Point capacity aspects. It will be the subject of a subsequent approval process. Access to T3 capacity status with GVK was as for rail access in response to issue 18.080, at the time the EIS was lodged.

10.18.128 Air Quality

Comments

Air pollution from operations is expected to be confined to rising dust.

Recommendations

The impacts of dust have not been contained within the site or mining lease area based on the modelling. In addition to the health impacts there is a potential that air impacts may impact or even close the aerodrome. The EIS does not fully assess the impacts, particularly on infrastructure such as aerodrome and roads.

Response

AEIS, Part 9.9.1 presents the revised SGCP Air Quality Assessment.

AEIS Part 9.10 Management Plans presents MP10.2 Air Quality Management Plan.

Also refer to response to Issue 10.9.007.

10.18.129 Coal Fires

Comments

In the event of coal fires developing, additional localised impacts on air quality due to the emission of smoke and gases would be expected.

Recommendations

There is insufficient detail about potential impacts and management of coal fires. With the local town situated 8-12km from the mine and rural residences surrounding the lease area this is an essential requirement for air quality assessment.

Response

Refer to the AEIS, Section 9.10, MP10.17 which details the commitment to develop a Fire Management Plan which will be implemented prior to SGCP operation.

10.18.130 Waste Rock

Comments

The total waste rock volume for the life of the SGCP is estimated to be approximately 970 Mbcm. As described in Section 4.5.3, waste rock will be removed by the draglines and spoiled in previous mine strips.

Recommendations

The disposal of waste rock in the mine strips with limited capping materials (100mm to 300mm) and no designated base treatment is of concern. The waste rock has the potential to cause acid mine drainage, contribute to groundwater contamination and leachate (particularly with any fracturing, preferential pathways and surface water interaction with pit). Further information and detail is needed to demonstrate appropriate management including further testing as current results are based on limited materials testing and have reportedly been concentrated in the northern portion of the site.

Response

Refer to response to DEHP as submitter 10. AEIS, Part 9.6 presents the Geochemical Assessment of the SGCP, a post EIS document. The testing method adopted; i.e. continuous testing for the full depth of the holes; provides both the location and extent of the PAF material. Part 9.6 also describes how the PAF material will be managed. The location of the PAF material is known, its extent in relation to the non PAF material (inclusive of coarse and fine processing wastes) is also known. Placement of the PAF within the non PAF material will provide adequate containment. The information to date will be augmented with further operations drilling information, in advance of mining. The PAF material management plan will include ongoing geochemical assessment and ground water quality management. The plan will comply with sound industry practices.

10.18.131 PAF Horizon

Comments

the roof within 5 m of the D1 seam appears to be the main PAF horizon, with a number of other lower capacity PAF horizons associated with coal seams and also within interburden between seams D1 and D2. PAF materials are likely to be fast reacting, with little or no lag time (days to weeks) once exposed to atmospheric conditions.

Recommendations

The vague details provided regarding PAF and limited testing noted are of concern. No estimations have been provided of the quantity of PAF materials and there is no

proposed designation of area(s) for dedicated stockpiling and disposal with appropriate management controls.

Response

Refer to the response to issue 10.18.130.

10.18.132 Geochemical Characteristics

Comments

Geochemical characterisation of the coal rejects indicates that this material is likely to be mainly PAF.

Recommendations

The coal rejects handling needs to be considered as per comments 4.7.2.

Response

Refer to response to issue 10.18.103. Coarse and fine processing wastes are identified as PAF material and are included in PAF Material Management Plan presented in the AIES Part 9.10 as MP 10.11.

10.18.133 Water Management

Comments

Nil

Recommendations

The separation water management has not been fully described and there is conflicting information through the EIS and in reference to the TOR.

Response

Refer to response to issue 10.18.003. The Water Management Plan in AEIS, Part 9.3.5 and responses to DNRM as submitter 10.13, also address this matter.

10.18.134 Waste Rock Emplacement

Comments

The mining truck fleet will transport rejects to the waste rock emplacement facility, where they will be covered with a 10 m NAF cover.

Recommendations

The details of what will be placed at the bottom of the rock emplacements is needed. Also there is lack of consistency with overlying material and limited geological reference with

locality for source of NAF materials and scale provided in geological figures (1: 100,000 to 250,000). The 'NAF' material if not properly characterised may contain other materials with PAF. The compaction targets are not indicated nor are the batters (1:3 avg) likely to contain the erosion.

Response

Refer to the response to issue 10.18.130.

10.18.135 Recyclable Waste

Comments

recyclable waste which will be transported off-site by recycling contractors

Recommendations

There are no off-site waste disposal transport movements noted in Appendix K. Also there are limited recycling providers in the mines and most require long transport distances. The SGCP should focus on the waste management hierarchy of controls including avoidance, reuse and recycling prior to any consideration of disposal off-site.

Response

Refer to response to issue 10.18.095, 10.18.067, 10.18.036 and 10.18.026.

AEIS, Part 9.12 provides for offsite waste transport and the development and implementation of the RUMP where such movements will be included.

10.18.136 Regulated Waste

Comments

regulated waste (e.g. chemicals, engine coolant, gear lubricant, solvents, contaminated soil and tyres).

Recommendations

The disposal of regulated wastes is of concern. More appropriate management should be considered. The end disposal of tyres on site is not supported and may contribute to additional fire risks in a bushfire prone area.

Response

Refer to the response to issue 10.18.135.

10.18.137 Local Employment

Comments

The SGCP will be a FIFO operation, with personnel housed in an accommodation village located within MLA 70453.

Recommendations

Based on the information provided the SGCP does not intend to be a local employer. The SGCP and proponent have not demonstrated full consideration of locals or encouragement of local participation. Whilst there are a number of concurrent projects these will be conducted over 30+ years.

This does not meet the community and council engagement feedback, fails to address the TOR and will not be sustainable for 33+ year operations.

Response

The responses to issues 10.18.033, 10.18.059, 10.18.077 and 10.18.088.

AEIS, Part 9.14 Action Plan 3 - Regional Business Development and Local Content.

10.18.138 Accommodation Village

Comments

The accommodation village will be located in the north-eastern corner of MLA 70453 (refer to Figure 4-13), approximately 4 km from the mining operation. TOR: ...however, options for development of housing in Alpha or nearby townships for part of the workforce will also be assessed. The project proposes to utilise the existing Alpha airstrip for employee and/or contractor air transport requirements. The Alpha airstrip is a sealed airstrip located approximately five kilometres west of Alpha.

Recommendations

The proximity of the accommodation to the mining operation, landfill area and rail load out facility. The modelling of dust and noise impacts notes that the accommodation is likely to be impacted and the control measure is to close the windows and use air conditioning. The controls noted should be the last line of defence .

It is recommended that a review of placement of the accommodation village be considered, including the proximity the highway, mining facilities including landfill (odours/air quality) and the Alpha Aerodrome (noise). Areas outside of buildings will still be impacted and the impacts and health risks have not been mitigated. TOR Note: location of any proposed buffers surrounding the working areas (for construction and operation) .

The preferred control for the community and to ensure that Alpha becomes the mining workers region of choice, (particularly in such a competitive market), is that accommodation impacts are addressed through appropriate siting of accommodation and associated facilities and that sleep disturbances and dust impacts are minimised. Workers

will also be able to enjoy outdoor areas also which is particularly important for night/ underground shift workers.

Based on the 3 to 8 senior management employees to be locally based, it is suggested that variety of dwelling types be accommodated for as part of that development to promote and enhance the community including:

- House or semi-detached units/ townhouses
- Accommodation suitable for couples and families

It is possible that this accommodation if not in use by staff may assist in base for SGCP local contractors or subcontractors.

The terms of reference for the accommodation have not been met, nor the concerns of the community and council regarding segregation of the workforce and lack of integration or opportunities for the local community for direct employment.

The directly employed workforce are noted as 750 which would leave a contract workforce of more than 113% (850).

Response

AEIS, Part 9.9 Noise, Dust and Vibration, Section 1.9.

The location of the Accommodation Village is shown on drawing which follows, within the boundary of the MLA 70453, will provide an environment consistent with industry standards. Management plans as presented in the AEIS Part 9.10, include monitoring commitments. The Seven Mile Ridge obstructs line of site between the village and the mine workings. The dust management plan and the on site ERP recognises the importance of the village environment. The prevailing winds are also favourable to the site.

AEIS, Part 9.9 further addresses the noise, dust and vibration aspects of the proposed mining operations.

AEIS 1, Part 9.14 presents the Social Impacts Assessment matters related to the development of the SGCP and responses to items 10.18.033 and 10.18.077 further confirms that “locals” are not excluded from the workforce.

It is beyond the scope of the air quality assessment to assess alternative accommodation locations. The assessment indicates that the accommodation village exceeds the desired PM_{10} air quality goal for one day per annum. This only occurs when the accommodation village is downwind of the operations. To ensure that this exceedance does not occur management would increase watering effectiveness when the accommodation village is downwind of operations. Thus for almost all days the worker can enjoy outside recreation and the outside air quality complies with the goals to protect health and welfare.

Since compliance with external noise level goals was demonstrated, it was not considered necessary to discuss possible mitigation measures. There are some opportunities to improve the air quality at the accommodation village. Planting and maintaining a dense planting of trees close to the accommodation village and between the accommodation

village and the operation will encourage mechanical turbulence, ie any wind will have to lift to go over the trees or around the ends of the plantings. This promotes mechanical turbulence increases the dilution of dusts in the air. In addition in the immediate vicinity and downwind of trees, where the air is still, it encourages dust fallout. Hence a dense planting of trees is a mitigating factor to mitigate dusts.

10.18.139 Accommodation Village

Comments

The accommodation village will be accessed from the Capricorn Highway. Typical accommodation village facilities include the following:

- ensuite accommodation
- restaurant
- laundry facilities
- multi-purpose sports courts
- gymnasium
- swimming pool
- recreational lounge rooms
- theatre
- pool hall
- parking
- stores
- maintenance and service buildings.

Recommendations

A detailed layout plan is needed to illustrate the accommodation village, associated infrastructure and connection to services (e.g. sewer/septic) and power.

Although the EIS notes typical features it is not clear what the proponent intends to install/ implement for the accommodation village.

Based on the constraints of the area it is not clear how water will be sourced, treated and managed to facilitate a 'swimming pool', particularly as the accommodation is likely to receive particulate deposition from the mine. Where will the facilities be located?

Please address in relation to the proposed SGCP and not a general list of typical features. There is no indication about worker access to information technologies or ways to be involved with family etc whilst part of a FIFO regime.

Any additional needs created by the accommodation village which have not been considered (e.g. additional treatment chemicals, need for more transport or outsourcing of services) will likely create additional impacts such as traffic and transport, quarry materials, concrete etc. Further information is required to meet the TOR, address community concerns and ensure that appropriate mitigation measures are in place.

Response

Drawing which follows is a schematic layout plan of the proposed accommodation village. Full details including all utilities will be provided to council as part of the building approvals process post the Co-ordinator General's report.



01 160 PERSON CAMP LAYOUT PLAN

1:400

10.18.140 Peak Energy Requirements

Comments

Estimated peak energy requirement during construction is approximately 1,950 kW per annum. Construction power will be supplied via stand-alone diesel powered generators.

Recommendations

have the generators been modelled as part of the noise assessment and where will they be located? What will be the hours of operation for the generators and how many will be used? Are the proposed generators sufficient to cope with an emergency or

Response

AEIS, Section 2 presents the Epsilon mine stage of the SGCP. On site generated power will supply the operation. The design recognises the remoteness of the site, the distribution network capitalises on a multiple generator concept, and generator capacity is inclusive of safety capacity margins. The specifics of the generators required for construction, will be determined by the principal constructor. The construction contract conditions will be to industry standards and the generators will be sound proofed to comply.

10.18.141 Water Management

Comments

Nil

Recommendations

Further information is required on quantities and water management. The spill flow releases into Alpha and Tallarehna creek are of concern.

Response

AEIS Part 9.3 Surface Water, Part 9.4 Ground Water and Part 9.5.3 Water Management Plan.

Also refer to responses to DNRM as submitter 10.13, and responses to 18.002, 18.003, 18.064, 18.069, 18.070, 18.073 and 18.112.

10.18.142 Surbiton Hill Substation

Comments

From the Surbiton Hill Substation, 132 kV electricity transmission lines will extend to Kevin's Corner and Alpha Coal Project. Powerlink Queensland plans to have the Galilee Basin Transmission Project completed by early 2014, subject to mining investment decisions. Powerlink's Galilee Basin Transmission Project is subject to a separate environmental impact assessment and approvals process, and as such, the electricity

supply to the SGCP on-site reticulation system does not form part of this EIS.

Recommendations

There are no local power stations with sufficient capacity, nor other sources of supply, including the Ergon network. Coal mining projects of the proposed coal quantities cannot proceed if power is unavailable. It is understood that ACM have not made a Connection & Access Agreement with Powerlink, nor is there documentation for a connection from Surbiton Hill or the nearby Waratah project has not been considered as part of current EIS processes.

The proponent has failed to assess the impacts of the off-site operational power and cannot rely on the existing Ergon network which does not have sufficient capacity or reliability to service the existing rural/ residential users.

The power link would impact local landholders, potentially stock route, main road/ local road networks, other proponent(s)/ power providers etc. Please provide further information as to how the feed line to the north of the MLA 70453 has been assessed, impacts and mitigation measures.

Response

AEIS, Part 4 evidences that the external power supply will be subject to a separate assessment exercise. No reliance has been made on the existing Ergon network.

10.18.144 Process Water

Comments

maximising the recirculation of process water to be utilised within the CHPP and for dust suppression

Recommendations

The process water can contain contaminants which can then be released.

Response

AEIS, Part 9.9.2 Air Quality, which presents the revised Air Quality Assessment. AEIS, Part 9.3.5 Water Management Plan which details the SGCP Water Management.

It is understood that the water used for dust control will be fit for purpose and will not cause a build up of contaminants. Specifically the residue in the water to be used for dust control (i.e. after the water has been evaporated away) will have a chemical composition similar to the road dusts. Hence the water may be used for dust control and will not change the chemical trace concentrations in the road base etc.

10.18.145 Water Efficient Practices

Comments

Implementing water efficient work practices and recycling in order to keep the consumption of raw water to a minimum.

Recommendations

There is limited detail on water efficient practices and recycling options, including descriptions for suitability for purpose.

Response

SGCP is committed to minimising water consumption and maximising water recycling. The Water Management Plan will achieve this and comply with the industry safety and health standards.

Refer to AEIS, Part 9.3.5 Water Management Plan.

10.18.146 Release into Tallarehna Creek

Comments

The MIA, ROM dump, stockpiles and sediment dams spill/ release into Tallarehna Creek and Alpha Creek.

Recommendations

The water management schematic indicates spill discharges into the local creek network. This is not sustainable and will likely impact on the town of Alpha which is the downstream.

Response

AEIS, Part 9.3 Surface Water has reassessed surface water aspects for SGCP. Surface run off from the materials handling, processing and management facilities of the mine will be captured and redirected to containment facilities.

Also refer to Queensland Health submitter 24 responses.

10.18.147 Pit Notations

Comments

The notations to Pit S, N and C are not noted in the location plans.

Recommendations

Further information is required.

Response

AEIS, Part 9.1 Mine Scheduling present the mine plans and schedules.

10.18.148 Sediment Dam

Comments

10 year ARI event, 24 hour storm to allow sufficient time for 0.05 mm diameter (coarse silt) particles to settle. S4.11.3 notes 10,000KL of treated waste water a day will be transferred to the sediment dam.

Recommendations

The 10 year ARI will not be sufficient to retain high flows or remove sediments prior to discharge, particularly when the sediment dam receives contributions with contaminants. There is no information regarding maintenance or management of sediments. There is information about the level of treatment which will be undertaken for the wastewater and there is no indication of a WWTP contributing into the water management system.

The risk of contamination also includes biological and chemical contaminants and it is likely that in high rainfall events there will be little capacity with little to no residence time. A waste water holding dam is required as a first barrier. The proposal to input wastewater into the sediment dams does not provide a secure barrier protection, particularly in rainfall. An average of 3.65 GL of wastewater will be generated per year as calculated from information provided.

Response

This issue will be addressed in the Water Management Plan, the commitment and basic content of the plan is described in the AEIS, Section 9.3.5. The Water Management Plan will be implemented prior the commencement of SGCP.

10.18.149 Saline Dams

Comments

Four saline water dams are proposed to store mine affected water. SGCP to undertake controlled releases from the water management system to the receiving environment in order to balance the mine water inventory during periods of high rainfall.

Recommendations

Saline water dam details have not indicated dam sizing, mitigation and will add to compound impacts. The salinity may irreversibly affect land productivity.

Response

The design of the saline water dams will be carried out once financial approval for the project is received. The dams will be designed in accordance with current standards, guidelines and regulation by suitable qualified professionals.

The management of the dams will be incorporated in the Water Management Plan which is referenced in the AEIS, Section 9.5.3, the plan will be implemented prior to the commencement of SGCP.

10.18.150 Controlled Water Release

Comments

the controlled water releases will be undertaken in accordance with an approved procedure and in compliance with Environmental Authority conditions.

Recommendations

The proponent should not rely on environmental releases or 'relaxation of conditions' to control additional water from extreme rainfall/runoff and flooding events. The EA conditions are not waived lightly and in the view of multiple mines proposed in a small green field area the cumulative impacts would likely cause damage with potential to be irreversible (such as salination, impacts to good quality agricultural lands, deposition of metals and cumulative loading to downstream systems with ultimate release to the Great Barrier Reef).

Response

The management of the Saline Water Dams will be incorporated into the Water Management Plan which is referenced in the AEIS, Section 9.3.5. The proponent is committed to the implementation of the Water Management Plan prior to the commencement of SGCP.

10.18.151 Mine Pit Water Storage

Comments

The mine pit may be used to store excess runoff entering the pit during, and after, very large rainfall events. Water will be stored for a short period of time, subsequently being used in the CHPP or for dust suppression.

Recommendations

The downtime related to pit water being placed in the mine pit will likely occur for more than a 'short period of time' where only 8ML day used. Based on similar situation in the Alpha Coal test pit it took many months for the pit water dam to be dry. In very large rainfall events it is unlikely that dust suppression would be required and that discharge of water for dusts would make areas untrafficable, particularly for heavy machinery. Even the EIS noted issues with accessibility, safety and trafficability in the wet season.

Response

The mine pits are protected by event Q_{3000} event levees. If the pit is inundated with direct rainfall or to store excess water mining will cease. It is noted that the dewatering of the pit will take some time to achieve.

10.18.152 Raw Water Dam

Comments

The Raw Water Dam will store raw water for use during construction and operation (including use at accommodation village). The Raw Water Dam will accept and store water from the external water supply. The Raw Water Dam will be located south of the rail loop.

The water level in the Raw Water Dam will be maintained to ensure that a minimum of seven days storage is available at all times. Potable water will be supplied by the potable water treatment plant, located adjacent to the Raw Water Dam.

Recommendations

The adjacent water treatment plant requires separation to ensure that treatment chemicals and bypass water does not enter the raw water dam. 7 days storage would need to be between 17 ML during construction to 100 ML in year 10. Further information is required on sizing and construction.

Response

AEIS, Part 9.3.5 Section 4 present the Surface Water Management details. It addresses:

- Saline Water
- Waste Rock Rundoff
- Raw Water
- Clean Water
- Groundwater

10.18.153 Drainage Channels

Comments

The drainage channels will have a gradient and cross-sectional shape and size such that peak velocities do not lead to local erosion. The detailed engineering design of the drainage channels will be determined during the DFS process.

Recommendations

The drainage channel design has significance and indicative details on the 'gradient' and 'cross-sectional shape and size' should be included in the EIS. The detailed engineering needs suitable planning and understanding of gradients is a key element. There is a lack

of scale appropriate topographic information in the EIS which will be needed to assess velocities and to minimise erosion.

Response

Refer to response to:

- DEHP as submitter number 10.10
- DAFF as submitter number 10.4 to 10.8.

All structures will be designed by experienced professional engineers to industry standards and the design will take into account specific local conditions such as geotechnical, climate and land use.

Also refer to response 10.18.098.

10.18.154 Pit 4

Comments

to maintain Pit 4 in a safe condition.

Recommendations

Pit 4? There are no details nor pit numbering in any figures in Section 4. Please provide further explanation.

Response

Refer to response to issue 10.18.147.

10.18.155 Construction Water

Comments

Up to approximately 900 megalitres per annum (ML/a) of raw water is expected to be required for the SGCP during construction and a peak of approximately 5,172 ML/a during Year 10 of operations.

Recommendations

A large amount of raw water is needed and it is estimated that there will be 2,000 to 3,000 ML bore water for the construction phase with potential for additional extraction if there are delays in sourcing water or if additional water is required.

Response

AEIS, Part 9.3.5 Water Management Plan.

AEIS Part 3 presents the scheduling restraints applicable to the SGCP development. SGCP stages 1, 2 and 3 will not take place until an adequate external water supply is available.

Also refer to response to issue 10.18.002.

The quantities stated in the EIS have been reviewed.

10.18.156 Construction Raw Water

Comments

Raw water for construction activities will be sourced from groundwater bores located within MLA 70453. On-site raw water dams will be constructed to store water from these bores in order to maintain 7-day supply.

Recommendations

As above. Also con potable water consumption for construction is not noted, however 675 ML/a is estimated.

Response

Refer to issue 10.18.155.

10.18.157 Potable Water

Comments

Up to approximately 84 ML/a of potable water will be required for domestic and underground mining activities.

Recommendations

The daily operational potable supply of 0.23 ML average is required. Details on treatment type/ rates are not provided.

Response

Refer to the response to Queensland Health as submitter 10.24.

The treatment of the external water will be determined once its quality is known. The operational water supply will be addressed as part of a separate assessment process.

10.18.158 External Water Supply

Comments

It is estimated that a 3,000 ML/a allocation from the external water supply will be sufficient to meet SGCP water demand until the commencement of Stage 3 operations.

Recommendations

There is limited detail on water quantities which have been verified against mine demands and detailed processes. Further confirmation is needed.

Response

Refer to the response to issue 10.18.155.

Refer to AEIS, Part 9.3.5 Water Management which reassesses SGCP water uses.

10.18.159 External Water

Comments

In the stages that the external water supply is operating, raw water requirements vary from approximately 658 ML/a to 1,138 ML/a.

Recommendations

Runoff from disturbed areas has been indicated for alternative water source.

Response

Refer to issue 10.18.158

10.18.160 Bulk Lubricant Facility

Comments

'Bulk lubricant facility' - controls and communications building.

Recommendations

Not noted on Figure 4-13.

Response

The bulk lubrication storage is within the MIA.

10.18.161 Waste Water

Comments

Nil

Recommendations

The sewage and wastewater controls proposed need review and additional considerations.

Response

Refer the response to Queensland Health submitter 10.24.

10.18.162 Fuel Structures

Comments

Hold up to approximately 60 t of initiation products (i.e. detonators and primers).

Recommendations

There are limited details on the decommissioning of fuel structures. Further detail is required for operation and decommissioning.

Response

Refer to response to issue 18.160.

10.18.163 Geotechnical Assessment

Comments

The exact location of which will be determined following geotechnical assessment.

Recommendations

Geotechnical assessments undertaken for the EIS should provide sufficient information to denote characteristics, potential use and relationship to quantities and type of materials needed for construction and operations. Assumption of a borrow pit in one area may cause impacts to another area if not assessed. There is the potential that the borrow pit could add to impacts from dust/noise and debris. Any limitations on the material type, quality and characteristics may raise need for alternative source either on or off-site. Further information is required prior to approval.

Response

Refer to response to issues raised by DAF as submitter 10.4 to 10.8. The EA will place limits on ground disturbance. Any disturbance outside these areas within the lease will be the subject of further approval. The geotechnical investigation to date indicates that the disturbance areas nominated will be adequate. Any off lease quarry requirements will be dealt with as part of a subsequent assessment.

10.18.164 Fuel Storage

Comments

Assuming all fuel storage is diesel, there is an estimated 5.116 ML fuel to be stored on-site

Recommendations

Regular inspections should be conducted weekly and more frequently in adverse weather. Spill controls and a regular maintenance schedule with appropriate controls is needed. This includes pressure testing the lines at regular intervals (to ensure contained and no leaks or potential hot points). Additional redundant lines and /or tanks are required for maintenance, holding and integrity testing. Results of the monitoring and testing should be provided to regulatory authorities and listed on the EMS with annual reporting.

Response

AEIS, Part 9.10 Management Plans, presents information on the Fuel Storage Management Plan. The design of the fuel storage facility will comply with industry standards which recognise the risk associated with spill controls.

10.18.165 WIFI Connection

Comments

Nil

Recommendations

The proponent's representative has offered that ACM will connect the Alpha Township to wi-fi / broadband. This would be a benefit to the community and local business and indirectly assist in servicing the mining expansion.

Response

The response to issues raised by DAFF as submitter 10.4 to 10.8 advises a communications tower will be part of the Epsilon establishment. This facility is available to others if it is within its design capacity. The external power supply will include a fibre optic cable that could be accessed by others.

10.21. Private Submitter

10.21.001 Water Supply Protection

Comment

Concerns for long term protection of the water supply to current and future bores and how legislation for the boundary of the Great Artesian Basin has changed, allowing SCG and other mining companies less restrictions on the use of underground water.

Recommendation

Mine to be held accountable for loss of supply of groundwater in a 40km radius of mine site. Purchase of property for above market value of supply of permanent, quality water for agricultural / domestic use (including pumps required to obtain use). All mining proposals concentrated in a particular area must be held accountable for any loss of supply / quality of existing bores in that community, not just where the mine is

Response

AEIS, Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS - Section 3.3 Monitoring, Evaluation, Reporting and Improvement , states:

- “The SGCP will develop alternate water supply agreements with landholders who will potentially be impacted by mine dewatering, as identified in section 3.2.3; and
- “The Proponent will seek to reach mutually agreeable arrangements with affected neighbouring groundwater users for the provision of alternate water supplies throughout the mine life, and after mine completion while aquifer recovers.”

This is further reinforced in the “Commitment Register”.

10.21.002 Flood Levees

Comment

concern is the impact of flood levies will cause in terms of flooding and erosion caused from change of watercourses, contamination, introduced weeds flowing down from mine site; and the effect reduction in downstream flows may have on our ground water supply (ie refill). Also the increase of silt flowing downstream could cause increased damage to fences in the creek and silt up the waterholes and cause a flow on effect to Great Barrier Reef. In the event land is affected, what protection will neighbouring property have?

Recommendation

SCG need to be held accountable for downstream damage to environment and to neighbouring infrastructure. Include compensation for repairs or control of weeds etc

Response

The SGCP revised Water Management Plan is described in the AEIS Part 9.3.5. The Flood Levees will be designed by competent engineers to the required design event.

The revised SGCP Flood Model is presented in the AEIS Part 9.3.2.

10.21.003 Dust Monitoring

Comment

impact likely to be significantly higher due to incorrect marking on map - what protection measures are put in place

Recommendation

Dust monitoring site to be out on "Eureka" compensation / relocation if house is affected

Response

The revised Air Quality Assessment is presented in the AEIS part 9.9.2.

Approval for the rail infrastructure will form part of a separate approval process.

10.21.004 Sensitive Receptors

Comment

sensitive receptors are inaccurate for "Eureka" homestead, as the location of the homestead is marked incorrectly on table 12.4 and 12.5. Concerned that the affect that blasting: noise and vibrations will have on the welfare of family and cattle

Recommendation

sensory monitor to be put on "Eureka"

Response

The revised SGCP Noise and Vibration Assessment is presented in AEIS Part 9.9.3.

The maps used in the EIS show Eureka Station Homestead in the wrong location. The official Government Topographical Maps were used to locate Eureka Homestead and this error was carried through into the EIS. The location of the homestead has been now positioned correctly and confirmed from aerial photography. The AEIS places Eureka Station Homestead in the correct location and impact of dust on Eureka Station homestead for the modelling stages considered in the EIS are reassessed in this AEIS Part 9.3.3, Table 10.

10.21.005 Local Business Impacts

Comment

increase pressure on agricultural landholders to source and retain staff It's likely that property will be unsaleable due to SGCP, this will affect ability to obtain financial loans or sell property for a reasonable price. Excluded as an affected landholder because across the highway from mine

Recommendation

Purchase of "Eureka, Oakleigh, Corntop" or fair compensation

Response

The Land Tenure Policy is contained in the AEIS Section 9.8.

Section 9.16 of the AEIS presents the commitment register which includes a "Make Good Commitment."

10.21.006 Demand on Services

Comment

what will SGC do to add value to community - a greater demand will be placed on hospital / emergency and internet services

Response

The SIA acknowledges the GB Roundtable has been identified as the primary mechanism to address cumulative impacts. Proponent will also work with Queensland Health and other health providers and other Proponents to ensure ongoing understanding of the capabilities and needs of local and regional health services; refer AEIS, Part 9.14 SIA to Community Safety and Wellbeing Action Plan 2.1.

10.22 Department of Education, Training and Employment

10.22.001 Consultation

Comment

Officers from S&E have not met with the proponents. The consultants for SGCP did meet with Skills Queensland and representatives from the Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (DATSIMA) in November 2011.

Recommendation

There needs to be further consultation and a specific time for the delivery of an updated WMP.

Response

Refer to response to submission 10.19.001. Refer to AEIS, Part 9.14 SIA.

10.22.002 Government Changes

Comment

The machinery of government changes have resulted in changes to many Departments names

Recommendation

The entire document needs to be updated to reflect the correct nomenclature for government departments

Response

Noted and amended in the AEIS Part 1.10 and Part 6.

10.22.003 Skilling Strategies

Comment

Employment and skilling activities and strategies to be developed include;

- Apprenticeships
- Mining and non-mining related training
- employment diversity strategy which will include disadvantaged groups
- FIFO strategy

- Indigenous employment

Recommendation

The table notes that these strategies will be developed in partnership with the WMP Working Group.

DETE has not received a request to participate on this group as a stakeholder. This should be amended. Skills and Employment (S&E) would be happy to represent DETE on this group. Please contact Catherine Grainger on 3237 1806 or catherine.grainger@dete.qld.gov.au for assistance in arranging this.

If as part of these strategies SGCP will be using the Industry Capability Network. They may be interested in a new initiative the Black Business Finder which may assist SGCP in identifying Indigenous businesses that can be harnessed into the supply chain, to enhance Indigenous business capacity.

Response

Refer to AEIS, Part 9.14 SIA.

Consultation held with DATSIMA and DETE December 2013. In the AEIS SIA WMP, Indigenous participation is referenced in Actions 1.6, 1.7,1.8. Apprenticeship and opportunities for young people are included in Actions 2.3, 2.4, 2.5. SGCP will adopt a predominately FIFO strategy as per HAP Actions 1.2,1.3, 1.3, 2.2. Equal opportunity and access to training and opportunities for indigenous are referenced in WMP Actions 1.9, 2.0, 2.1. and Regional Business Development and Local Content Action Plan 1.1, 1.3,1.7, 1.8.

10.22.004 Community Partnerships

Comment

Examples of strategies for community partnerships

Recommendation

The examples provided of community partnerships undertaken on other projects, around skilling, training and employment are well within the scope of what would be expected in a WMP. S&E support the development of these types of strategies in particular the intention to work with other mining companies to develop cumulative skilling and employment responses. It may be that by the time this project has FID, SGCP will be able to link in to an existing networks developed in the Alpha region by other proponents. S&E would be happy to assist if this opportunity arises.

Response

Refer to AEIS, Part 9.14 SIA.

Reporting is a key requirement of new SIA guideline and as such KPI's have been included for all actions included in AEIS SIA Action Plan. A Review, Monitoring and Reporting framework is also included in the AEIS SIA.

10.22.005 Monitoring framework

Comment

Monitoring framework

Recommendation

S&E can assist in the development of KPIs and targets. SGCP must include KPIs and targets in any contractor or subcontractor arrangements.

Response

Refer to AEIS, Part 9.14 SIA.

Reporting is a key requirement of new SIA guideline and as such KPI's have been included for all actions included in AEIS SIA Action Plan.

A Review, Monitoring and Reporting framework is also included in the AEIS SIA.

10.22.006 Breakdown of Skills

Comment

The plan contains a comprehensive breakdown of skills and occupation and a table which indicates where the fly-in fly-out (FIFO) workforce would be sourced from.

Recommendation

Further analysis must be undertaken to examine if/ where there are likely to be skills and labour shortages. Although the Plan currently indicates what the labour / skills demand will be, there are no attached strategies or mitigations to ensure the demand is met, these must be developed.

The table showing where FIFO labour is likely to be drawn from is an excellent inclusion, however it also needs to be matched to strategies in the source communities to attract, and train the workforce. S&E would be happy to provide assistance in the development of these strategies. We can provide assistance in linking to the Industry Workforce Connect Coordinators in the Wide Bay Burnett, the Gold Coast and Cairns and provide assistance with identifying employment and skilling strategies to meet labour demand. If in the future SGCP will be seeking to source overseas migration arrangements with the Federal Government, evidence of strategies to meet labour demand, locally and nationally would be required. The development of these strategies must underpin any request for consideration of overseas migration.

Response

Refer to AEIS, Part 9.14 SIA.

Updated workforce profiles provided for key phases of SGCP (including Epsilon). Actions are referred to in the WMP - 1.1, 1.2, 1.3, 1.4, 1.5 1.9, 2.0 and 2.1.

10.23 Private Submitter

10.23.005 Alpha

Comment

In spite its contacts in the local area, the proponent continues to underestimate the role of Alpha which is the town at the centre of the coal mining ventures west of the Drummond Range. The town will be impacted by the actions of the proponent if it chooses to use Emerald as its Regional Supply Centre (17.5.3) While it is obvious that the proponent is seeking the most economical inputs, local businesses should be given the opportunity and encouragement to grow their businesses. To date, a Local Industry Plan is not available (17.7.3)

Response

AEIS Volume 1, Part 9.14 SIA, presents the updated SGCP Social Impact Assessment;

- Action Plan 3 - Regional Business Development and Local Content, the objective of which is:
 - To ensure local and regional businesses maximise growth as a result of SGCP;
 - To ensure local and regional business are given fair and equitable access to tendering opportunities.
 - To facilitate access to business opportunities to local and indigenous business.

10.23.008 Build Capacity

Comment

BRC needs support to build capacity to address the expansion driven by the coal mining industry.

Recommendation

If the proponent was to make a greater contribution to the provision of power, water, sewerage, housing and the development of the aerodrome (which is fundamental to its project) its inputs could/should be offset against the royalties, taxes etc. once it begins to profit from its endeavours.

Response

The proponent has committed to participating in Galilee Basin Roundtable. Local Area Infrastructure Program will addresses these issues at a broader level.

AEIS, Part 9.14 SIA details the revised SGCP Social Impact Assessment.

10.23.009 Workforce Accommodation

Comment

The proponent has declared its intent to accommodate its predominantly FIFO workforce in a proposed-built village, 4km from its proposed mine (Section 4.8) and some 8km from the town of Alpha. It also states (Section 17.5.7) that this will have a “slight to moderate impact on the cultural and community values” of the local area. No mention is made of the negative impact on the FIFO workforce itself and the worker’s families. Given the increase evidence from Western Australia in particular, that this practice has detrimental effects on FIFO participants and their relationships, it is time that greater emphasis was placed on mining companies such as the proponent, to provide family friendly accommodation close to the workplace.

Response

Refer to AEIS, Part 9.14 SIA.

SGCP is a 100% FIFO workforce. FIFO EAP programmes to be developed with stakeholders in source communities. If local employees are within 20 minutes of mine site they will not be required to live on site. Refer to Project workforce section of the SIA, HAP 1.5, 1.7, 2.1 and CSW Action Plan . The Community and Stakeholder Engagement Plan framework will assist proponent in establishing a good relationships local community. Community Safety and Wellbeing Plan contains specific actions; 2.6, 2.8, 2.9, as well as FIFO Family Support referenced in actions; 3.1, 3.3, 3.4, 3.6.

10.23.011 Local Employment

Comment

while AMCI “does not deny any local community member opportunities to work on the project” there is very little indication that the proponent will facilitate this (Section 14.3.11)

Response

Refer to AEIS, Part 9.14 SIA.

Proponent will develop a Local Employment Policy and specific actions to support this are referred to in the WMP 1.1, 1.4, 1.5, 1.9, 2.3,2.4 and 2.5.

10.23.012 Fatigue Management

Comment

the proponent states that the drive time to the mine site is, for safety reasons, 20 minutes. This makes a mockery that it may be possible to employ local landholders as most of them would take longer than that to reach the mine site.

Response

Refer to AEIS, Part 9.14 SIA.

Majority of workforce will be FIFO. If local employees are within 20 minutes of mine site they will not be required to live on site. Refer to Project workforce section of the SIA.

10.23.013 Apprenticeships

Comment

there is no guarantee that the proponent would offer apprenticeships or traineeships to local residents or their students (except for indigenous people who comprise only 6% of the total Regional Council area.) If this project is to benefit the local area, then there needs to be a greater emphasis on recruiting and training local people so that the improved skills base and financial security which ensue, flow through the wider local and regional community. It is ludicrous to suggest that the employment of either eight or six people in the community (Section 14.4) will substantially benefit the area

Response

Refer to AEIS, Part 9.14 SIA.

Consultation has occurred with DETE and DATSIMA. Actions are referred to in the WMP 1.1,1.4,1.5,1.9, 2.3,2.4 and 2.5.

10.23.014 Water Supply

Comment

the water supply for the township of Alpha is drawn from the gravel beds of Alpha Creek which underlie the settlement. There is considerable disquiet amongst the local population that the proponent's proposed mine will draw down a greater amount of groundwater than the 1-2 metres considered to be within the natural drawdown variability (section 22.5.2). However, given the anticipated growth of the development of its sewerage system. The pipeline from Moranbah bringing water from either the Burdekin falls dam (Lake Dalrymple) or from the proposed Connors Creek Dam is a necessity given the lack of sufficient water available locally.

Response

AEIS, Part 9.4 South Galilee Groundwater Model 2013 Update for AEIS - Section 3.2.3 Predicted Drawdown Effects due to Mine Dewatering - SGCP only, based on the development of numerical groundwater model shows the bores which will be affected by the mine's operation. AEIS Part 9.4 Figures 18 to 25 present contours of predicted drawdowns for the South Galilee project only.

10.23.015 Diversion Sapling Creek

Comment

the proponent's scheme to divert water from Sapling Creek to Dead Horse Creek will increase the flow along this stream by 47% (Appendix Section 4.4.3) increasing the velocity and potential for erosion in the downstream reaches of Dead Horse Creek, which is a tributary of Alpha Creek. Should the predicted increase in more violent storms and attendant flooding due to Climate Change occur, then there would also seem to be an increased risk of flow from the on-site storage dams at the proposed mine-site. Both of these events have the potential to affect the drainage of Alpha Creek and as a consequence, through flooding, could threaten the town of Alpha

Response

The diversion of Sapling Creek is not longer required. Refer to AEIS, Part 9.2 Non Diversion of Sapling Creek.

10.23.016 Flood Flow Conditions

Comment

the proponent itself is aware of impacts on infrastructure corridor in flood flow conditions from changes in patterns of overload flow

Response

AEIS Volume 1, Part 9.3 Surface Water details the revised SGCP Flood Analysis.



11. Post AEIS Submission

11. Post AEIS Submission

- Pursue an MCU after the State Government declares a state development area under the SDPWO Act for the Galilee Basin.
- Maintain liaison with stakeholders.
- Prepare secondary approvals applications in accordance with established protocols.
- Action tenure aspects.
- Continue ACM role in the development of the Epsilon supply chain.
- Formalise monitoring commitments into delivery packages.
- Formalise scope for design and prepare procurement documents.