

Wednesday, 1 December 2021

Hon Steven Miles MP
Deputy Premier
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Dear Deputy Premier,

Galilee Power Station – thoughts on proposed call in notice

Thank you for your letter dated 9 November 2021 attaching a copy of the Proposed Call in Notice (**Notice**) for the development application by Waratah Coal Pty Ltd (**Waratah**) for a material change of use and a 1,400 Megawatt (MW) ultra-supercritical (HELE - High Efficiency Low Emissions) power station and environmentally relevant activities (**development application**) made to Barcaldine Regional Council during 7 February 2020, in respect of land situated at 3260 Monklands Road, Alpha.

As you are aware the development application seeks approval for the development and operations of a 1,400 megawatt (**MW**) ultra-supercritical high efficiency low emissions power station (the **Project**), located on part of Lot 2 on SP136836, north-west of Alpha, Central West Queensland. The Project is contiguous to Waratah's Galilee Coal Project, which is a fully assessed and approved State Coordinated Project and will employ up to 4000 Queenslanders during construction and 2000 Queenslanders during operations. The Project will ultimately employ up to 90 Queenslanders permanently when operating.

As advised to the Hon. Premier Palaszczuk in our letter dated 27 May 2019 and at the meeting with the Hon. Anthony Lynham, the then Minister for Natural Resources, Mines and Energy on 21 June 2019, it is Waratah Coal's intention that the power station be a net-zero power plant from its initial commissioning.

As I understand you are writing to advise me that you are considering exercising your ministerial powers under the Planning Act 2016 (the Act) to call in, assess and decide the development application rather than the Barcaldine Regional Council (BRC) who through the State Assessment Referral Agency (SARA) has included all relevant state government departments and agencies that Waratah has engaged with over the past two and a half years; noting the first pre-lodgment meeting for the Project with SARA and all relevant agencies was held in April 2019.

You have requested I consider your Notice for the proposal to call in the development application, after inviting me to provide representation to you about the proposed call in.

Further, you request and have an interest in finding out my thoughts regarding Waratah's proposed Project if it involves a state interest and whether or not you as Minister should exercise your powers under the Act.

Thank you Minister for providing me with the opportunity of requesting my thoughts around the Project complexities, state interests and exercising your powers under the Act. I will endeavour to provide you with a full and comprehensive assessment of my thoughts.

My thoughts are best managed by providing information around the core subjects of:

- Economic and environmental state interests;
- Achieving the purpose of the *Planning Act 2016*;
- Waratah's activities to enhance the Galilee Power Station and achieving net zero greenhouse gas emissions;
- Advantages for Queenslanders and the Queensland State Government having a HELE net-zero power plant; and
- Human Rights Act 2019.

Economic and environmental state interests

1. *Application* will have a bearing of supply and pricing of electricity, being a matter of economic interest to the State:

Response

Waratah Coal's core business is mining. They are not power station operators. The application has been made to meet a need to supply reliable power to the approved mine and to the local area. It has become very evident in discussions with the Local Community that the existing power supply is unreliable and does not meet the reasonable expectations of the community.

If the consequence of increasing supply, the project places downwards pressure on electricity prices, and improves both access to, and cost of, power then this will be a great community benefit. Most importantly, the power will be base load, dispatchable and capable of being net-zero carbon at costs similar to current power prices in Queensland.

An ACCU at \$30/tonne implies an operating cost impact of around \$23/MWh (at a carbon intensity of 0.77 tonnes/MWh). We consider this to be very affordable cost impact in the context of emissions reductions and in the context of supplying base load power on a 24/7 basis.

The average financial year to date price in Queensland is \$80.85¹. The Galilee Power Project's target long term base load pricing is in the order of \$60/MWh (before carbon

¹ <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/data-nem/data-dashboard-nem> accessed 15 November 2021.

costs). The sum of the long run pricing plus offset cost, implies that the Galilee Power Project will be able to provide base load, net-zero power at around \$80/MWh, which means that the project will be able to provide net-zero, base load power, without adversely impacting power prices in Queensland and without any government subsidy.

2. Application will have a bearing on State's renewal energy target, ten-year energy plan and state and national commitments to achieve net zero emissions by 2050:

Response

The Galilee Power Project will be the first coal fired power project in Australia to use Ultra-Supercritical steam cycle, also known as High Efficiency-Low Emissions (HELE) technology thus minimising greenhouse gas emissions as much as is possible. When new, modern and efficient power plant replaces older plant, substantial carbon savings are made thus minimising greenhouse gas emissions as much as is possible while still providing reliable, affordable baseload (i.e. 24/7) power.

Compared with plant currently operating in Queensland, the Galilee Power Station will provide reductions in carbon emissions by between 15% - 22%.

At a national level, the Power Station has the potential to reduce GHG emissions of between 2,500 and 5,500 kt CO₂-e annually through the displacement of emissions from older, less efficient power stations. As such, the Project has the potential to positively contribute to State's renewal energy target, ten year energy plan and state and national commitments to achieve net zero by 2050.

Furthermore, Waratah Coal intends to offer its customers a carbon neutral product. The project will be capable of providing net-zero, base load, affordable power from commissioning. This will initially be provided through certified offset certificates (such as Clean Development Mechanisms under the Certified Emissions Reductions or Australian Carbon Credit Units). As the cost of these certificates increases, a conversion to carbon capture and reuse will be made. Waratah Coal are currently exploring options for carbon capture and re-use for implementation from (nominally) 2035. Subject to customer demand and government policy, the use of offset certificates and/or carbon capture could reduce the net carbon emissions from the plant to net zero.

Therefore the project supports the State's 50% renewable energy target, by providing 'the other 50%' as efficiently as possible. Even without offsets or CCUS, a new, highly efficient HELE power plant is able to substantially reduce the State's carbon emissions when compared to current technology and usage of lower grade coals; with offsets and CCUS, the project is able to achieve net-zero.

Waratah notes that the state's ten-year energy plan that you consider should be used for assessing the Project, has not been released by your state government and is not available for review. Without the release of this energy plan or the knowledge of its contents, it is not possible to use this 10-year energy plan as an assessment document or criteria, however should you provide a draft copy, Waratah will be more than pleased to provide a review of the project against this set of criteria.

2. *Application is of a scale impacting on regional employment opportunities including certainty of employment within the existing energy supply:*

Response

The project will create regional, high skilled jobs in clean energy, clean coal, carbon capture and storage and many supporting industries.

The lower cost, base load, dispatchable power is able to contribute to the State's ability to produce energy intensive metals such as Aluminium, Zinc and Copper with very low carbon intensities.

3. *Project is of a size and location that will impact on state and potentially national environmental significance, including ground water, threatened species, air quality, and greenhouse gas emissions.*

Response

Avoidance of impacts through siting of Power Plant

Due to the extensive work undertaken to support the Environmental Impact Assessment (EIA) for the adjacent Galilee Coal Project, which was approved by the Queensland Co-Ordinator General in August 2013, the environmental values of the Power Project site, and surrounding areas, are very well understood. In fact, at the time of the Galilee Coal Project EIS, the Power Project site was part of Mining Lease Application area, and so the site was directly considered in those earlier assessments. This work included comprehensive seasonal flora, vegetation and fauna surveys implemented across the Project site and the surrounding areas.

Key considerations in site selection for the Power Plant were avoidance of protected vegetation, waterways and habitat for threatened or migratory species. Using the information known from the earlier studies, the Power Station site was deliberately selected to lie above the 1:1000 ARI flood line and to be within an extensive area of cleared pastoral land which does not support suitable habitat for any of the threatened species that may potentially occur in the area. The selected Power Station site has been excised from the EIS ML area to create the now current ML area.

A site inspection of the Power Station site was undertaken by Astrebla Ecological Services in December 2019 to verify that the findings of previous surveys are still relevant. The inspection confirmed that there are no remnant Regional Ecosystems (REs) protected under the Queensland Vegetation Management Act 1999 within the disturbance footprint. Nor are there any significant watercourses. As such, there is no habitat for threatened species.

Avoidance of impacts through Project design

Design of the Project has sought to minimise air emissions, and the use of water to the greatest extent possible, using current world's best practice boiler technology, flue gas desulphurisation, and dry cooling to minimise water use. Maximum beneficial reuse of the ash waste stream is also proposed. It is Waratah's intention that, when commissioned, the

Galilee Power Project will be the cleanest coal fired power station in Australia, measured by any metric.

GHG Emissions

The Galilee Power Project will be the first coal fired power project in Australia to use Ultra-Supercritical steam cycle, Using this modern and efficient power plant enables substantial carbon savings to be made compared with existing plant, and thus minimises greenhouse gas emissions as much as is possible while still providing reliable, affordable baseload (i.e. 24/7) power. At a national level, the Power Station has the potential to reduce GHG emissions of between 2,500 and 5,500 kt CO₂-e annually through the displacement of emissions from older, less efficient power stations. As such, the Project has the potential to positively contribute to State's renewal energy target, ten year energy plan and state and national commitments to achieve net zero by 2050.

As described above, Waratah Coal intends to offer its customers a carbon neutral product and the Project is capable of providing net zero carbon emissions.

Other air emissions

The Galilee Power Project will be the first coal fired power project in Australia to incorporate flue gas desulphurisation hence minimising the emission of NO_x and SO_x. As such, the maximum predicted concentrations of NO₂ and SO₂ at any sensitive receptor are below the Queensland Environmental Protection (Air) Policy 2008 air quality objectives and criteria (see below).

Groundwater

Groundwater Quantity

The Power Station will employ dry cooling, which significantly reduces the amount of water required for operations compared to conventional evaporative cooling.

The Project will not contribute to any drain on regional water resources as it will beneficially reuse water obtained from mine dewatering of the adjacent Galilee Coal Project. Therefore the associated water license will be obtained by the Galilee Coal Mine Project, for which the water take has already been assessed and approved by both the Queensland Co-ordinator General and the Commonwealth Government (approval reference EPBC 2009/4737).

Groundwater Quality

In line with current best practice, the Waste Containment Facility will be fully lined with a double composite liner and the ash will be dry stacked, as opposed to a wet slurry, thus minimising potential impacts to groundwater via leaching.

As such, the Project will not impact on ground water.

Surface Water

The Project will not abstract any surface water. Nor will the Project discharge any water off site (i.e. the site will be a zero discharge facility) - as such, there will not be any impacts to surface waters as a result of the project.

Impacts of Matters of State and National Environmental Significance

Impact Assessment

Item 4, above notes that the *“Project is of a size and location that will impact on state and potentially national environmental significance, including ground water, threatened species, air quality, and greenhouse gas emissions”*.

As described above, there are no significant environmental values on the Power Plant site itself, hence there is no potential for any direct impact on any nationally or state significant environmental value.

Extensive work has been undertaken to ascertain the potential indirect impacts of the Power Plant on environmental values in the areas surrounding the site. This work has included assessments of ground water, threatened species, air quality, and greenhouse gas emissions. In particular, the following assessments, undertaken to support the Planning Application and/or the Environmental Authority Application, are relevant.

- Environmental Assessment Report
- Vegetation & Fauna Habitat Verification
- Air Emissions Assessments
- Noise Assessment
- Matters of National Environmental Significance Fauna Assessment
- Watercourse Determination
- Stormwater Management Plan
- Sewage Estimates & Sewerage Design
- Surface Water Environmental Values identification
- Groundwater Monitoring Program
- Water Balance Modelling
- Water Release Strategy (the site is a no-release site)
- Waste Stream Characterisation
- Proposed Rehabilitation Conditions

These assessments demonstrate that there will not be any significant impact on any matter of national or state environmental significance. These assessments have been discussed with the Department of Environment and Science (DES) on several occasions which has

enabled the formulation of draft Environmental Authority conditions (attached as **Attachment A**).

The findings of the assessments with reference to matters of State and National Environmental Significance are summarised below.

Air quality

Air quality modelling was developed by Katestone to assess predicted levels of a wide variety of air pollutants that could be affected by the Power Plant at all identified sensitive receptors (both human and biodiversity receptors were assessed) in the vicinity of the Power Plant. The modelling took into account cumulative impacts to the airshed as a result of the mining activities, both on the Galilee Coal Project Mining Lease and on those of adjacent mines. Modelled levels were referenced against the relevant air quality objectives (for both human health and biodiversity) specified in the Queensland Environmental Protection (Air) Policy 2008.

The modelling demonstrates that, when measured against objectives relevant to human health and biodiversity, concentrations of the air quality pollutants were well below nominated thresholds (objectives) in all locations, even under the worst case scenarios. Hence, the assertion that the project will *“impact on state and potentially national environmental significance, including ...air quality”* is incorrect as the modelling demonstrates there will be no exceedances of any of the air quality objectives set out in the Queensland Environmental Protection (Air) Policy 2008.

Noise

Acoustic modelling was developed by Acoustics RB to assess predicted levels of noise at the identified sensitive receptors as a result of the power plant operations. Operational noise levels were predicted for the “worst-case” situation (i.e. most adverse atmospheric conditions generating the likely highest level of noise emission, and no attenuation applied to the power station noise sources).

The acoustic assessment was carried out with reference to

- (i) the Queensland Environmental Protection (Noise) Policy 2019,
- (ii) the environmental noise assessment conducted as part of the Galilee Coal Project EIA,
- (iii) the Draft Environmental Authority EPML00571313 imposed on the approval of the Galilee Coal Project and
- (iv) other relevant considerations.

To ensure that the level of noise emission to the community was assessed for all relevant commonplace and likely worst-case atmospheric conditions, noise levels were predicted under five different scenarios. The results of the modelling showed full compliance with all acoustic quality objectives for all sensitive receptors under all scenarios modelled in accordance with Environmental Protection (Noise) Policy 2019 limits.

In terms of potential impacts of noise to matters of national and state environmental significance, there are no government or other widely accepted guidelines or measures setting out objectives for the protection of biodiversity in relation to noise emissions. As such, a review of the available literature with reference to noise and wildlife was undertaken by Austecology and from this it was determined that noise disturbances above 65.5 dB(A) are more likely to elicit strong behavioural responses in fauna species, and hence this was considered the threshold level above which a significant impact to fauna species would result.

The model outputs for the “worst-case” situation shows that the highest predicted noise level reduces to below 65 dBA within approximately one km from the centre of the power plant infrastructure footprint. As per the Austecology report, there is no habitat within one km of the Power Station that is considered suitable to support listed threatened species. The closest habitat considered suitable to support any of the listed threatened species that have the potential to occur in the vicinity of the Power Station is six km to the south-west of the Power Station site. The predicted noise level from the operation of the Power Station at this location is 35 - 40 dB(A) - this noise level is well below that associated with negative impacts to wildlife.

Therefore, there will not be any significant impacts to matters of state of national environmental significance as a result of noise emissions associated with the operation of the Power Plant.

Surface and Groundwater

It is recognised that, if not constructed or managed appropriately, there is potential for the proposed dams, waste containment facility and chemical storage areas to leach or spill contaminants to surface or groundwater. This is however, considered very unlikely, as these facilities would be designed and constructed appropriately, as required under several pieces of Queensland legislation and, as defined environmentally relevant activities (ERAs), would be regulated under the Queensland Environment Protection Act 1994. An Environmental Authority (EA) as issued by the regulator (DES) will apply and will set out the operational and monitoring requirements for these structures to ensure appropriate construction, operation and monitoring of these facilities.

Of particular note is that the ash storage facility will be lined with a composite liner comprising an upper component consisting of a geomembrane liner placed directly on top of a lower component consisting of compacted soil or clay with a suitably low hydraulic conductivity (i.e. double lined) – this is considered world’s best practice and will prevent the leakage of contaminants to groundwater. Note that a Groundwater Monitoring Plan (Orange Environmental) has already been submitted to DES as part of the Environmental Authority application assessment process.

In terms of surface water, the site has been designed to be zero discharge. All water that is brought to site (from the adjacent Galilee Coal Project), or that falls on site as rainwater is evaporated in the operation of the plant or embedded in the ash containment facility. Use of the dry-cooling technology means that the ash has the consistency of wet sand and so the ash will be dry stacked, as opposed to the wet slurry from older, conventional power stations. The ash storage areas have been designed so that the floor grades away from

the deposited ash and run-off water will be drained to the Ash Runoff Water Dam. Ash runoff water is then either utilised for dust suppression on the ash containment facility, evaporated or re-used in the ash system (i.e. no discharge).

There is very low chance of flooding affecting the dams and waste containment facility as the site is located above the 0.1% AEP (1 in 1000-yearARI) flood level.

Therefore, design and management of the dams and the waste containment facility will ensure no leaching of contaminants to surface or groundwater.

GHG Emissions

As described earlier, the Power Station has the potential to positively impact upon GHG emissions, via a reduction in GHG emissions of between 2,500 and 5,500 kt CO₂-e annually through the displacement of emissions from older, less efficient power stations. Subject to customer demand and government policy, the use of offset certificates and/or carbon capture could reduce the net carbon emissions from the plant to net zero.

4. *Project is designed and located in a manner that will minimise impact surrounding land uses, such as grazing and agriculture.*

Response

The Project is not located in an area of any special significance in terms of land use. The land use on the Project site and in the surrounding region and properties is predominantly low density grazing on improved pasture. The soils of the site and much of the surrounding area are Kandosols, which have low fertility which limits land use to grazing and native pastures. Grazing lands on Kandosols are susceptible to surface soil degradation such as hard setting and crusting even when grazing intensity is low. This has been observed on the Power Station site.

The Power Station Site covers an area of 1,310 ha. Within the 1,310 ha, 518 ha will be subject to disturbance in the form of land clearing and earthworks to facilitate the construction and operation of the Power Station. The Power Station site sits within Lot 2 on SP 136836, which is 6,365 ha. The properties surrounding Lot 2 on SP 136836 are of a similar size. As such, removal of a site comprising 1,310 ha, of which 518 ha will be disturbed, is a comparatively small area relative to the size of the surrounding properties.

As mentioned above, extensive work has been undertaken to assess the potential for indirect impacts of noise and air emissions to affect surrounding landholders – these studies have found that there will not be significant impacts to human or biodiversity receptors. As such, cattle and grazing would also not be affected.

Given that there are no off site impacts expected, and that the site removes a relatively small portion of grazing land out of an extensive area of similar land, the use of the site for purposes other than grazing does not significantly impact upon the surrounding land use of cattle grazing.

Achieving the purpose of the Planning Act

1. Application is being assessed against the former Jericho Shire Council planning scheme, adopted in 2006.

Response

A number of meetings were held with representatives of the Department of State Development, Manufacturing, Infrastructure and Planning (SDMIP) prior to lodging the application. The intent of these meetings was to discuss the Planning Pathway for the project and in particular whether it should be through the Local Council and referred to the State or whether it be lodged to the Co-Ordinator General. A timeline of the initial discussions is summarized below

Date	Material	Attached as
15 March 2019	Letter to the Department of State Development, Manufacturing, Infrastructure and Planning (SDMIP) to discuss the appropriate Planning Pathway	Attachment B
22 March 2019	Email from SDMIP stating that they were discussing the pathway and potential involvement of CG	Attachment C
24 April 2019	Pre-lodgement with SDMIP with the meeting minutes dated 10 May 2019 – all relevant state agencies in attendance who provided feedback. Note that SDMIP specifically excluded any discussion of the Planning pathway and instead suggested (via email from Dan Wagner) we call the Office of the Co-Ordinator General (Ms Kate Weir)	Attachment D
21 May 2019	Meeting with Barcaldine Regional Council to introduce project	
27 May 2019	Letter to Premier Palaszczuk outlining GPS & intention to produce carbon neutral, base load, dispatchable power at unsubsidised prices comparable with intermittent renewable technologies (such as wind and solar), and below current annual	

	average spot prices in Queensland	
21 June 2019	Meeting with Hon Anthony Lynham (& James Purtill, Matt Pitman, Katherine) to discuss GPS . No Govt funding requested and GPS will be carbon neutral; looking at various offsets.	
28 June 2019	Follow up letter to Hon Anthony Lynham seeking a response from his meeting with the Premier to discuss the project.	
13 August 2019	Meeting with SDMIP (Michael Allen, Matt Grant, Phil Joyce) on the different approval options and pathways for Galilee projects (pipelines and power stations)	
23 August 2019	Meeting with the Office of the Co-Ordinator General (Adam Geddes, Jillian, Cordane) to discuss application. Advised that the power station would be progressed through the MCU Process.	
7 November 2019	Meeting with BRC to discuss application and let Council know about upcoming SARA meeting.	
18 November 2019	Minutes and summary of issues from the second pre-lodgment meeting with State Agencies on 18 November 2019	Attachment E

As you can appreciate from the minutes of these meetings there was a great level of detailed consideration both from the State and Local Authorities into the consideration of the potential impacts of the application before the application was lodged in December 2019. Part of those discussions was the current Planning Scheme and the most appropriate method of considering the proposed Material Change of Use.

A discussion was held with the Co-Ordinator General's Department during the pre-lodgment period to consider the application as a Co-Ordinated project and whether this was an appropriate planning pathway. They explained how a coordinated project would work. They would not provide any suggestion that this project should utilise that process.

At the conclusion of these preliminary meetings and discussions, Waratah formed the view that consideration under the former Jericho Planning Scheme (i.e. the former area of Jericho – note that the Planning Scheme is still current) was appropriate as;

- the site is wholly contained within one Local Authority (Barcaldine Regional Council). Co-ordinated projects are useful where the project crosses one or more Local jurisdictions;
- the Local Authority, through their Planning Consultant (Reel Planning) have the capacity to assess the Material Change of Use. It should be noted that Reel Planning undertake the Town Planning Services for Numerous Local Authorities' including drafting Planning Schemes, assessing development applications and have also provided expert advice to the State Planning Departments so are adequately qualified to consider and manage this application.
- Based on our meeting with DSDMIP and the State agencies there are no significant impacts or concerns being raised that cannot be dealt with through the standard Planning Pathway. All matters raised by State Agencies were of a technical nature and Waratah Coal engaged the relevant experts to address the matters to the satisfaction of all government agencies.
- There were no matters of State Environmental Significance raised (wetlands, waterways, creeks, vegetation etc)
- Based on our review, there are no specific "Matters of State Interest" that would warrant a Co-Ordinated Project or Ministerial Call-In.

2. Application has not been anticipated by Jericho Planning scheme:

- a. The planning scheme categories an application for significant development with complex assessment requirements as code assessable, constraining the assessment and decision making considerations and processes for the application.**

Response

In most (if not all) Planning Schemes developed under the Planning Act, a *Utility Installation* would be Code Assessable. For example in the 2016 Central Highlands Planning Scheme, a *Utility Installation* would be Code Assessable in the Rural zone. Similarly, all *Renewable Energy Facilities* are Code Assessable and arguably require a similar level of consideration by a Local Authority given the loss of valuable agricultural land and the risks associated with the future revegetation of the land and disposal of solar panels.

The process adopted for the consideration of this application went well beyond the provisions of the Jericho Planning Scheme. The applicant undertook extensive community consultation and from that consultation provided a detailed Social Impact Assessment, the recommendations of which were to make up the development conditions. Community consultation is detailed in "Table 7 - Stakeholder Groups Consulted", of the Social Impact Assessment report for the Galilee Power Project, completed during July 2020. A copy of the social impact assessment report is located in **Attachment F**.

FROM SOCIAL IMPACT ASSESSMENT REPORT JULY 2020 - TABLE 1 STAKEHOLDER GROUPS CONSULTED

Stakeholder group	Consultation events
Barcaldine Regional Council	<ul style="list-style-type: none"> • Alpha district office manager and planning consultant, 9/6/2020 • Mayor and five councillors, 10/6/2020 • Deputy CEO, 12/6/2020
Schools and early learning	<ul style="list-style-type: none"> • Alpha State School principal, 9/6/2020 • School Chaplains Alpha and Jericho State Schools, 9/6/2020 • Jericho State School, 11/6/2020 • C&K Community Kindergarten, Alpha, 11/6/2020

Stakeholder group	Consultation events
Health	<ul style="list-style-type: none"> Alpha Hospital, 9/6/2020 Jericho Health Service, 11/6/2020
Police and Emergency Services	<ul style="list-style-type: none"> QPS Alpha and Jericho, 10/6/2020 QFES Alpha and Jericho, 11/6/2020 QPS and QFES Longreach, 12/6/2020
Community, local industry and landholders	<ul style="list-style-type: none"> Alpha Tourism and Development Association, 10/6/2020 Alpha Jockey Club, 11/6/2020 Alpha Golf Club, 10/6/2020 Seven business owners / operators, 9/6/2020 – 11/6/2020 Three landholders, 10/6/2020 and 12/6/2020

- b. The Rural Zone Code being the key planning scheme assessment benchmark, focuses primarily on the protection of rural activities and the rural amenity of the zone.***

Response

As noted above, the Rural zone would be the most appropriate location for uses involved in Energy Production. No zone is specifically created for this particular use, however by making this use and similar uses Code Assessable in Planning Schemes it reflects a reasonable expectation that this type of use would be located within a Rural Area as opposed to areas of predominantly urban uses.

The fact that the application was Code Assessable did not limit the Council's information request as it requested information such as a Social Impact Assessment which required public consultation to be undertaken.

- c. Planning scheme does not include a use code or other development codes for assessing a development of this type or scale; and***

Response

It is acknowledged that the Jericho Planning Scheme does not include a particular development code for assessing this type of development however there is no Planning Scheme which would include this type of development or a particular Code to deal with it. A Planning Scheme does not require particular development codes for each use. The assessment of the application with the Local Authority has allowed for a wide range of matters to be considered during the assessment including environmental, social, economic and cultural impacts.

It should be noted that the State has particular Codes through the Environmental Authority approval that are triggered by this application. Extensive discussions over two and a half years were held with the relevant State experts to address the particular environmental impacts.

- d. Due to the outdated nature of the planning scheme it does not appropriately reflect the current state planning policy, state interest of Energy and water supply, nor Regional Plan.***

Response

The age of the Planning Scheme did not preclude the consideration of Current State Planning Policy, State Interest of Energy and Water Supply nor the regional Plan. Two formal pre-lodgment meetings were held with State Planning Officers where the applicant requested advice on all matters that the State may have had an interest and considered relevant in the consideration of the application. The Planning Report and sub-consultant reports submitted with the application address all current State Planning Policies and the Regional Plan.

With respect to the *state Interest of Energy and water*, the proposed use has no impact on water supply, with all water being sourced from the adjacent mine. With respect to the impact on Energy, the purpose of the project, as expressed in the application material is to address a shortfall of reliable power in the area. It is not considered that a Ministerial Call-In would add further information which has not already been considered in the last two and a half years of consideration of the application by State and Local Authorities.

3. *The Minister is satisfied neither the planning scheme, the State Planning Policy or Regional Plan provide appropriate assessment benchmarks, to fully assess an application of this type, being significant development with complex and competing impacts and benefits.*

Response

As noted previously, the Barcaldine Regional Council and the applicant have not relied solely upon the Planning Scheme, The State Planning Policies or the Regional Plan to consider the Planning Application. The matters presented to both the State and Local Authorities address a wide range of potential Environmental and Social Impacts. The terms of reference for these studies have been determined through consultation with the appropriate State and Local Authorities and are very detailed and complex. Through this process the applicant has worked pro-actively with the Local Community (both directly and through their Elected Representatives) to address the impacts and benefits of the proposal. Most of these issues have been encapsulated within;

- Development conditions
- Infrastructure Agreement
- Draft EA conditions from the Department of Environment

The Barcaldine Regional Council and the applicant have identified planning issues and other matters of relevance to the Council and the region and have addressed these in the Infrastructure Agreement noted above. Items agreed and listed in the Infrastructure Agreement are those matters that cannot be conditioned through the MCU or development approvals. These matters are vital to the on-going survival and growth of the local and regional communities and include

- A permanent power connection to Alpha by constructing a new energy transmission line to and a new sub-station at Alpha to substantially improve the resilience and quality of the power supply to the Alpha/Jericho region,
- A substantial financial contribution to upgrade the Barcaldine sewerage treatment plant,
- A significant financial contribution to increase water treatment capacity at the existing Alpha water treatment plant,
- Yearly financial contributions to fund community organisations or projects at Barcaldine Regional Council discretion,
- Funding to bitumen seal a 11km section of Degula Road that may or may not be used by Project traffic,
- A substantial yearly financial contribution to maintain the Barcaldine Regional Council road network,

- A substantial yearly financial contribution to mitigate any local impacts to the Barcaldine Regional Council township of Alpha,
- Construct and maintain all existing and new roads that are considered Project roads, and
- A substantial financial contribution to the long-term planning of the future development of Alpha.

All these matters listed above will be 100% financed by Waratah and are additional to any conditions that Waratah will have to adhere to that are contained in any approvals relating to the Power Station.

4. *Key assessment material and assessment benchmarks available to SARA as referral agency (namely codes 21 and 22), are also considered to be inadequate to fully and properly assess this application.*

Response

In the two pre-lodgment meeting with State Agencies (including Planning) the applicant specifically requested a description of the material considered relevant. All information requested through this process has been addressed adequately through the assessment period. If there are further assessment material and benchmarks that are considered relevant to the consideration of the application, Waratah would be prepared to address these as part of the on-going assessment of the application. Waratah would continue to work pro-actively with all decision makers to assist in ensuring all relevant benchmarks are considered.

5. *Code-assessable application, the proposed development is not required to publicly notify. I consider to achieve a transparent and accountable system of land-use planning, the local community interested members of the public should be afforded the right to comment on a proposal of this magnitude.*

Response

The application has been publicly available on the Barcaldine Regional Council website and in the local Council office since lodgment (December 2019). The Barcaldine Regional Council area is large in area but has a small population which has allowed for this project to be widely discussed in the local area. Despite being Code Assessable, any member of the public can make a submission to an application which is considered by the deciding entity during the application Decision making period. In our experience Local Authorities put considerable weight in these submissions as the submitters do not have any Appeal rights to the Planning and Environment Court. To our knowledge despite the application being on the Council website and available for public viewing there have been no submissions made to Council objecting to the Material Change of Use. Our understanding is the Local Community support the proposal as it would create jobs in the area and help support local businesses.

In addition, as the application was Code Assessable, the Council requested a Social Impact Assessment be prepared in accordance with DSDSMIP *Social Impact Assessment Guidelines* dated March 2018. As part of this assessment there were a number of meetings with the local community (including landowners), local business owners, local State Service providers and elected representatives to understand the potential impact from this project and other major projects planned for the area. The Social Impact Assessment resulted in a number of key recommendations which have been encapsulated in the draft development conditions and the Infrastructure Agreement which has been formulated with Barcaldine Regional Council.

It is considered that the local community members have had their opportunity to have their views considered.

As part of the Ministerial Call-In Notice, the Minister has advised that a number of submissions have been made directly to his Department. We have not been provided with a copy of these submissions and therefore have not provided a representation on the concerns raised by these submitters. Waratah Coal absolutely support the right for the local community members to comment on the proposal and would address the matters raised if provided with the opportunity.

6. *In summary, the relevant planning instruments are inadequate to support a proper assessment of the proposed power station.*

Response

It is unclear in the Minister's advice that if the relevant planning instruments are not adequate, then what Planning Instruments would be considered relevant. For over two and a half years Waratah have openly and transparently sought advice from State Agencies on the matters that are considered relevant to the determination of the Material Change of Use. If there are particular planning matters or material that the Minister would consider relevant for Waratah to address as part of the consideration of the application we would respectfully request that these be provided to allow for Waratah to ensure a complete consideration of all potential impacts.

7. *On this basis, I consider this application for the development of a new power station is being assessed against planning instruments and assessments criteria that are deficient and inadequate to assess a power station of this type and scale.*

Response

As noted above, if the Minister is aware of particular Planning or other documentation which is relevant to the consideration of the application, both the applicant and the Local Authority should be made aware of this so this information can be made publicly available on the BRC website and adequate consideration of this information can form part of the consideration of the application by the Local Community and Council. This would allow for the most open and transparent consideration of all of the relevant information by all interested parties.

Waratah's activities to enhance Galilee Power Station and achieving net zero;

In order to preserve Queensland's way of life in a net-zero world, Waratah has an objective of providing low cost, net-zero, dispatchable power using clean coal technologies. Over the last two and a half years, Waratah Coal has met with many Elected Representatives and State Authorities to demonstrate the benefits of utilizing the latest "best practice" power station technology.

The Galilee Power Station will be capable of being net-zero from its first commissioning. The focus of this objective is in being able to supply competitive base load power (on a 24/7 basis) to industrial processes such as aluminum refining and copper production.

The power station is only one element of a broader strategy to achieve net-zero power generation from the Galilee Power Project. The development application, is limited to the HELE Power Station, so therefore the full net-zero strategy is not necessarily evident from the application material.

The pathway to net-zero that the Galilee Coal Project is:

1. Construct the most efficient and cleanest power station in Australia, in order to minimise carbon dioxide generation,
2. Use a fuel with a low carbon to energy ratio (that is, mass of carbon in the coal divided by the energy content of the fuel) such as fuels commonly found in Queensland,
3. Offset carbon emissions with ACCUs or other certified, verifiable offset credits.

Meanwhile:

1. Conduct an exploration program to identify suitable geological formations to allow geo-sequestration to occur,
2. Undertake a FEED study to plan the conversion of the plant to carbon capture and to design the storage and transportation facility,
3. Sponsor research and development (including pilot trials) of carbon re-use options such as carbonation of slags, minerals and ash to form concrete and the generation of algae based products.

Then, when the long run cost of ACCUs (or other verifiable credits) is forecast to exceed the long run cost of CCUS, the plant will then convert to carbon capture and the storage facility will be commissioned. Where technically feasible, re-use of carbon will be prioritized over storage. Any residual emissions not captured will be offset using ACCUs (or other verifiable credits).

Cleanest and most efficient power station in Australia

The Galilee Power Project will utilise the most efficient technology available at the time of design. If designed today, the plant would include:

- Very high steam temperatures (650°C),
- Very high pressure (33,000 kPa),
- Dual re-heat cycles,
- Feedwater heaters and air heaters.

Modelling indicates that the above would achieve net efficiency of 42% (LHV) and a carbon intensity of 0.77 t(CO₂e)/MWh; therefore we are targeting between 0.75 to 0.81 t(CO₂e)/MWh gross emissions (pre-offset, pre-capture). As shown in Figure 1 and Figure 2 below, this gross carbon intensity is substantially lower than incumbent plant burning lower quality fuels (e.g. Callide, Yallourn, Loy Yang) or operating with lower thermal efficiencies (e.g. Gladstone, Callide B, Tarong, Stanwell).

Our estimates indicate that, if the Galilee Power Project were to displace the Gladstone Power Station (which we understand is partially traded by the State Government) from the market, then between 1.7 and 2.3 Million tonnes per annum of gross emissions (at 90% capacity factor) would be saved, simply through the efficiency gain.

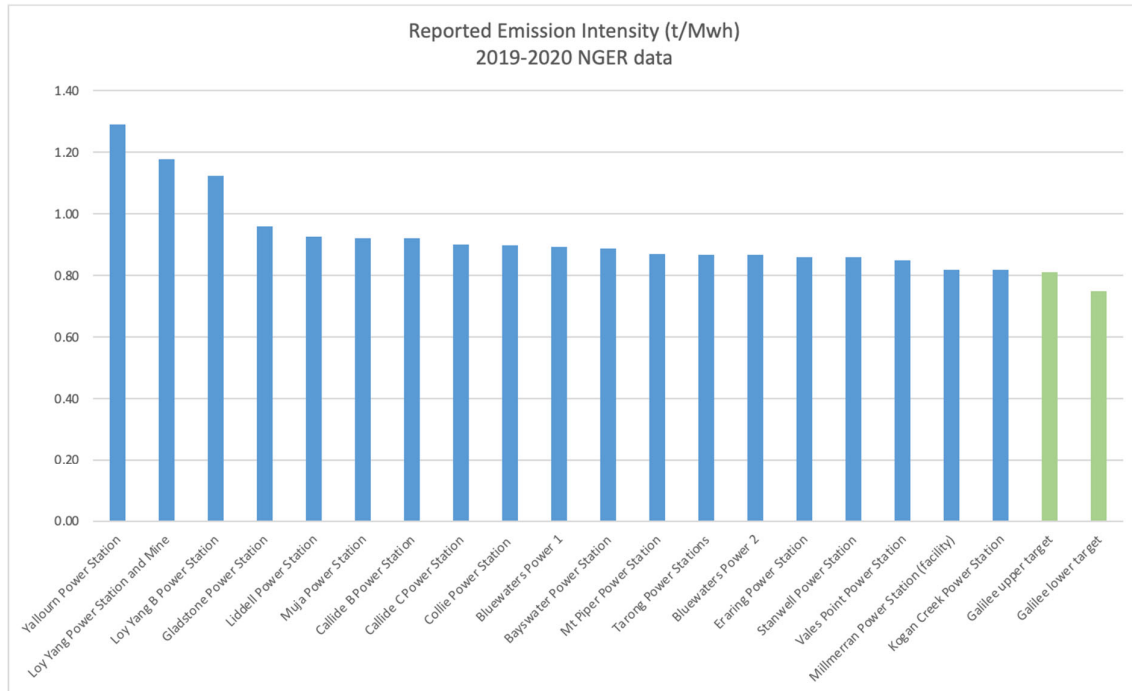


Figure 1: Carbon intensity of all Australian Coal Fire Power Stations²

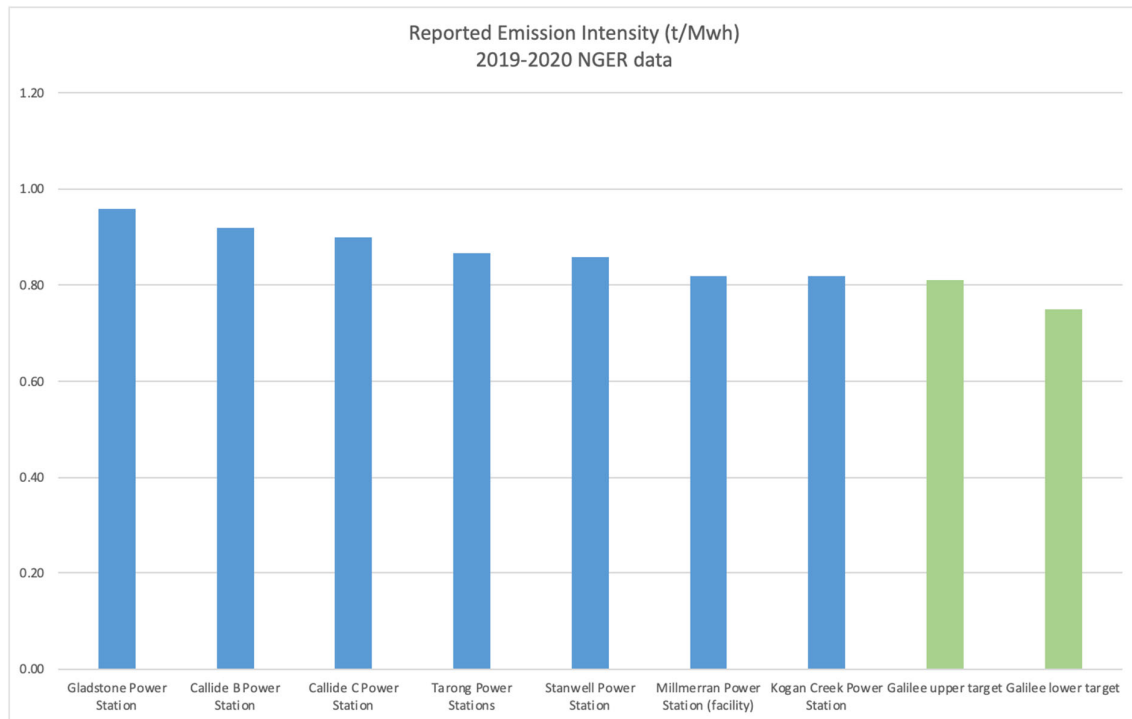


Figure 2: Carbon intensity of all Queensland Coal Fired Power Stations³

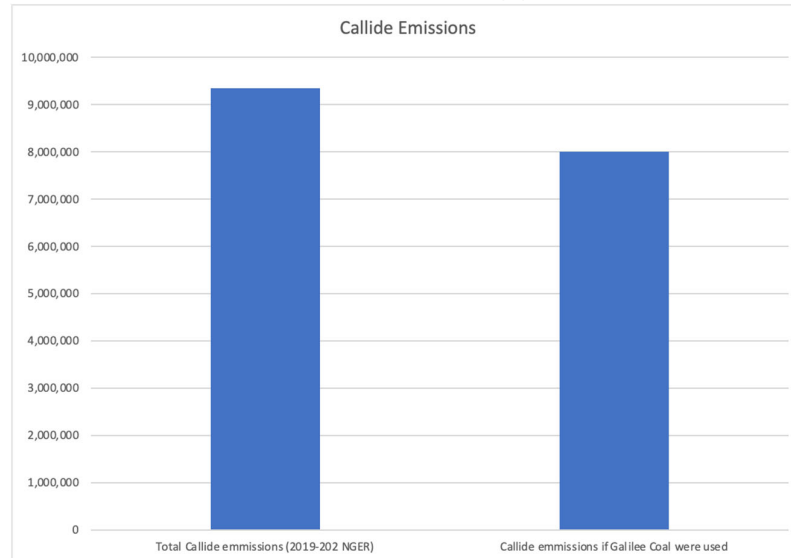
² Source: NGER data 2019-2020. Note that Hazelwood (now decommissioned) has been excluded.

³ Source: NGER data 2019-2020.

Lower carbon coal

Analysis of the Galilee Coal Project's coal indicates a carbon intensity of approximately 91.6 kg CO₂(e)/GJ (HHV).⁴ This compares to our estimated calculation of carbon intensity of Callide coals of around 105.1 kg CO₂(e)/GJ (HHV)⁵.

Over the 2019/2020 NGER reporting year, Callide B and Callide C reported 9,346,770 tonnes of CO₂(e) emissions⁶. If Galilee Coal Project coal were used in place of Callide Coal, then we estimate that 1.35 million tonnes of CO₂(e) emissions could have been saved.



Offsets

Offsets should form part of any net-zero strategy as they are often an economical and efficient means of reducing the concentration of carbon in the atmosphere. Offsets also often have positive second order conservation and employment effects (such as preservation and enhancement of habitat and Traditional Owner employment opportunities). Offsets can be implemented today and do not require significant technology development. To be effective, offsets must be verifiable through a certification body, such as the Clean Energy Regulator (for the ACCU system).

An ACCU at \$30/tonne implies an operating cost impact of around \$23/MWh (at a carbon intensity of 0.77 tonnes/MWh). We consider this to be very affordable cost impact in the context of emissions reductions and in the context of supplying base load power on a 24/7 basis.

⁴ The National Greenhouse Accounts uses higher heating value (HHV) rather than lower heating value; in typical Queensland black coals, there is a 4% difference between higher heating value and lower heating value accounting for the heat of vaporisation in the water vapour in the flue gas.

⁵ Coal quality data sourced from "Callide Oxyfuel Project – Lessons Learned", Oxyfuel Technologies Pty Ltd, May 2014, Table 1. Combustion calculations undertaken internally.

⁶ Source NGER data 2019-2020

The average financial year to date price in Queensland is \$80.85⁷. The Galilee Power Project's target long term base load pricing is in the order of \$60/MWh (before carbon costs). The sum of the long run pricing plus offset cost, implies that the Galilee Power Project will be able to provide base load, net-zero power at around \$83/MWh, which means that the project will be able to provide net-zero, base load power, without adversely impacting power prices in Queensland and without any government subsidy.

Carbon capture and storage

In February 2021, Waratah Coal undertook a carbon storage prospectivity study to identify formations potentially suitable for carbon dioxide storage. The study also developed a concept field design and cost estimate.

The prospectivity study identified that the Colinlea Sandstone Formation in the region between Jericho and Blackall is a possible storage location suitable for use in concert with carbon capture at the power station. The formation sits at the optimal depth of approximately 1,000 to 800 m and is geologically sealed and separated from the Great Artesian Basin.

In February 2021, Waratah also undertook a pre-feasibility study into carbon capture at the power station. The study identified that the most appropriated means of capturing carbon dioxide was by post combustion amine scrubbing and that transportation should be by pipeline as a compressed, super-critical liquid.

In May 2021, Waratah Coal lodged an expression of interest for greenhouse gas storage exploration tenure through the Queensland Exploration Program and, should this EoI be successful, intends commencing an exploration program to build confidence in the target formation's ability to store carbon dioxide.

Once development approval is in place for the power station, the FEED study will commence in order to further define the arrangements for, and cost of carbon capture and storage. If exploration tenure is granted, a CCS exploration program would also commence.

The FEED study (and management of the exploration program) will be undertaken in Queensland, creating high value, high skilled, clean energy jobs here in Queensland, without government subsidy.

Opportunities for carbon reuse

Carbon reuse presents opportunities to create new industries in regional Queensland. While most opportunities are in their infancy, Waratah will work with developers of potential technologies to grow a carbon re-use industry in Queensland. Potential opportunities include high value products manufactured from algae and concrete like products manufactured through the mineralization of materials such as ash, slag and minerals.

Advantages for Queenslanders and Queensland State Government having a HELE net-zero power plant.

⁷ <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/data-nem/data-dashboard-nem> accessed 15 November 2021.

Waratah is not seeking Queensland Government equity, grants, funding or other subsidies in relation to the power station or CCS field other than as set out below. The bulk of the network connecting infrastructure required to connect to the Powerlink network would be contestable; Powerlink may choose to competitively bid to provide this infrastructure under their normal BOO process. Negotiated infrastructure and upgrades required to the Powerlink regulated network will be secured using Powerlink's normal processes (typically requiring substantial bank guarantees to protect Powerlink's exposure). Upgrades to State infrastructure such as the Capricorn Highway–Saltbush Road intersection will be fully funded by the project.

Human Rights Act 2019.

I am aware that you have raised the matter of the Human Rights Act 2019 (Qld), in particular you have determined that your decision to issue the proposed call in notice is compatible with human rights.

Waratah considers that it has undertaken a comprehensive assessment of the potential impacts of the Project which has enabled an informed evaluation of the Project's impacts to be undertaken by Commonwealth and State agencies. Waratah further considers that the Project will deliver significant benefits to the region and the state of Queensland, and that any residual human impacts can be appropriately managed.

Waratah considers that GHG emissions will be lessened to a certain extent because of the power station's efficient technology and the use of a coal quality that is superior to other coals currently being used by coal fired power stations here in Australia.

Further, it is considered that to preserve Queensland's way of life in a net-zero world, Waratah has an objective of providing low cost, net-zero, dispatchable power using clean coal technologies.

Overall, I consider that through the implementation of measures outlined in a draft EA and compliance with draft EA conditions, and any other additional commitments provided by Waratah, the impacts of the Project on the human rights of individuals in Queensland now and in the future can be managed within acceptable limits and will provide a substantial net benefit.

Should the Project be “Called In”

The project has been considered by State Agencies and the Barcaldine Regional Council for over 2 years. During this time we have proactively engaged on a collegial basis to fully explore the impacts from this Material Change of Use.

An environmental assessment has been completed against DES's requirement and with expert reports provided by independent, highly qualified experts.

A social engagement program was undertaken within the local community in a manner that meets the recommendations of the Coordinator General for Coordinated Projects, the response was overwhelmingly positive.

The approvals process to date has been extensive and detailed; we have responded to every request provided by State Agencies and the Assessment Manager.

We were, and remain committed to, the current Planning pathway through the Local Authority, however we acknowledge that there may be additional matters that you may consider relevant in the consideration of the application prior to the application determination. We would commit to addressing any additional material that is considered relevant and any matters of concern that have been raised with you directly.

We appreciate current public views and commentary on emissions; however, we ask you to take an evidence based approach on the project's impacts and on clean coal, CCUS and its potential contribution to the Queensland economy over the longer term. We invite you to visit the site and meet with some of the Local Community and Stakeholders to understand and better appreciate the context of this application.

I thank you once again for your time and consideration in this matter, I look forward to working closely with you and your Department to bring about a positive outcome for all Queenslanders. Please don't hesitate to call should you require any further information for your consideration. Thank you once again for your time.

Kind regards



Nui Harris
Managing Director



Email: nharris@waratahcoal.com

Phone: 07 3832 2044

Street Address: Level 17, 240 Queen St, Brisbane Qld 4000

Postal Address: PO Box 1538, Brisbane QLD 4001

Web: www.waratahcoal.com

Appendix A – 15 March 2019

Letter to the Department of State Development, Manufacturing, Infrastructure and Planning (SDMIP) to discuss the appropriate Planning Pathway

Friday, 15 March 2019

Mackay Isaac Whitsunday Regional and Central Regional Office
Department of State Development, Manufacturing, Infrastructure and Planning
Level 4, 44 Nelson Street
Mackay QLD 4740

Dear Sir or Madam

**RE: PROPOSED GALILEE POWER STATION – INITIAL ADVICE
REQUEST**

We have been engaged by Waratah Coal to facilitate the Planning Approvals phase of a new power station proposed to be located adjacent to the Mining Lease for their Galilee Coal Project. The proposed Galilee Power Station will have the dual purpose of servicing the public network and proving the power needs for the Galilee Coal Project mine operations. Whilst the power station is linked to the proposed mine, and would not proceed without the mine, the application does not form part of the draft Environmental Authority (EPML00571313) for the Galilee Col Project and as such a separate approval process is required under the *Planning Act 2016* and the associated Regulations and Acts. Similarly, associated linear infrastructure such as the high voltage transmission lines and slurry pipeline do not form part of this application.

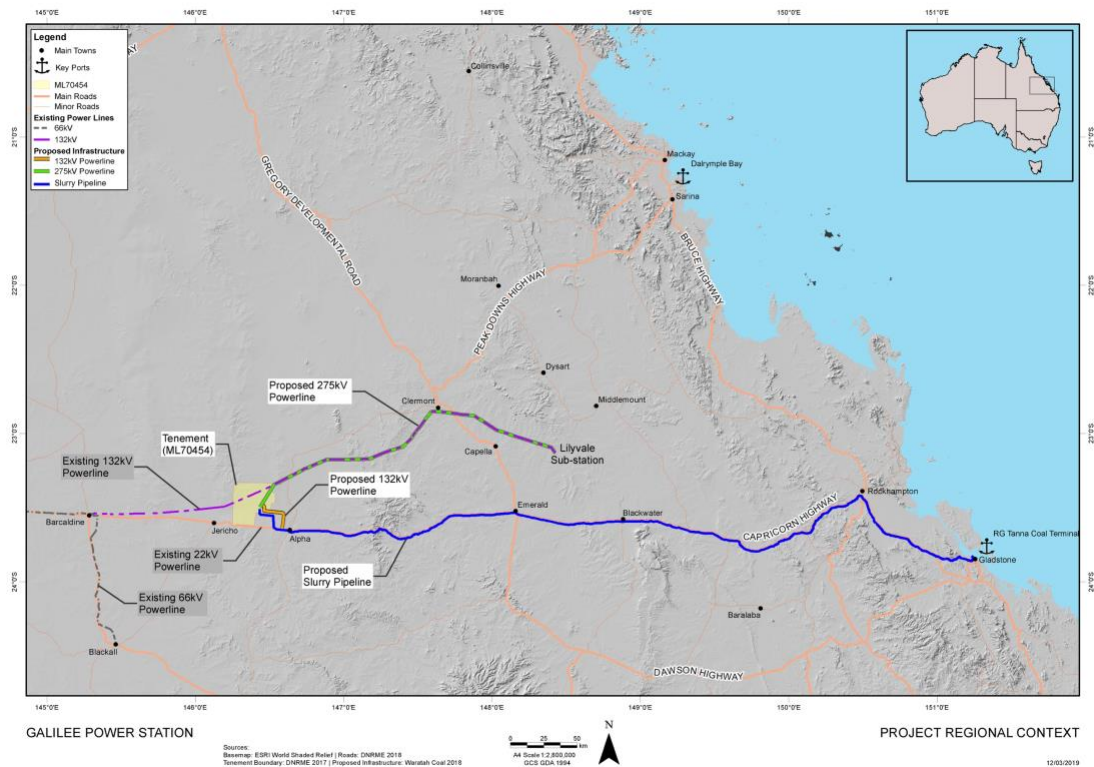
Background

The Galilee Coal Project is located approximately 30 km to the north of Alpha in Queensland, Australia. At full scale, the Galilee Coal Project will comprise two open cut and four underground mines, as well as supporting infrastructure, and will produce 40 million tonnes per annum (Mtpa) of high quality thermal coal for export markets.

The Galilee Coal Project has been declared a project of State and National significance.

Environmental Impact Assessments (EIA) and Environmental Impact Statements (EIS) have been completed and approvals have been granted from both the Queensland and Commonwealth Governments. To advance this significant project, Waratah Coal intend to develop a 1,400 megawatt (MW) ultra-supercritical coal fired power station, to be located adjacent to the Galilee Coal Project Mining Lease Application area (MLA70454). The Galilee Power Station will be developed as a contingent component of the overall Galilee Coal Project.

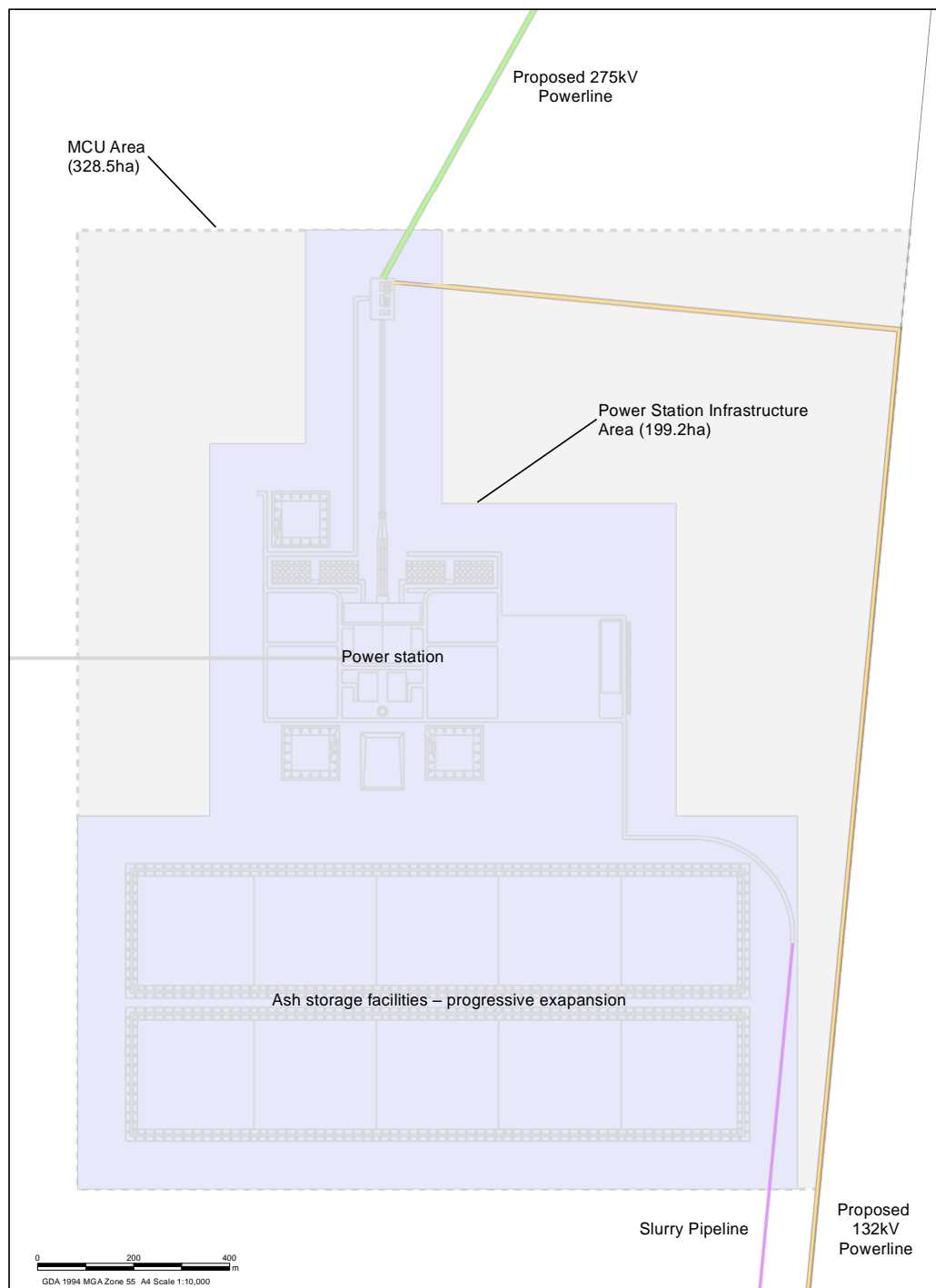
See Figure 1, which shows the regional context of the Galilee Power Station.



Location

The Power Station will be located on part of Lot 626 on MX806585 (Lambton Meadows). Lambton Meadows is currently leasehold and has been extensively cleared and converted to improved pasture in and around the Power Station footprint. The power station will be located adjacent to the Galilee Coal Project Lease Application Area (MLA70454). The power station has been located in an area which will not require any clearing of remnant vegetation and will not interfere with any existing watercourses. Figure 2 below illustrates the location of the proposed power station with respect to the overall mining lease area.

Access to the Power Station site is via Monklands Road, which runs north off the Capricorn Highway between the towns of Alpha and Jericho. A new access road will be constructed from Monkland Road to the proposed power station.



GALILEE POWER STATION INITIAL ADVICE STATEMENT

Sources:
Tenement Boundary: DNRME 2017 | Proposed Infrastructure:
Waratah Coal 2019

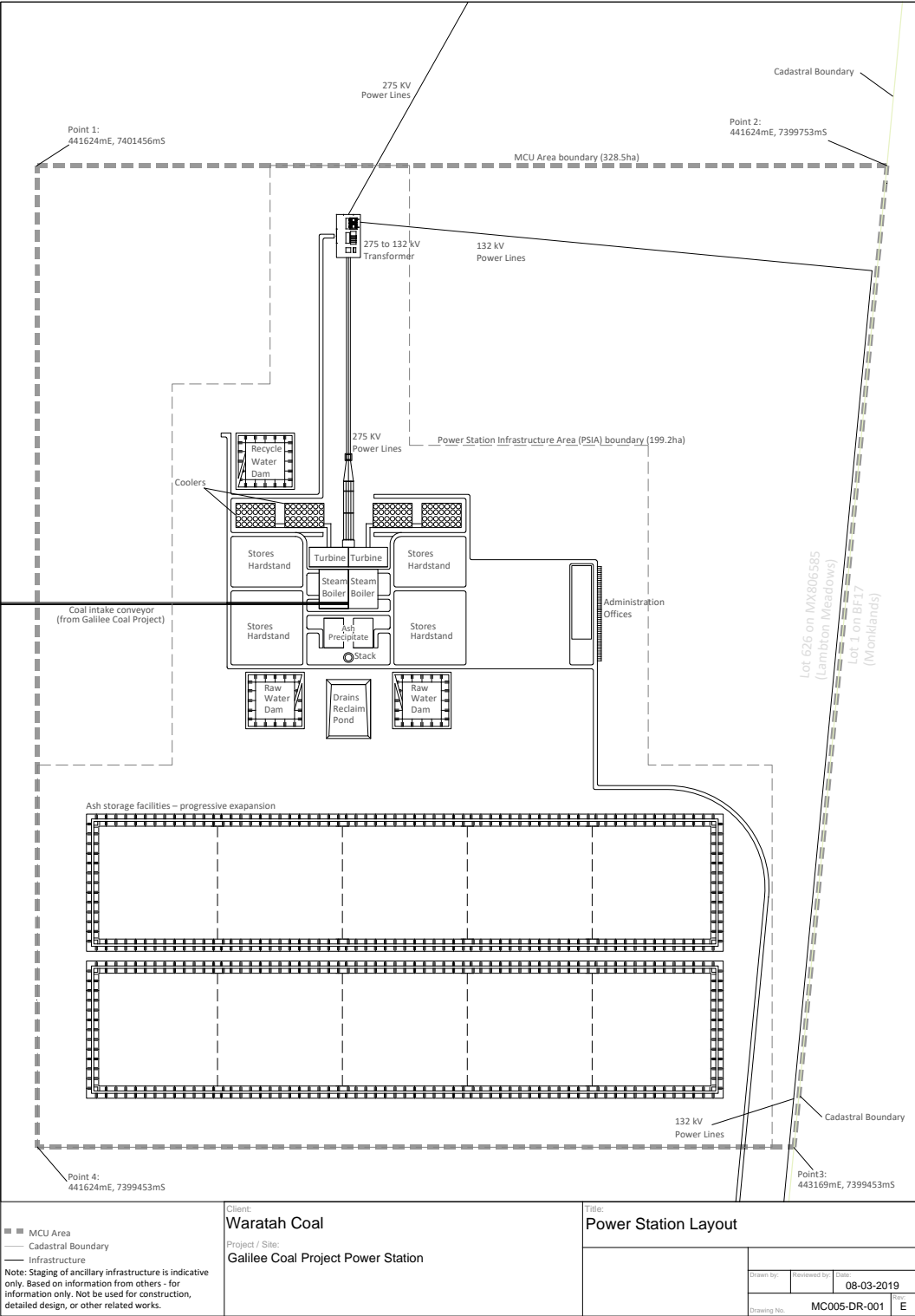
Galilee power station infrastructure and application area

Rev: C, 8/03/2019

The power station will be located close to the mine site to allow easy coal conveyor transfer to the power station, and to allow conditioned ash to be either trucked or slurry piped to the ash containment facility.

The power station components are likely to be pre-fabricated, pre-coated and transported to site from the Gladstone Port for erecting following site preparation and foundations. The plant configuration is described as an **Ultra Supercritical Pulverised Coal Fired Plant** which will incorporate two thermal steam turbine generator units

adopting ultra supercritical technology and air-cooled condensers. An ultra-supercritical plant operates at higher temperatures and pressures using the latest proven technologies to efficiently produce power with lower emissions than traditional coal fired plant. The power station layout is illustrated below in Figure 4.



The byproduct of the combustion process will be coal ash (bottom ash, fly ash and economizer grits). The ash will be stored in an ash containment facility with sufficient area to store ash for up to 30 years. The ash containment facility will be developed

progressively as required during operations, with only one storage cell open during operations, with a capacity for around 6 years.

The operation of the power plant will also require a significant amount of water. Raw water will be available from the dewatering of the mine site without the need for an external water supply. A water treatment plant will be required to treat the raw water through reverse osmosis and electro-de-ironisation for use in the boilers and for potable water. The power station will either use air-cooled condenser technology to reduce water usage to less than 90 percent of conventional power stations or a hybrid cooling technology which will use more of the surplus water from the dewatering process but will balance water consumption against plant efficiency and capital cost.

A sewage treatment plant within the power station grounds will be provided for the treatment and processing of wastewater resulting from site facilities (e.g. toilets, staff room sinks and showers) for station operations staff. Effluent from the sewage treatment plant will be used for landscaping irrigation. It is anticipated that the power station will have a permanent staff of around 90 for plant operation and supervision of maintenance activities.

Relevant Planning Legislation

We propose to lodge an approval under the *Planning Act 2016* via the Local Planning Instrument (Jericho Planning Scheme which is administered by the Barcaldine Regional Council) for a *Public Utility* as per the definition of the Planning Regulations and the local Planning Instrument.

"Public utility" - means "Premises" used for a waste landfill site, the supply of water, hydraulic power, electricity or gas, or provision of telephone, sewerage, postal or drainage services or the provision or maintenance of roads or traffic controls or railways or railway controls.

The subject site is contained within the Rural zone. Under the Jericho Planning Scheme the proposed use would be Code Assessable against the Rural zone Code.

The proposed use will trigger a number of Prescribed Concurrence Environmentally Relevant Activities (ERAs) which will require both development assessment against SDAP State Code 22 and an Environmental Authority assessed against the Environmental Protection Framework. These are co-ordinated through the SARA process and are likely to include;

1. ERA 14: Electricity Generation;
2. ERA 56: Regulated Waste Storage (Fly Ash Storage)
3. ERA 8: Chemical Storage;
4. ERA 63: Sewerage Treatment;
5. ERA 64: Water Treatment

Pre-lodgment Request

Prior to formal lodgment of any application for Material Change of Use we seek DSDMIP confirmation of the proposed planning pathway including the identified triggers and any other matters of state significance pertaining to the subject site or the proposed use.

We also respectfully request a pre-lodgment meeting be arranged with the relevant State Departments to discuss the project and the significant issues that should be addressed as part of a formal application and referral to SARA.

If you have any queries regarding the proposal, please do not hesitate to contact the undersigned on 0400585937 or cjfeltham@bigpond.com. We look forward to discussing the proposed application with you at your earliest opportunity.


Yours faithfully

A handwritten signature in black ink, appearing to read 'C97-feltham'.

Cameron Feltham
Director

Appendix B – 22 March 2019

Email from SDMIP stating that they were discussing the pathway and potential involvement of CG

From: Dan Wagner Daniel.Wagner@dsdmip.qld.gov.au 
Subject: Galilee Power Station
Date: 22 March 2019 at 4:54 pm
To: cjfeltham@bigpond.com
Cc: Ainsley Sullivan Ainsley.Sullivan@dsdmip.qld.gov.au

DW

Hi Cameron

Thanks for your time on the phone today.

As I mentioned, we have received the request and are working with our state agency colleagues to provide clearer advice on potential pathways forward, with potential involvement from the Office of the Coordinator-General.

We hope to have an update to you next week, bedding down a meeting time to discuss the proposal with state agencies.

If you have any specific queries in the meantime, please contact myself or Ainsley Sullivan, Principal Planning Officer, on 4898 6888 and we will be pleased to assist.

Regards



Dan Wagner
Planning Manager (acting)
Planning and Development Services – Mackay office
Department of State Development,
Manufacturing, Infrastructure and Planning
P 07 4898 6808 M 0427 769 519
Level 4, 44 Nelson Street, Mackay QLD 4740
PO Box 257, Mackay QLD 4740
www.dsdmip.qld.gov.au

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Appendix C – 24 April 2019

Letter from SDMIP with the meeting minutes – all relevant state agencies in attendance who provided feedback. Note that SDMIP specifically excluded any discussion of the Planning pathway and instead suggested (via email from Dan Wagner) we call the Office of the Co-Ordinator General (Ms Kate Weir) and meeting with BRC.

Our reference: 1904-10537 SPL
Your reference: NA

10 May 2019

Mr Cameron Feltham
C.J. Feltham Pty. Ltd
Town Planning and Project Management
PO Box 1131
NEW FARM QLD 4005
cjfeltham@bigpond.com

Dear Mr Feltham

Pre-lodgement meeting record

This pre-lodgement record provides a summary of the matters discussed at the pre-lodgement meeting in addition to providing relevant further advice prepared subsequent to the meeting. This record provides advice relevant to the development proposal to assist in the timely processing of a development application. While this advice is provided in good faith, if the proposal is changed from that which was discussed with the department during the pre-application meeting, this advice is not binding.

Reference information

Departmental role:	Referral agency
Departmental jurisdiction:	Planning Regulation 2017: Schedule 10, Part 3 – Clearing Native Vegetation Schedule 10, Part 5 – Environmentally Relevant Activities Schedule 10, Part 6 – Fisheries Schedule 10, Part 7 – Hazardous Chimerical Facilities Schedule 10, Part 9 – Infrastructure-related referrals Schedule 10, Part 9 – Water-related development

Pre-lodgement meeting date: 24 April 2019

Meeting attendees:

Name	Position	Organisation
Peter Downey	A/Manager, Future Directions, Strategic Policy, Policy Division	Department of Natural Resources, Mines and Energy

		(DNRME) (Energy)
Melissa Couper-Silva	Senior Project Officer, Analytics, Regulation and Commercial, Energy	DNRME Energy
Megan Rosenberg	Principal Natural Resource Officer, Regional Planning and Coordination	DNRME Planning and Coordination
Anton Z De Klerk	Principal Town Planner, Project Planning and Corridor Management	Department of Transport and Main Roads (DTMR)
Sue Kajewski	Manager Project Planning and Corridor Management (Central West)	DTMR
Chris Murphy	Senior Engineer (Civil), Program Delivery and Operations Branch	DTMR
Callum Gawne	Team Leader (Assessment), Energy and Extractive Resources	Department of Environment and Science (DES)
Luke Bekker	A/Senior Impact Assessment and Management Officer	Department of Agriculture and Fisheries (DAF)
Shoena Messner	Director, Major Hazard Facilities, Hazardous Industries and Chemicals Branch	Workplace Health and Safety Queensland, Office of Industrial Relations (OIR)
Dan Wagner	A/Manager (Planning)	Department of State Development, Manufacturing, Infrastructure and Planning, (DSDMIP)
Ainsley Sullivan	Principal Planning Officer	DSDMIP
Madison Harper-McErlean	Planning Officer	DSDMIP
Cameron Feltham	Director	C.J. Feltham Pty. Ltd
Bill Hasler		CQ Coal
Natasha Macintosh		Orange Environmental
Andrew Murdoch		Arche Energy
Doug McCabe		Waratah Coal
Nui Harris		Waratah Coal

Location details

Street address: 1305 Monklands Road, Hobartville

Real property description: Lot 626 on MX806585

Local government area: Barcaldine Regional Council

Details of proposal

Development type: Material change of use

Development description: 1400MW ultra-supercritical coal fired power station

Supporting information

Drawing/report title	Prepared by	Date	Reference no.	Version/issue
Letter to DSDMIP	C.J. Feltham	15/3/19	-	-

Meeting minutes**1. Scope of meeting (Ainsley Sullivan – DSMDIP)**

- Advice provided within the meeting relates directly to the potential referral triggers, process and responsibilities of the relevant entities, in accordance with the Planning Regulation 2017 and *Planning Act 2016*.
- Applicant to be aware of processes and permits that sit outside of SARA's jurisdiction, for example Federal and other State legislation.
- DSDMIP is unable to provide guidance on potential triggers and approvals that sit outside of SARA's responsibilities.
- Also note external Referral Agencies such as, but not limited to Powerlink and Ergon.

2. Description of Proposal – (Andrew Murdoch - Arche Energy)

- Galilee Power Project proposes the establishment of a power station, including 2 x 700mw ultra super critical units located at Lot 626 MX806585, Lambton Meadows.
- The project expects to provide dependable carbon neutral, base load power on a 24/7 basis.
- All water used by the power plant is proposed to be sourced from mine dewatering. Subsequent waste water will be re-used in the ash processing facility. No liquid discharge will occur from the site.
- Site has been chosen with the intention of minimising and where possible, avoid areas containing ecological values, hazard constraints and high value agriculture land.
- Ash generated as a result of the proposal will be transported from the site to a storage facility and is being investigated for sale/distribution to the cement industry.
- The proposal includes low NOx burners and bag filters to help reduce air emissions. Air quality reports to accompany the application with further details (currently under preparation by consultant).
- In relation to noise emission, there are seven (7) sensitive receptors (homes) within proximity of the proposed site. The proposal includes the installation of noise abatement infrastructure within the facility to achieve the targeted 30dB design level. Modelling to accompany the application with further details (prepared by Acoustics RB).
- Project timing: Approval process within the next 12 months. Financing and construction preparation within 6 months. Construction to commence 2021, on-going for 2-3 years. Power plant operational 2023.

3. Water Way Barrier Works (Luke Bekker - DAF)

- Noted the proposed location within the allotment is not yet confirmed and may be subject to change.
- Noted the proposed site location may require crossing over mapped waterways, may trigger waterway barrier works. A crossing includes roads, culverts, bridges, etc. which potentially limits fish passage within mapped waterways.
- When establishing whether proposed works would constitute assessable development, consult the Accepted Development Requirements Works, which may avoid triggering referral.
- Applicant is encouraged to use the department's online mapping system (Development Assessment Mapping System) to identify any mapped waterways and then review Accepted Development Requirements documents.

- If works do not comply with the Accepted Development Requirements, the works will constitute assessable development and will require development approval.
- Applicant confirmed no waterway diversions are proposed for the power station.

4. State-Controlled Road (Anton De Klerk, Chris Murphy & Sue Kajewski - DTMR)

- TMR would require a Traffic impact assessment (TIA) covering construction and operational phases. Prepared by and RPEQ, in accordance with GTIA.
- Considerations for the TIA: To give greater understanding of the impacts associated with the proposal the TIA should consider the cumulative traffic impact for both the power plant and the mine, rather than independently. Will the timing for power plant construction coincide with timing of construction for the mine? TIA could consider traffic sharing and on-site camps to reduce road trips.
- Also consider operational phase and what is happening with the plant by-products (e.g. Ash).
- No information has been given on where the access onto the SCR network will be. Please confirm.
- Applicant has confirmed that they have engaged GTA to undertake the TIA. The report is nearing completion and will be included within the application.
- Also consider oversize and over mass vehicles travelling to the site during construction phase (units/equipment/etc.).

5. Major Hazards/ Hazardous Chemical Facilities (Shoena Messner - OIR)

- Hazardous chemical facility trigger is based on if you store 10% of the mandatory threshold volumes.
- General advice is to follow state code 21, and consider the coal-fired power station code of practice in the design.
- Note that all other coal-fired power stations meet the hazardous chemical trigger.
- The department requires greater details regarding the levels/quantities of hazardous materials to be stored on site, before giving further advice.
- The applicant is encouraged to make further contact once quantities are confirmed. Ideally before any application is lodged.

6. State Land Asset Management (Megan Rosenberg - DNRME)

- What does the applicant propose as their tenure plan?
- Owners are progressing towards converting the current tenure to freehold. This process is anticipated to take approximately 3-month process, to October 2019. DNRME agree this is a reasonable timing assumption.
- There will be sub-lots that are contained within the mining lease application area.
- DSDMIP noted consider access/roads within the premises to form be part of the freeholding.
- Applicant noted that finalizing the freeholding process is presently a time hinderance.

7. Vegetation clearing (Megan Rosenberg – DNRME)

- The vegetation classification around the project area is Cat X. Request for a project map to confirm the development location, however, it appears the proposal is unlikely to involve assessable vegetation clearing, based on information provided to date.
- Access roads and any associated infrastructure will need to be clearly identified. No assessment of the impacts to regulated vegetation have been provided for these components.

8. Water (Megan Rosenberg - DNRME)

- It is recommended the applicant engage with Water Services DNRME to determine the relevant water requirements applicable to the proposed under the *Water Act 2000*.
- The power plant proposes to obtain all its water from mine dewatering.

- While water that has been dewatered can be used for any purpose, dewatering activities associated with the project will require authorization in the form of an associated water license.
- Clarification required to identify how the proposed power plant will meet its water needs (possibly water extraction) should the mine no longer offer dewatering opportunities to the plant.
- Conditions on the mine approval included using the dewatered water for mine activities. Is this factored in? These conditions may need amendment.
- Further correspondence with DNRME is recommended prior to the lodgment of any application, to confirm the total amount of water required to support the power plant and where the water will be sourced from, and appropriate water licenses that may be required.

9. Energy Planning/Licensing (Melissa Couper-Silva – DNRME)

- Please note, energy approval/s are processed and granted separate from the SARA process.
- Requirements for the relevant license/s are identified under the *Electricity Act 1994*. Noting, the applicant's application should be prepared at least 12 months prior to the commencement of any operation.
- Energy licensing usually occurs post-planning approvals, but please engage as early as possible.
- New guidelines are being prepared and copy will be provided to applicant.
- Question regarding power source for construction camps. Applicant confirmed the temporary construction camps will be exclusively powered by diesel generators.
- Applicant notes Powerlink and one other NSP will complete the connection to the power plant. Future discussions to occur Ergon.

10. Environmentally Relevant Activities (Callum Gawne - DES)

- Applicant has identified up to five Environmentally Relevant Activities (ERA) that may be required. The main ERA being ERA14 for Electricity Generation.
- Ensure all ERAs from Schedule 2A of the *Environmental Protection Regulation 2008* are considered and those relevant included in the application.
- Comprehensive assessment is required (section 125 of the *Environmental Protection Act 1994*), particularly in relation to air and noise impacts, and rehabilitation planning for any ash disposal facility.
- The department's technical guidance is available at <https://www.business.qld.gov.au/running-business/environment/licences-permits/applying/technical>.
- Noted that DES's assessment decision must consider the standard criteria (defined within the EP Act defined within the EP Act) amongst other requirements (section 176). The applicant should consider the decision criteria when preparing the application.
- The department is open to receiving preliminary information, particularly technical modelling, from the applicant ahead of time and provided advice on draft information.
- The applicant has already engaged consultants to prepare the relevant impact assessments. Assessments have taken into consideration cumulative impacts of the mine and the power plant, and that of surrounding development/s. Reports anticipated to be finalized within 1-2 weeks from the date of the meeting.

11. Other Matters

- 6-8 weeks' worth of work required before a draft application is ready. The tenure freeholding process is presently the major time hinderance.
- It is recommended to have on-going discussions with all relevant State departments as information becomes available, to provide greater details around the applicable processes and approvals required for the proposal.
- Applicant will need to undertake engagement with the local council.
- Applicant encouraged to undertake engagement with the Coordinator General to explore potential pathways and requirements under other Acts.
- Applicant has/is engaging with Federal Government (EPBC responsibilities).

- Final note, all future correspondence or draft material should be directed through Ainsley Sullivan or Dan Wagner (DSDMIP/SARA) for internal distribution/coordination to agencies.
- Encourage draft material prior to lodging formal development application.

It is considered that the above summary is an accurate record of the matters discussed at the pre-lodgement meeting.

The following information is provided as further advice prepared subsequent to the meeting:

State Land Asset Management

1. While the site is leasehold, the proponent will have to meet the requirements of the leasehold. The proponent will be required to consult with the lessees regarding the surrender of the lease to the State, and then make application to purchase State land. Survey and dedicated access to the site will be required as part of an offer to purchase.
2. If/when the tenure is converted to freehold the owners will be required to lodge a development application with the Barcaldine Regional Council for reconfiguration of a lot. If approved, the proponent will be required to purchase the new title from the owner. The State has no land tenure requirements when dealing with freehold land.

Vegetation Management

3. It is recommended that the applicant provide a project plan (map) identifying the total footprint of the development (including firebreak clearing) overlaid with the Regulated Vegetation Management Map to clearly delineate the project footprint from assessable vegetation under the *Vegetation Management Act 1999*.
4. In order to avoid referral for native vegetation clearing under schedule 10 of the Planning Regulation 2017, all new proposed infrastructure must be located within a Category X area and must include the required setbacks for firebreaks and safety buffers distances* from the nearest category A and category B areas.

*The firebreak/safety buffer distance is calculated as a width of 20 metres or 1.5 times the height of the tallest adjacent tree to the infrastructure, whichever is the greater.

Water Management and Use

5. The proponent is requested to identify the total volume of water required for the power station proposal.
6. Dewatering activities associated with the Galilee Coal Project will require authorisation in the form of an associated water licence. The currency of the associated water licence will only be for the currency of the authorised activity; i.e. the taking of underground water cannot continue for the power station once dewatering (to allow the safe operating environment to mine the resource) ceases.
7. Alternative water supply options will need to be explored if the power station water supply requirements exceed that which may be taken through dewatering, and provided an associated water license is issued.
8. The proponent is encouraged to contact the Water Management and Use team on 1800 822 100 or via email to centralwaterservice@dnrme.qld.gov.au to discuss any requirements under the *Water Act 2000*.

Energy

9. The applicant is advised that DNRME have a generation authority application guideline and checklist.

This information is available on the following website links.

- Licencing framework webpage - <https://www.business.qld.gov.au/industries/mining-energy-water/energy/electricity/regulation-licensing/licensing-framework>
- Generation Authority guidelines - https://www.dnrme.qld.gov.au/_data/assets/pdf_file/0017/306404/application-guide-generation-authority.pdf
- Generation Authority checklist – opens when the link is selected.
- Please note that these documents are currently under review as part of business improvement activities and so may change depending on when the proposal is lodged through to the stage of submitting a generation authority application.

For further information please contact Ainsley Sullivan, Principal Planning Officer, on (07) 4898 6813 or via email MIWSARA@dsdmip.qld.gov.au who will be pleased to assist.

Yours sincerely



Dan Wagner
Manager (Planning)

Appendix D – 18 November 2019

Minutes and summary of issues from the second pre-lodgment meeting with State Agencies on 18 November 2019

Our reference: 1910-13895 SPL

27 November 2019

Waratah Coal
C/- C J Feltham Town Planning
GPO Box 1538
BRISBANE QLD 4001
cjfeltham@bigpond.com

Attention: Mr Cameron Feltham

Dear Mr Feltham

Pre-lodgement meeting record

This pre-lodgement record provides a summary of the matters discussed at the pre-lodgement meeting in addition to providing further advice prepared subsequent to the meeting. This record provides advice regarding the likely major issues relevant to the development proposal to assist in the timely processing of a development application.

Reference information

Departmental role:	Referral agency
Departmental jurisdiction:	Schedule 10, Part 5, Division 4, Table 2, Item 1 Non-devolved environmentally relevant activities Schedule 10, Part 7, Division 3, Table 1, Item 1 Hazardous chemical facilities
Pre-lodgement meeting date:	18 November 2019
Meeting attendees:	

Name	Organisation
Phil Joyce	Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP)
Felicity Tait	DSDMIP
Andrew Finch	DSDMIP
Clancy Mackaway	Department of Environment and Science (DES)
Rachel Copp	DES
Shoena Messner	Office of Industrial Relations (OIR) - Major Hazards
Chris Clague	Department of Agriculture and Fisheries (DAF)

DA Advisory Team (DAAT)
1 William Street
BRISBANE QLD 4000
PO Box 15009, CITY EAST QLD 4002

Anton DeKlerk	Department of Transport and Main Roads (DTMR)
Jason Giddy	DTMR
Megan Rosenberg	Department of Natural Resources, Mines and Energy (DNRME)
Erin Lee	DNRME
Myria Makras	DNRME
Lisa O'Brien	DNRME
Cameron Feltham	C J Feltham Town Planning
Andrew Murdoch	Arche Energy
Natasha MacIntosh	Orange Environmental
Nui Harris	Waratah Coal
Doug McCabe	Waratah Coal

Location details

Street address:	Monkland Road, Hobartville
Real property description:	Lot 2 on SP136836
Local government area:	Barcaldine Regional Council
Existing use:	Rural property known as "Monklands"
Relevant site history:	The site is rural and has been used for cattle grazing and has improvements generally associated with rural pursuits (fencing, yards, dwellings and workshops)

Details of proposal

Development type:	Material change of use
Development description:	Public Utility (1400MW Ultra Supercritical Coal Fired Power Station)

Supporting information

Drawing/report title	Prepared by	Date	Reference no.	Version/issue
Town planning report	C.J. Feltham Pty Ltd	October 2019	191030	FINAL A
Concept design	Phronis Consulting	October 2019	144-2 GA-DWG-0001 to 144-2 CI-DWG-0005	A/B
Transport impact assessment	GTA Consultants (QLD) Pty Ltd	16/10/19	Q163320	B
MNES fauna - emissions and noise assessments	Orange Environmental	September 2019	-	-
Air quality and greenhouse gas assessment	Katestone Environmental Pty Ltd	13 August 2019	D18047-4	0.0 (Draft)
Assessment and control of environmental noise emission	Acoustics RB Pty Ltd	1 September 2019	19-1042.R02	Draft

Galilee Power Project – Pre-lodgement discussion (PowerPoint presentation)	C.J. Feltham Pty Ltd	November 2019	-	-
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Meeting minutes

Project overview

1. Cameron Feltham, Andrew Murdoch and Natasha MacIntosh provided an overview of the project and summary of the approvals pathway and assessment undertaken in preparation for the lodgement of a development application.
2. The 1,400 Megawatt (MW) ultra-supercritical (HELE — High Efficiency Low Emissions) power station is proposed 30km north-west of Alpha on Lot 2 on SP136836 (adjacent to the Galilee Coal Project (GCP) and near Adani's Charmichael Coal project).
3. Stage 1 is for a 700MW facility constructed by 2023/2024, to provide power for Galilee Basin and Bowen Basin growth.
4. Stage 2 proposes an additional 700MW by around 2029, to replace aging power sources, taking on the demand from the closure of other power stations in Queensland.
5. Barcaldine Shire Council is identified as the assessment manager for the development application under the *Planning Act 2016*. The State Assessment and Referral Agency (SARA) would be a referral agency for environmentally relevant activities and hazardous chemical facilities.
6. A separate application processes is proposed for the associated transmission line and it is yet to be decided if this will go through Powerlink.
7. The applicant's intention is to formally lodge the development application to Barcaldine Shire Council as the assessment manager by the end of November 2019.

Environmentally Relevant Activities

8. DES confirmed that the proposed development will require referral to the State Assessment and Referral Agency (SARA) for a number of environmentally relevant activities (ERA).
9. A development application for a concurrence ERA is also an application for an environmental authority and the assessment will be integrated during lodgement and assessment stages.
10. DES's technical services team was midway through a preliminary review of the material provided at the time of this pre-lodgement meeting
11. DES committed to providing clarification on the applicable ERA's subsequent and further detailed written advice/comments subsequent to the meeting. This has been incorporated into this response.

Hazardous chemical facilities

12. OIR stated that the proposed development is likely to be defined as a 'hazardous chemical facility', meaning a facility at which a prescribed hazardous chemical is present or likely to be present in a quantity that exceeds 10% of the chemical's threshold quantity under the Work Health and Safety Regulation, Schedule 15.
13. A development permit for a hazardous chemical facility will be required. The applicant will need to demonstrate compliance with State Code 21: Hazardous chemical facilities of the State Development Assessment Provisions (SDAP). A 'preliminary hazard report' will need to be prepared to demonstrate compliance with this state code.

14. OIR recommended that the applicant seek detailed advice prior to engagement of principal contractor/s.

Waterway Barrier works

15. DAF confirmed the development is located on waterways mapped moderate risk (amber) and low risk (green) according to the spatial data layer, Queensland waterways for waterway barrier works.
16. The proposed heavy vehicle road marked on Galilee Power Station, Concept Design Site, Layout Plan crosses the waterway mapped as moderate risk (amber).
17. The proposed site access road entering the site from the south via gate house and security is likely to cross a waterway outside of the 'MCU area' that is mapped low risk (green).
18. Dependant on the design of the crossings of these waterways they may either represent works that are:
 - a. not waterway barrier works
 - b. compliant with the '[Accepted Development Requirements](#)' (ADR) for Operational Works that is constructing or raising waterway barrier works
 - c. assessable development (requiring a development permit).
19. DAF confirmed the ADR allows for the construction of a culvert crossing in a moderate risk (amber) waterway.
20. The proposed spillway associated with the sediment dam is unlikely to represent a waterway barrier works. Further the spillway structure should be designed to not allow fish access into the sediment dam area as this is likely to cause entrapment.

State transport infrastructure

21. DSDMIP confirmed that Schedule 10, Part 9, Division 4, Table 1 Item 1 of the Planning Regulation 2017, in relation to State transport Infrastructure, would not apply if the development application is defined as a 'public utility' only under the local government's planning scheme.
22. DTMR stated that the proposed CHR(S) urban treatment is insufficient as it appears to be based on a deceleration length for a 80km/hr design speed limit and vehicle storage to accommodate a B-Double. In this instance, the design speed should be 110km/hr and storage should at minimum accommodate a Type 1 Road Train as per the proposed de-sulphuring solution.
23. The average amount of queued vehicles should be determined from a SIDRA analysis.
24. Although DTMR have no issues with the proposed installation of boom gates, the report has not accounted for and demonstrated that vehicles can be safely stored between the rail crossing and state-controlled road.

Clearing native vegetation

25. DNRME advised that if the proposed development is located within a Category X area and setback (for firebreaks and safety buffers distances) from the nearest Category A and Category B areas, referral to SARA for clearing native vegetation would not be required.
26. The firebreak/safety buffer distance is calculated as a width of 20 metres or 1.5 times the height of the tallest adjacent tree to the infrastructure, whichever is the greater.
27. It is recommended that measures are put in place to ensure that nearby Category A and Category B areas are not unintentionally disturbed during construction.

Water management and use

28. DNRME regulates the sustainable management and efficient use of water and other resources under the *Water Act 2000*.
29. Whilst there is a single water feature that is yet to be determined, the proposed footprint of the power station is not likely to interfere with any watercourses as defined under the *Water Act 2000*.
30. The supply of water for the project will require the appropriate approvals under the *Water Act 2000*.
31. While water that has been dewatered can be used for any purpose, DNRME noted that dewatering activities associated with the Galilee Coal Project will require authorisation in the form of an associated water licence.

Electricity planning and licensing

32. DNRME advised that a generation authority will be required to authorise the connection of the proposed generating plant to the transmission grid or a supply network under the *Electricity Act 1994*. DNRME encouraged the applicant to make contact with Energy Regulation team early in the process to discuss your requirements.
33. Any transmission lines or supply networks will also require an authorisation under the *Electricity Act 1994*. Depending on the nature of the infrastructure, a transmission authority or a distribution authority may be required. A transmission authority allows for the operation of a transmission grid and may also authorise the connection of the transmission grid to another transmission grid.
34. A distribution authority allows for the supply of electricity using a supply network within the distribution area stated in the authority.
35. If the applicant intends to own and operate the transmission and sub-transmission lines then the applicant is required to hold the relevant authority. If the transmission lines or supply network is to be owned and operated by a third party, the third party will be responsible for ensuring they hold the appropriate authorisation to operate the transmission lines.

It is considered that the above summary is an accurate record of the matters discussed at the pre-lodgement meeting.

The following information is provided as further advice prepared subsequent to the meeting:

Environmentally Relevant Activities

1. DES has identified a number of concerns, particularly in regard to information contained in the air assessment, management of ash waste products and a lack of detailed information pertaining to potential impacts to groundwater. The following advice is based on a preliminary review of the information provided and does not include advice on the of the fauna assessment or an in-depth review of the acoustic noise assessment.
2. ERAs likely to be applicable to the proposed development (preliminary advice only and may change on further review/assessment of the application):
 - a. ERA 8 – Chemical storage – currently not applicable, however could change on further review of the application material
 - b. ERA 14 – Electricity generation - applicable
 - c. ERA 15: Fuel burning – not applicable, if being undertaken in another section
 - d. ERA 16: Extractive and screening activities – applicable
 - e. ERA 31: Mineral processing – not applicable, coal processed on the Galilee coal mine
 - f. ERA 33: Crushing, milling, grinding or screening – not applicable if covered by ERA 16
 - g. ERA 50: Mineral and bulk material handling – applicable due to stockpiling of coal
 - h. ERA 57: Regulated waste transport – unlikely to be applicable as this is proposed on premises
 - i. ERA 60: Waste disposal – applicable
 - j. ERA 63: Sewage treatment – applicable
 - k. ERA 64: Water treatment – not applicable
3. Other activities conducted onsite:
 - a. The applicant should confirm all other activities that will be conducted as either part of, or ancillary to, the activity that will require the operator to hold an environmental authority to conduct an environmentally relevant activity.
4. Fugitive emissions to air:
 - a. The submitted information suggests there are numerous locations where fugitive emissions to air may occur. These include coal transfer locations, conveyor belts, stockpiles and coal mills. There is the potential that the cumulative emissions from these fugitive sources may significantly impact on air quality.
 - b. The information provided suggests that *“subject to detailed design, measures will be undertaken to address these sources.”* Detail what these measures will entail and what other practices or process will be employed to minimise releases to air from these sources.
 - c. Provide details of other potential fugitive emissions that may be associated or expected to be associated with any of the other environmentally relevant activities conducted onsite.
5. Point Source Emissions to Air:
 - a. Further clarification is required on the modelling undertaken by Katestone Pty Ltd regarding the predicted impacts on air quality in the receiving environment:
 - i. Emission rates and stack characteristics were determined from manufacturer’s specifications supplied by the client. Provide additional details on the nature of this information. Include details of any defined Australian or International standard used to obtain this information.
 - ii. Section 6.3 states that ‘scrubber technology’ will be installed to minimise emissions of SO₂. Provide further detail as to what this scrubber technology will entail. The information provided in the application should confirm what will be used.

- iii. Elsewhere in the report reference is made to the addition of lime to produce saleable products such as gypsum. Provide details on whether there is sufficient lime available to meet this demand. Include alternate disposal options available if a commercial customer for this material cannot be found.
- iv. Further information is required regarding Table 10 – Stack Characteristics and emissions data for the 1,400MW (2x 700MW) power station.
 - 1. The row 'power generated' indicates that an overload of 756MW or 100% load of 702MW have been modelled. Confirm that this is representative of both of the proposed power stations (i.e. 702MW x 2 stations = 1404MW) given that the 'table notes' section identifies that the two power station stacks were modelled as a single stack with an effective diameter.
 - a. Clarify the purpose of conducting the model in this way. DES has concerns that there may be the potential that this may impact on the accuracy of the model.
 - b. Confirm if the diameter of each stack is 4.95m or 9.9m.
 - 2. Provide further information as to why the predicted stack emission rate for the overload load is less than that at 100% load.
 - 3. Confirm that the exit temperature will remain constant at 120°C regardless of the load.
 - 4. Confirm that the stack exhaust moisture content and oxygen content, NOx concentration and PM10 Concentration will remain constant regardless of the load.
 - 5. Provide further information that explains the predicted correlation between PM10 and PM2.5 at each of the modelled load.
- v. Clarify what modelled load scenarios best represents the base load rate at which the power station is expected to operate.
- vi. Confirm which modelled scenario best represents those times when generation is increased to meet spikes in demand.
- vii. Detail what contribution other activities proposed to be undertaken as part of this activity have on the receiving air environment (i.e. releases of dust from concrete plant, odour from sewage treatment plant etc).
- viii. Outline any additional point source emission contributions from the other activities proposed as part of the activity, which have been accounted for.
- ix. Confirm whether fugitive emissions from the power station and other activities associated with the site have been accounted for in the model.

6. Stormwater Management:

- a. Provide detail that addresses how stormwater will be managed throughout the site, especially any areas where stormwaters or surface flows of stormwater may come into contact with contaminants (i.e. stockpiled material).
- b. If no contaminants are proposed to be released to waters, provide further detail regarding how this will be achieved.
- c. Detail what other potential sources of contaminants are associated with other proposed activities conducted either as part of, or ancillary to, the proposed power station.
- d. If releases to any waters are proposed, detail what release limits will be employed to ensure that environmental values in any receiving waters are protected or enhanced.

7. Surface waters:

- a. The area in which the proposed activity is located contains an unmapped tributary of Lagoon Creek. Additional information is required to confirm whether this unmapped tributary meets the definition of a defined waterway.

- b. Provide details regarding the nature of this waterway, including quality of waters and any seasonal variations in water quality and flow rate. Outline the environmental values of the waterway and how these values will be protected or enhanced.
- c. Mapping suggests the proposed site may be at risk of flooding. Additional detail is required on the frequency and duration of flood events that may impact the site and the risk these pose to the site. Additional detail is required on the measures proposed to be implemented to ensure that flood waters do not come into contact with sources of contaminants.

8. Groundwaters:

- a. On review of the pre-lodgement material it does not appear that potential impacts to groundwater from the activities have been considered. Additional detail is required on the groundwater values in the area, potential risks to these from the proposed activity and the proposed measures to be implemented to mitigate/manage these potential impacts. The applicant should provide details of any investigations that have been undertaken regarding the proposed location of the activity and the potential to intercept any groundwater and discuss the findings of these investigations.
- b. It is proposed to use waters extracted by the neighbouring coal mine. Provide details of the likely impact this extraction of groundwaters will have on standing water levels and bore pressures in any adjoining properties.
- c. The area in which the activity is proposed is identified as having the potential to contain groundwater dependant ecosystems. Additional detail is required on the investigations that have been conducted to confirm the presence or absence of any groundwater dependant ecosystems. Details of the groundwater dependent ecosystems, potential risks to these environmental values and mitigation/management strategies to be implemented to protect these environmental values should be included in the application material.

9. Ash dam:

- a. There is a significant area of disturbance proposed for the ash dam. Provide details of other means of disposing of boiler ash considered and why were these methods determined to be not appropriate or suitable for the activity. For example, has disposal of the boiler ash to mine workings or mine voids been considered and if so, why were these methods of disposal considered not appropriate or suitable?
- b. Provide details of any investigations conducted regarding the potential impact of the ash dam on groundwaters. Include details of the release of contaminants to groundwaters, the impact of the activity on standing water levels in groundwaters and the potential impact of the activity on bore pressure of groundwaters.
- c. Liners are proposed as a means of containing the ash disposed of to the ash dams.
Provided details on:
 - i. the proposed construction and composition of these liners
 - ii. measures to be put in place to ensure the integrity of the liners for the life of the ash dam and beyond.
- d. The information provided to date indicates that the activity intends to rely on settling via sedimentation ponds to remove contaminants. Provide information on how other dissolved and other physio-chemical contaminants (i.e. dissolved metals, pH, conductivity, dissolved oxygen) of any waters will be removed or treated to levels that will not cause environmental harm to any receiving waters.
- e. Outline what measures are proposed to protect the ash dam from extreme weather events, such as 1%AEP flood events.

10. Acoustic:

- a. Detail potential impacts from the noise generated by the activity on potentially sensitive receptors such as any worker accommodation for the proposed adjoining coal mine or any worker accommodation onsite.

Hazardous chemical facilities

11. The table of environmentally relevant activities on page 67 / Section 4.4 of the Town Planning Report includes the following chemicals listed in Schedule 15 of the Work Health and Safety Regulation, 2011:

Chemical	Quantity, Tonnes	Schedule 15 Threshold Quantity, Tonnes	Quantity Ratio
Ammonia	20	200	0.1
Hydrazine	20	200	0.1
		Aggregate Quantity Ratio (AQR)	0.2

12. The AQR is between 0.1 (10%) and 1 (100%) of major hazard facility (MHF) threshold and therefore the facility will be defined as a hazardous chemical facility (HCF).
13. No other chemicals listed in the table of ERAs are relevant to MHF / HCF requirements. However the other chemical listed are hazardous chemicals under Chapter 7 of the Work Health and Safety Regulation, 2011.
14. The [‘Planning guideline State code 21: Hazardous chemical facilities’](#) provides assistance in preparing supporting documentation to demonstrate compliance with the code, including the preparation of a preliminary hazard report.
15. The operator of the facility must notify as a Manifest Quantity Workplace as per Section 348 of the Work Health and Safety Regulation 2011. The operator of the facility must also notify the quantities of Schedule 15 chemicals under Section 537 of the Work Health and Safety Regulation 2011.
16. Further information about hazardous chemical notifications can be found at: <https://www.worksafe.qld.gov.au/injury-prevention-safety/hazardous-chemicals/notifications-for-hazardous-chemicals>.
17. [Managing respirable dust hazards in coal-fired power stations Code of Practice 2018](#) provides guidance on the standards of health, safety and welfare required under work health and safety laws to identify and manage respirable dust hazards at coal-fired power stations

Waterway Barrier works

18. The applicant should refer to the following factsheets for more information on waterway barrier works:
 - a. [What is a waterway?](#)
 - b. [What is a waterway barrier work?](#)
 - c. [What is not a waterway barrier work?](#)
19. The placement of temporary waterway barriers to facilitate construction of the road crossings may be conducted under DAF’s [Accepted development requirements for operational work that is constructing or raising waterway barrier works](#).
20. If any proposed temporary waterway barrier works cannot meet the accepted development requirements, this aspect of the works will need to be covered under the development approval.

21. Time limitations apply to all temporary waterway barriers in place under the ADR. If there is any possibility (e.g. due to weather) the barriers need to be in place for longer than the prescribed period under the ADR, the applicant is advised to include proposed temporary waterway barrier works in a development application.
22. If required, any application for a development permit for operational works involving constructing or raising waterway barrier works, will need to demonstrate compliance with State Code 18 of the SDAP.

State transport infrastructure

23. Tables 1.2, 2.1 and 5.7 within the Traffic Impact Assessment report appears to have an error in the 'Alpha' column as it states that there will be 48 rigids, 2 semis, 2 B-Doubles, 2 over sized vehicles, for a total of 44. It is believed that this should be read as a total of 54. This error may have been carried through into the road link and pavement impact assessments, and if so, should be corrected.
24. The submitted pavement impact assessment does not account for road trains even though these are listed as vehicles used for options 1 and 2 for the de-sulphuring process. Please amend accordingly.
25. The Safety Impact Assessment should discuss the safety implication of operation of the Salt Bush Road intersection, particularly during construction where the peak hour access movement is far higher than the peak hour background traffic. DTMR does not agree with the post mitigation risk assessment for hazardous goods and would expect the consequence to be at least hospitalisation, and risk rating M.
26. Due to the high volumes of turning traffic compared to background traffic, a traffic operation assessment of the intersection including SIDRA modelling to determine delays and queue lengths should be submitted. This may lead to a higher standard treatment than the proposed CHR(S).
27. An Australian Level Crossing Assessment Model (ALCAM) assessment should be undertaken for the affected railway crossing.

Clearing native vegetation - fencing

28. Clearing of Category B Least Concern vegetation for a property boundary fence line for a distance of 10m inside the property is exempt and does not require notification to the DNRME. Within Category X proponents can clear more than 10m.
29. Least Concern fence lines require no notification to the DNRME.
30. Fence lines that occur in Of Concern and Endangered vegetation require a notification to the DNRME.

Water management and use

31. An associated water licence authorises the taking of or interference with underground water in the area of a mining tenure, if the taking or interference happens during the course of, or results from, the carrying out of an authorised activity for the tenure. Should an associated water licence be issued for the dewatering activities associated with the Galilee Coal Project, the currency of the associated water licence will only be for the currency of the authorised activity; i.e. the taking of underground water cannot continue for the power station once dewatering (to allow the safe operating environment to mine the resource) ceases.
32. The proponent has not identified the total volume of water required for the mining operation that will be supplied by dewatering of the mine site. Clarification on the full volume of water required for the power station could be sourced from dewatering activities is sought. Alternative water supply options

may need to be explored if the power station water supply requirements exceed that which may be taken through dewatering and provided an associated water licence is issued.

33. The proposal is located within multiple Water Plan areas and Underground Water Areas. Please note that each Plan or Underground Water Area has specific rules relating to the specific type of water they regulate (ie. watercourse, overland flow or underground water). Therefore, should alternative water supply options be required, or the power station proposal change with regards to the taking or interfering with water or the placement or excavation of fill in a watercourse, the proponent is encouraged to contact the Water Management and Use team on 1800 822 100 or via email to centralwaterservice@dnrme.qld.gov.au to discuss any requirements under the *Water Act 2000*.

Electricity planning and licensing

34. DNRME has a generation authority application guideline and checklist to assist with the preparation of an application for a generation authority. This information is available on the following website links.
- a. Licencing framework webpage - <https://www.business.qld.gov.au/industries/mining-energy-water/energy/electricity/regulation-licensing/licensing-framework>
 - b. Generation Authority guidelines - https://www.dnrme.qld.gov.au/_data/assets/pdf_file/0017/306404/application-guide-generation-authority.pdf
 - c. Generation Authority checklist – opens when the link is selected.
35. There are no specific guidelines or checklists relating to applying for a transmission authority or distribution authority and you are encouraged to contact Energy Regulation directly at energyregulation@dnrme.qld.gov.au to discuss your requirements prior to preparing an application.

For further information please contact Andrew Finch, Principal Planner, on 3452 7680 or via email DAAT@dsdmip.qld.gov.au who will be pleased to assist.

Yours sincerely



Felicity Tait
Manager

Appendix E – July 2020

Social Impact Assessment for Galilee Power Project



SOCIAL IMPACT ASSESSMENT

For the Galilee Power Project

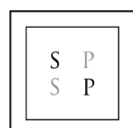


Provided for

WARATAH COAL PTY LTD

Principal author

DANIEL HOLM



SQUARE PEG
SOCIAL PERFORMANCE

EXECUTIVE SUMMARY

This Social Impact Assessment has been prepared for the Galilee Power Project, a proposed 1,400MW High Efficiency Low Emissions power station to be located approximately 30km to the northwest of Alpha in the Barcaldine Regional Council Area. It has been prepared to support the Material Change of Use application for the Project, and developed generally in accordance with the Queensland Government guidelines for Social Impact Assessments.

The Power Station is proposed to be located in a rural and remote area that is characterised by cattle grazing and some tourism. The nearby communities of Alpha and Jericho are small towns which are characterised by their friendly and community oriented lifestyle and resourceful populations. The towns, and the broader region have suffered population decline for some time.

Persistent themes in the consultation undertaken for this social impact assessment were the community aspirations for reversing the population decline, more employment opportunities for residents and young people, and more vibrant community organisations. Most residents would welcome the Project, notwithstanding that some challenges may come with the associated resident and non-resident population growth.

Likely significant impacts, both positive and negative arising from the Project are:

- Population growth and associated opportunities for revitalisation of the community,
- Growth in employment, training and business opportunities,
- Risk of investor driven housing market speculation impacting vulnerable populations,
- More school students and potential for additional health and community services,
- Increased competition for labour impacting existing businesses,
- Changing community dynamics, feelings of insecurity and uncertainty about the project.

This report also contains a Social Impact Management Plan which has been designed for the Project to contribute to meeting community aspirations of population growth and community revitalisation, while avoiding negative impacts associated with too rapid or too large growth. Key mitigation measures include:

- Ensuring non-resident workers are housed in a dedicated accommodation village,
- Encouraging in-migration of permanent, operational workers and their families to the focus communities and the broader Barcaldine Regional Council area,
- Providing training and employment opportunities for local and regional residents,
- Working with local council and organisations to manage impacts to services and facilities,
- Managing the changing community dynamics and potential for disturbances to landholders and neighbours, and,
- Engaging and consulting respectfully and meaningfully with local community members.

Overall, it is likely that the negative impacts of the Project can be managed.

GLOSSARY AND ABBREVIATIONS

Term	Meaning
ABS	Australian Bureau of Statistics
BIBO	Bus In Bus Out
BRC	Barcaldine Regional Council
DA	Development Approval (by BRC)
DATSIP	Department of Aboriginal and Torres Strait Islander Partnerships
DIDO	Drive In Drive Out
EA	Environmental Authority
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPC	Engineering, Procurement and Construction
ERP	Estimated Resident Population
FIFO	Fly In Fly Out
GCP	The Galilee Coal Project
Ha	Hectares
HACC	Home and Community Care
HELE	High Efficiency Low Emissions
Km	Kilometres
LGA	Local Government Area
MCU	Material Change of Use
ML	Mining Lease
Mtpa	Million tonnes per annum
MW	Megawatt
QFES	Queensland Fire and Emergency Services
QPS	Queensland Police Service
RFDS	Royal Flying Doctors Service
RMP	Road Use Management Plan
ROM	Run of mine
RTA	Residential Tenancies Authority
SES	State Emergency Services
SEIFA	Socio-Economic Indexes for Australia
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
The Project	The Galilee Power Project
The Proponent <i>or</i> Waratah	Waratah Coal Pty Ltd
UCL	Urban Centre / Locality

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1. INTRODUCTION

1.1 Background and overview

Waratah Coal Pty Ltd (the *Proponent* or *Waratah*) proposes to develop the *Galilee Power Project* (the Project) which includes the development of a 1,400 Megawatt (MW) ultra-supercritical High Efficiency Low Emissions (HELE) power station located approximately 30 kilometres (km) north west of Alpha in the Barcaldine Regional Council (BRC) Local Government Area (LGA) in Queensland. The power station will have the dual purpose of servicing the public network and providing the power needs for the adjacent Galilee Coal Project (GCP) mine operations. The Project is connected to, and would not proceed without the GCP, however the latter is subject to a different approvals process.

The Proponent has submitted an application for a Material Change of Use (MCU) for a public utility (power station and associated infrastructure) to BRC, and BRC has requested that the proponent undertakes a Social Impact Assessment (SIA) for the Project, generally in accordance with the Queensland Government Social Impact Assessment Guidelines (State of Queensland, 2018b). The proponent has engaged Square Peg Social Performance to undertake the SIA.

1.2 Purpose of this SIA

This SIA considers potential social impacts of the Project in combination with associated projects such as the GCP. The purpose of this SIA is to identify, analyse and assess potential positive and negative social impacts of the Project as well as propose measures for their management and monitoring. It has been developed in accordance with an SIA scope document prepared with input from BRC and generally in accordance with the Queensland Governments' *Social Impact Assessment Guideline* (State of Queensland, 2018b). In the development of this SIA, the following principles described in the guideline have been adopted:

- Lifecycle focussed: The SIA will seek to address impacts across the project lifecycle;
- Reasonable: The scope of the SIA and mitigation and enhancement measures have been developed commensurate with the scale of the project.
- Participatory: The consultation for the SIA has aimed to be inclusive, respectful and meaningful, and consultation methods have been tailored to the needs of potentially affected groups;
- Rigorous: The methodology has aimed to be robust, drawing on reliable and current data, as well as defensible social science methods;
- Effective management: The mitigation measures proposed in the SIA have been developed with their effectiveness in achieving meaningful outcomes as the primary goal; and
- Adaptive: The management measures are supplemented with a monitoring and review program aimed at ensuring adaptability to social change. Ongoing dialogue with stakeholders is further a key aspect of ensuring management measures remain relevant.

1.3 Methodology

This report draws on social research conducted between May and July 2020. The methodology for the SIA was developed taking into account good practice guidance (Vanclay, Esteves, Aucamp, & Franks, 2015), the project scope, the Queensland Government SIA guideline 2018 (State of Queensland, 2018b) and community particulars identified during the scoping phase. Importantly, the methodology was tailored to the Project approvals pathway which does not ordinarily require an SIA being conducted.

1.3.1 Data sources

The SIA draws on primary and secondary data. Primary data was gathered through face to face consultations with community representatives and residents in the communities most affected by the Project, primarily Alpha and Jericho. Consultations took the form of stakeholder interviews and meetings. A flexible, semi-structured interview protocol was developed which focused on presenting the project, eliciting community values, aspirations and fears, as well as anticipated impacts and preferred mitigation methods. Interviewees were informed about the purpose of the interview and how their information would be managed.

Secondary data included local and regional plans and planning schemes, as well as statistical and demographic data from the Australian Bureau of Statistics (ABS) and the Queensland Government Statistician. It is important to note that the communities near the Project are relatively small, and the ABS uses a method called *introduced random error* to protect the anonymity of respondents. This alters small values slightly, and these should therefore be interpreted with caution. This also leads to some values not adding up correctly. Additionally, other technical studies prepared for the project were reviewed, including the traffic and transport study, air quality and acoustic assessment.

1.3.2 SIA Process

This SIA was developed across six distinct, largely sequential but slightly overlapping phases, summarised in Table 1 below.

TABLE 1 PHASES IN THE SIA PROCESS

Phase	Detail
Scoping	A scoping document was developed with input from BRC. The document outlined data points, approach to consultation, likely focus impacts and focus communities. APPENDIX A – SIA SCOPE contains the scope document.
Community engagement	A targeted community consultation program was developed primarily consisting of face to face stakeholder interviews.
Baseline Analysis	The baseline analysis considered the existing social environment, and drew on the community engagement process as well as an analysis of social, economic and demographic data and local and regional plans.
Impact identification and assessment	The impact identification and assessment was informed by findings from the community engagement process, the social baseline, other technical reports and published research. Impacts were assessed based on a likelihood / consequence matrix described below.

Impact mitigation measures and management plan	Management, mitigation and enhancement measures for significant social impacts were developed based on stakeholder consultation and known good practice. All management measures have been incorporated in a project Social Impact Management Plan (SIMP).
Monitoring review and update	A practical monitoring, reporting and review program was also developed and incorporated in the SIMP.

1.3.3 Impact identification and assessment

All identified social impacts were described as to whether they were positive or negative, who the likely impacted stakeholders are and their likelihood and consequence. Some impacts, such as those relating to population change and demand for services and facilities can be reasonably quantified. These were informed by development of quantitative workforce sourcing scenarios, and attendant reasoning of impact pathways. Other impacts are less easily quantifiable and the analysis of these drew more heavily on qualitative and consultative data. All social impacts were assessed for significance based on a likelihood / consequence matrix, described in Figure 1 below. Criteria for the likelihood and consequence descriptors are provided in Table 2 and Table 3 below.

FIGURE 1 IMPACT SIGNIFICANCE MATRIX

		Consequence			
		Negligible	Minor	Moderate	Major
Likelihood	Almost certain	Medium	High	Very high	Very high
	Likely	Medium	Medium	High	Very high
	Possible	Low	Medium	Medium	High
	Unlikely	Low	Low	Medium	Medium

TABLE 2 LIKELIHOOD CRITERIA

Likelihood	Definition
Almost certain	Above 90% likelihood of occurring during the project
Likely	Between 75% and 90% likelihood of occurring during the project
Possible	Between 25% and 75% likelihood of occurring during the project
Unlikely	Less than 25% likelihood of occurring during the project

TABLE 3 CONSEQUENCE CRITERIA

Consequence	Definition – positive impacts	Definition – negative impacts
Major	Long lasting positive social change affecting large number of stakeholders across local and	Long lasting negative social change affecting large numbers of stakeholders,

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	regional area. Strongly evidenced and broadly shared community aspiration.	across local and area. Very broad and intense community concern.
Moderate	Positive social change affecting some stakeholders in local and regional area for long durations (more than one year). Generally aligned with community aspiration.	Negative social change affecting stakeholders in local and regional area for long durations (more than one year). Some evidence of community concern.
Minor	Positive social change affecting small number of stakeholders for short duration. Limited evidence of alignment with community aspiration.	Negative social change affecting small number of stakeholders. Short duration and evidence of limited community concern
Negligible	Negligible social change. No recorded community aspiration.	Negligible social change. No recorded community concern.

The purpose of this assessment is not primarily to provide a 'scientific' prediction of the detail of which impacts will occur. It is however designed to provide a reasonable assessment, drawing on rigorous social research, and primarily serves to orientate prioritisation of mitigation measures. Impacts with a positive or negative significance of high and very high were considered as requiring mitigation or enhancement measures.

Cumulative impacts

Cumulative impacts can be defined as "successive, incremental and combined impacts of one or more projects (existing, current and foreseeable future projects) on society, the economy or the environment" (Vanclay et al., 2015, p. 79). To identify and assess cumulative impacts the following method was followed:

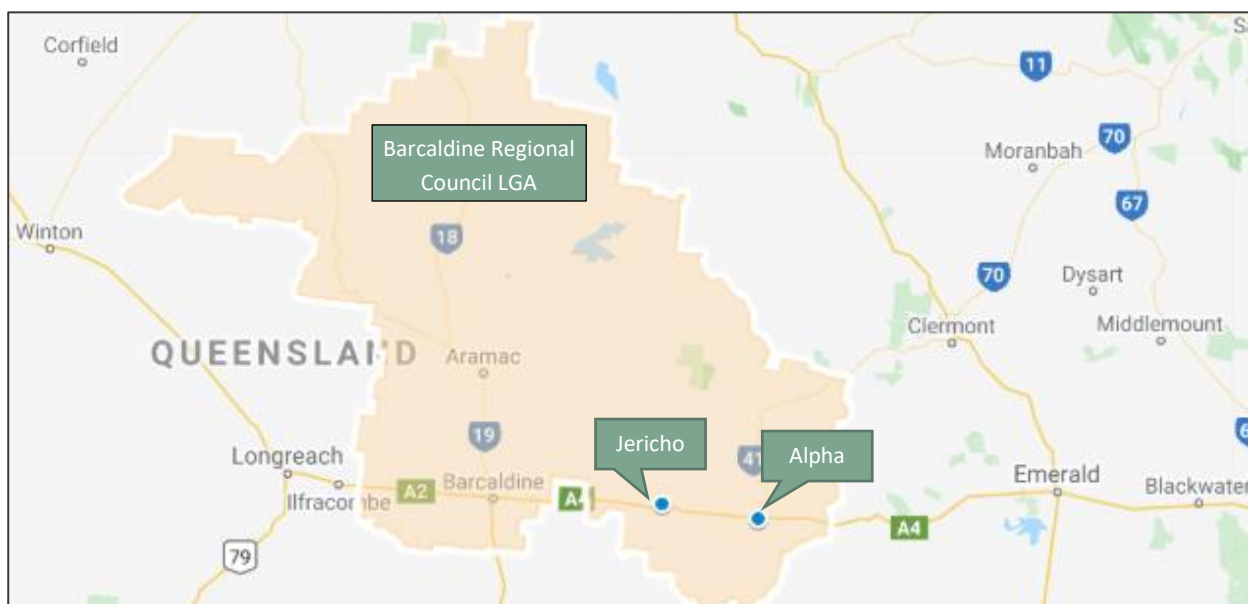
- 1) First, all known major projects located in the Galilee Basin were identified based on a search of the Queensland Government's Coordinator General and Department of Environment and Science websites and supplemented with industry information;
- 2) these projects were then screened for the possibility of giving rise to material cumulative social impacts, considering the likelihood of proceeding, proximity to the Project, and likelihood of concurrent development, and;
- 3) for those projects where the risk of cumulative social impacts was considered high, a more in-depth assessment was carried out taking into account information about workforce sizes and construction schedules.

1.4 Study Areas

Based on consultation with council and the early scoping of impacts the state suburbs of Alpha and Jericho were defined as the focus communities for this SIA. These towns, in particular Alpha, are most likely to experience the direct socio-economic and environmental change arising from the Project. Other nearby areas are likely to also be affected but in a less direct way. The BRC LGA was defined as the regional study area, as this is the area which is most likely to experience secondary social impacts and opportunities. The

State of Queensland was included as a state study area, primarily for comparison purposes. Figure 2 below shows a map of the focus communities and the regional study area, and Table 4 provides key facts about each of the study areas.

FIGURE 2 FOCUS COMMUNITIES AND REGIONAL STUDY AREA



Source: Map Data © 2020, Google. Study area outlines generated from ABS tablebuilder.

TABLE 4 STUDY AREAS – KEY FACTS

Area	Name	Geography	ABS ID	Area (time of 2016 census)
Focus communities	Alpha	State Suburb	SSC30045	203.4 Km ²
	Jericho	State Suburb	SSC31453	86.5 Km ²
Regional study area	Barcaldine Regional Council	Local Government Area	LGA30410	53382.7 Km ²
State Study Area	Queensland	State	3	1730172.1 Km ²

Source: Based on ABS (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d).

1.5 Outline of report

The remainder of this report is structured as follows:

- Section two outlines relevant legislation, policies and guidelines;
- Section three provides details about the project, including proposed infrastructure, timelines, as well as workforce requirements, rosters and the Proponent's approach to workforce accommodation;
- Section four describes the community and stakeholder engagement process that has informed the SIA;



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- Section five provides a description of the existing social environment for the focus communities and the regional study area, with state data provided as comparison;
- Section six identifies and assesses social impacts, and;
- Section seven proposes mitigation and enhancement strategies for significant social impacts.

DRAFT

2. POLICY AND PLANNING CONTEXT

This section outlines the local and state level legislation, policies and planning instruments that are relevant to this SIA.

2.1 Planning Act 2016

The planning application for the Project is made to BRC under The Planning Act (2016). The Planning Act provides a new planning framework for Queensland and replaces the Sustainable Planning Act. The purpose of the Planning Act is to ensure a planning system that achieves ecological sustainability. Ecological sustainability is, according to the Act, a balance between protection of ecological processes and natural systems, economic development, and maintenance of cultural, economic, physical and social wellbeing of people and communities (State of Queensland, 2019). The development of this SIA is aligned with these principles.

2.2 The SIA guideline

BRC has requested that this SIA is developed generally in accordance with the Queensland Government SIA Guideline (State of Queensland, 2018c). The SIA guideline was developed under the *Strong and Sustainable Resource Communities Act (2017)*, which aims to ensure that residents in communities near large resource projects benefit from the construction and operation of these (State of Queensland, 2018c). Although the Project is not considered a large resource project under the Act, the Proponent is seeking to develop the Project in alignment with the principles of the Act.

The SIA guideline describes the process and principles for conducting an SIA, as well as key matters to be addressed within the SIA. According to the SIA guideline, the following are key elements of the SIA process:

- Scoping;
- Social baseline analysis;
- Community and stakeholder engagement;
- Impact assessment;
- Impact mitigation and benefit enhancement;
- Social impact management plan, and;
- Monitoring, review and update.

The SIA guideline further describes the key matters to be included in the SIA, being:

- Community and stakeholder engagement;
- Workforce management;
- Housing and accommodation;
- Local business and industry procurement, and;
- Health and community wellbeing.

The key matters are addressed throughout this report, but particularly in sections 6 and 7. The methodology section above describes how the SIA process has been executed for this report.

2.3 Approaching 2030: Barcaldine Regional Council's economic and community plan

Barcaldine Regional Council's community plan *Approaching 2030* was issued in 2018 and outlines a vision and roadmap for the council leading up to 2030. It defines the vision for BRC as *"In 2030, the Barcaldine region will be prosperous and resilient. Shaped and strengthened by a growing economy and collaborative action, the outlook is bright for future generations"*. It describes the particular challenges and opportunities pertaining to the council as a whole and to each of the six communities in the LGA. For the focus communities of Alpha and Jericho, the plan describes challenges including a declining population base, limited employment opportunities and few businesses, and particularly for Alpha the issue of flooding and lack of reliable power. The report also identifies several opportunities, summarised in Figure 3.

Alpha	Jericho
<ul style="list-style-type: none"> • Thermal coal mining and associated industries. • Enhanced visitor accommodation and hospitality. • Large scale irrigated agriculture. • Tourism opportunities relating to local features such as murals, art gallery, fossilised forest. 	<ul style="list-style-type: none"> • Thermal coal mining and associated industries. • Enhanced visitor accommodation and hospitality. • Establishment of small retail business. • Tourism opportunities relating to local features such as the drive in cinema, the Crystal Trumpeteers and Redbank Park.

FIGURE 3 OPPORTUNITIES: ALPHA AND JERICHO

The plan outlines a management framework with an implementation plan covering six key areas: unleashing potential, dynamic industries, real outback, growing population, thriving towns and agile council. The core aspects of this plan are contained in Table 5 below.

TABLE 5 APPROACHING 2030, PILLARS, GOALS, OBJECTIVES AND MEASURES OF SUCCESS

Pillar and Goal	Objectives	Measures of success
Unleashing Potential <i>There is a spectacular culture of innovation and entrepreneurship in the region, where local talent is nurtured and empowered and ideas are turned into reality.</i>	<ul style="list-style-type: none"> • Residents feel empowered and supported to drive grass-roots initiatives that make a measurable difference in their communities. • Local communities have the data, knowledge and skills to innovate and make better decisions for their future. • Local entrepreneurs have the skills and capabilities to turn hobbies or ideas into new business opportunities. • Community groups and clubs achieve outcomes because their committees and volunteers have the skills and capabilities required to attract 	<ul style="list-style-type: none"> • An increase in the number of residents with training or qualifications within the region. • Creation of new knowledge sharing workshops ('lunch and learn') and other events run by locals for locals. • Increases to community and club participation and volunteer rates. • The number of new businesses open within the region, as local entrepreneurs acquire new skills and capabilities.

	external funding, drive participation and improve engagement.	
Dynamic Industries <i>The region has a diverse economy that is reflective of evolved traditional industries and thriving new industries. Local talent has a range of employment opportunities to choose from and the rate of new business growth is at an all-time high.</i>	<ul style="list-style-type: none"> • A diversified economic base that mitigates the impact of drought and enables the region to remain relevant and competitive. • Industry development activities are focused on Agriculture, Tourism, Traditional Renewable Energy and Resource industries. • The community and council support the maintenance of established businesses and the creation of new businesses in priority industries. • Natural assets, strengths and community assets are better leveraged to develop industry. • Local businesses leverage and benefit from the digital economy. • Locals can source a broader range of products and services locally. 	<ul style="list-style-type: none"> • The region's economic base is diversified, increasing the number and spread of industries within the region. • The agriculture industry within the region is diversified and there is a broader adoption of technology. • New businesses have opened through collaborative projects or private partnerships. • The increase in outside investment in priority industries across the region. • The number of businesses and tourist and community projects that take advantage of the region's natural and community assets. • Improved connectivity north, south, east and west by road, rail and air.
Real Outback <i>Each of our communities is a recognised destination. The region is known for its authentic and quintessential Australian outback experience.</i>	<ul style="list-style-type: none"> • The region's brand is iconic and known nationally and globally for the quintessential Australian outback experience it offers visitors. • The region is accessible and visitors have a range of diverse tourism products to choose from which return measurable economic benefits to the region. • An increased number of visitors to the region is complemented with longer stays and greater capture of tourism dollars. • Retail and hospitality businesses are viable and contribute to thriving towns and new jobs. 	<ul style="list-style-type: none"> • An increased number of visitors to the region, complemented by longer stays and higher tourist spending. • An increased number of new retail and hospitality businesses within the region. • An increased number of significant, innovative and unique events are held, attracting people to the region.
Growing Population <i>The population is progressively growing in each of our communities and there is a steady stream of inward migration because of our lifestyle, strong</i>	<ul style="list-style-type: none"> • Reverse the declining population trend and attract and retain a diverse community • Attracting young families and professionals to return to, or relocate, to the region for lifestyle and economic opportunities • To provide residents with access to social and government services (i.e. 	<ul style="list-style-type: none"> • An increase in the population, especially among young families and professionals. • Increased economic opportunity providing an incentive for people to stay in or come to the region. • Inland, interstate and overseas migration growth that

<i>community spirit and economic opportunities.</i>	<p>health care, education) as a result of sufficient demand</p> <ul style="list-style-type: none"> Overseas and interstate migration is a contributor to the region's growth 	<p>contributes to a growing, diverse and thriving population.</p> <ul style="list-style-type: none"> Increased school enrolment rates due to growth in the number of families within the region.
<p>Thriving Towns <i>Each town is thriving and is known for its own unique character. Local facilities are well used for a variety of purposes and our local clubs and community groups are growing. The region is a living demonstration of how community spirit, passion and collaboration can revitalise and drive well-being.</i></p>	<ul style="list-style-type: none"> Locals and Council take pride and ownership of the appearance of their five town centres across the region ensuring they are vibrant, attractive and well maintained. The community has strong and active clubs that are inclusive and innovative, with participation and contribution across the entire community. Local sporting, arts, historic and cultural facilities are enhanced as a result of focused community effort. Vacancy rates are at an all-time low for commercial properties and locals have access to key amenities. The community embraces and promotes entrepreneurial ideas and activities 	<ul style="list-style-type: none"> Increases in clubs and community group participation and volunteer rates, illustrative of a connected community with a better quality of life. The number of new projects undertaken by the community to enhance sporting, arts, historic and cultural facilities. A decrease in the number of vacant buildings, especially commercial properties. Increased commercial activity and availability of goods and services. Vibrant and unique business precincts within each town.
<p>An Agile Council <i>The region has access to seed/catalytic infrastructure. Its people and community initiatives have ensured the region has the leadership capabilities and financial sustainability required to safeguard a flourishing future for generations to come.</i></p>	<ul style="list-style-type: none"> Processes, systems and policies are streamlined and simplified to facilitate and stimulate economic development. Discretionary expenditure supports investment in areas of greatest benefit to achieving the 2030 Vision. Opportunities for Council officers to contribute to business improvement and economic development are maximised. Collaborative partnerships are developed to solve pressing issues across government, business and community groups. Businesses and the community are better able to make decisions with improved access to data and information from Council. 	<ul style="list-style-type: none"> Increased community engagement and a region-wide dashboard leads to improved community satisfaction. An increase in the number of new businesses and investments in the region. Reduced time between idea and implementation, especially for new businesses requiring Council approvals/support. Underutilised community assets are used more and leveraged for economic benefits.

Source: (Barcaldine Regional Council, 2018)

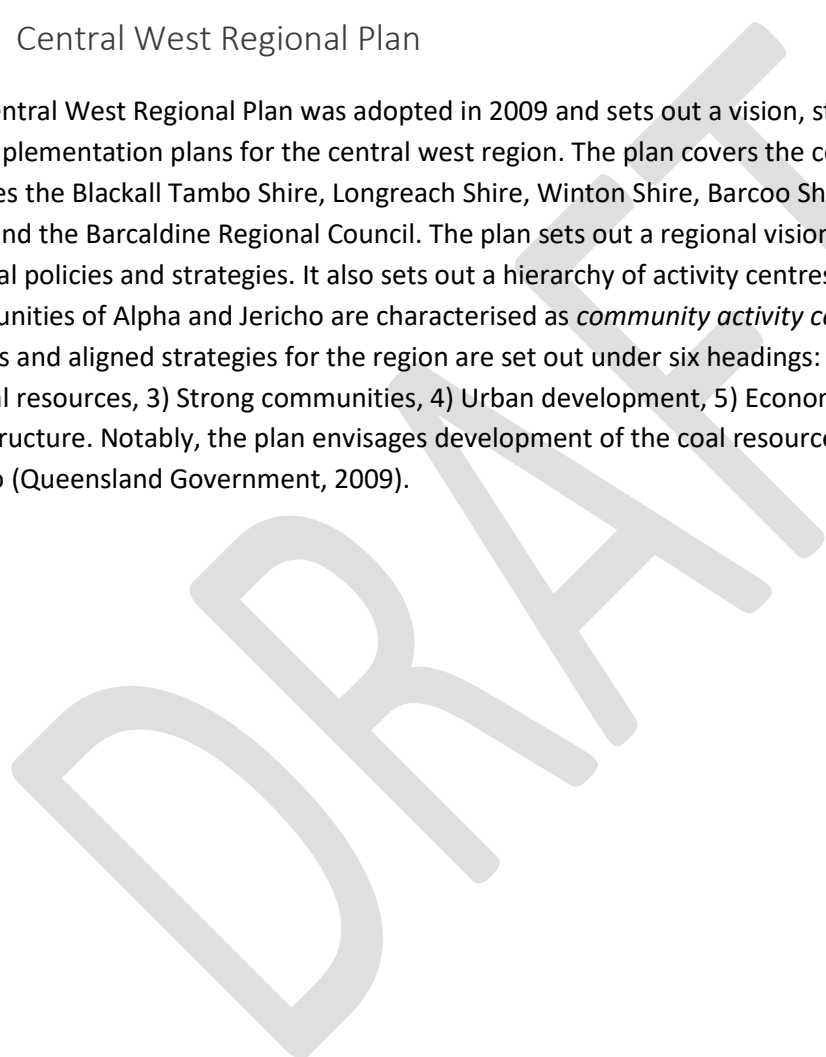
The Project is likely to directly support the achievement of several of these goals and objectives, particularly those that relate to reversing population decline, attracting new residents to the towns in the region and contribute to a diversified economy. It further has the opportunity to support revitalising community life through an increased volunteer base, and also potentially support other priorities such as improved tourism facilities through various community investment opportunities.

2.4 The Jericho Planning Scheme

The planning scheme for the Jericho Shire was adopted by the Jericho Shire Council in 2006 (Jericho Shire Council, 2013), and is the planning instrument in place for the Project location at this point in time. Council has confirmed that a development of the kind the Project represents was not foreshadowed in the planning scheme, and therefore infrastructure provision planning was based on limited growth assumptions. Therefore, this SIA will assist with informing future requirements for infrastructure in the focus communities. Council has also confirmed it is preparing a new planning scheme.

2.5 Central West Regional Plan

The Central West Regional Plan was adopted in 2009 and sets out a vision, strategic directions, policies and implementation plans for the central west region. The plan covers the central west region which includes the Blackall Tambo Shire, Longreach Shire, Winton Shire, Barcoo Shire, Diamantina Shire, Boulia Shire and the Barcaldine Regional Council. The plan sets out a regional vision, strategic directions and regional policies and strategies. It also sets out a hierarchy of activity centres under which the focus communities of Alpha and Jericho are characterised as *community activity centres*. A large number of policies and aligned strategies for the region are set out under six headings: 1) Natural environment, 2) Natural resources, 3) Strong communities, 4) Urban development, 5) Economic development, and 6) Infrastructure. Notably, the plan envisages development of the coal resources in the vicinity of Alpha and Jericho (Queensland Government, 2009).



3. PROJECT DETAILS

This section provides a summary of project details that are relevant to the SIA. The Project is dependent upon the construction and operation of the GCP and would not proceed without it. The Galilee Coal Project is however subject to a separate approvals process and not described in detail here. For completeness the construction and operation of the portion of the GCP which will supply the Project is briefly described, and workforce numbers included. The totality of the GCP, including the portion intended to produce export coal is addressed in the cumulative impacts section.

3.1 Project location

The Project is proposed to be located on the Monklands property, described as Lot 2 on SP136836. The Project site covers an area of 1,310 hectares (ha) of which 518 will be subject to clearing and earthworks for the construction of the Project. The Project is located immediately to the east of the GCP (see figure Figure 5 below).

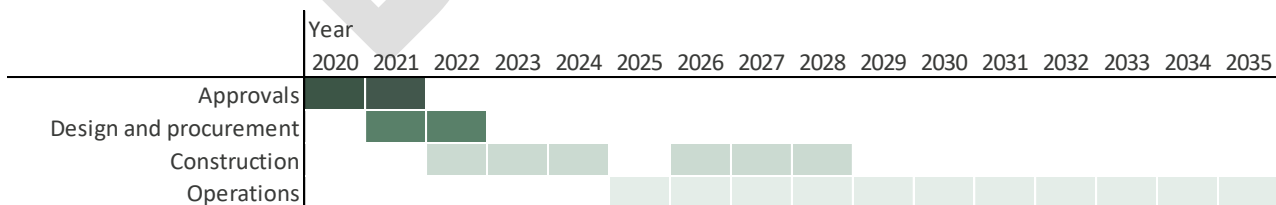
3.2 Key project timelines and infrastructure

The Project involves the construction and operation of a 1,400MW HELE Power Station comprising two generators of 700MW each. The power station will be supplied with coal from an open cut portion of the GCP.

At the time of writing, the Project is in the approvals phase and expect to receive approvals during 2021. This phase will be followed by a design and procurement phase, where detailed design is undertaken and Project partners are selected. Under current plans, construction of the first generator can commence in 2022 and will last for approximately 36 months, after which the project will become operational in early 2025. A second generator is planned to be constructed from 2026, subject to industrial demand. The first construction phase will also include the development of an open cut mine of 2.4 Million tonnes per annum (Mtpa) which will be operated in conjunction with and feed the power station. Similarly, the open cut mine will be expanded during the second construction phase to reach a capacity of 4.8Mtpa.

Figure 4 below shows an indicative project development schedule.

FIGURE 4 INDICATIVE PROJECT DEVELOPMENT SCHEDULE



Source: proponent data

The following infrastructure will be required:

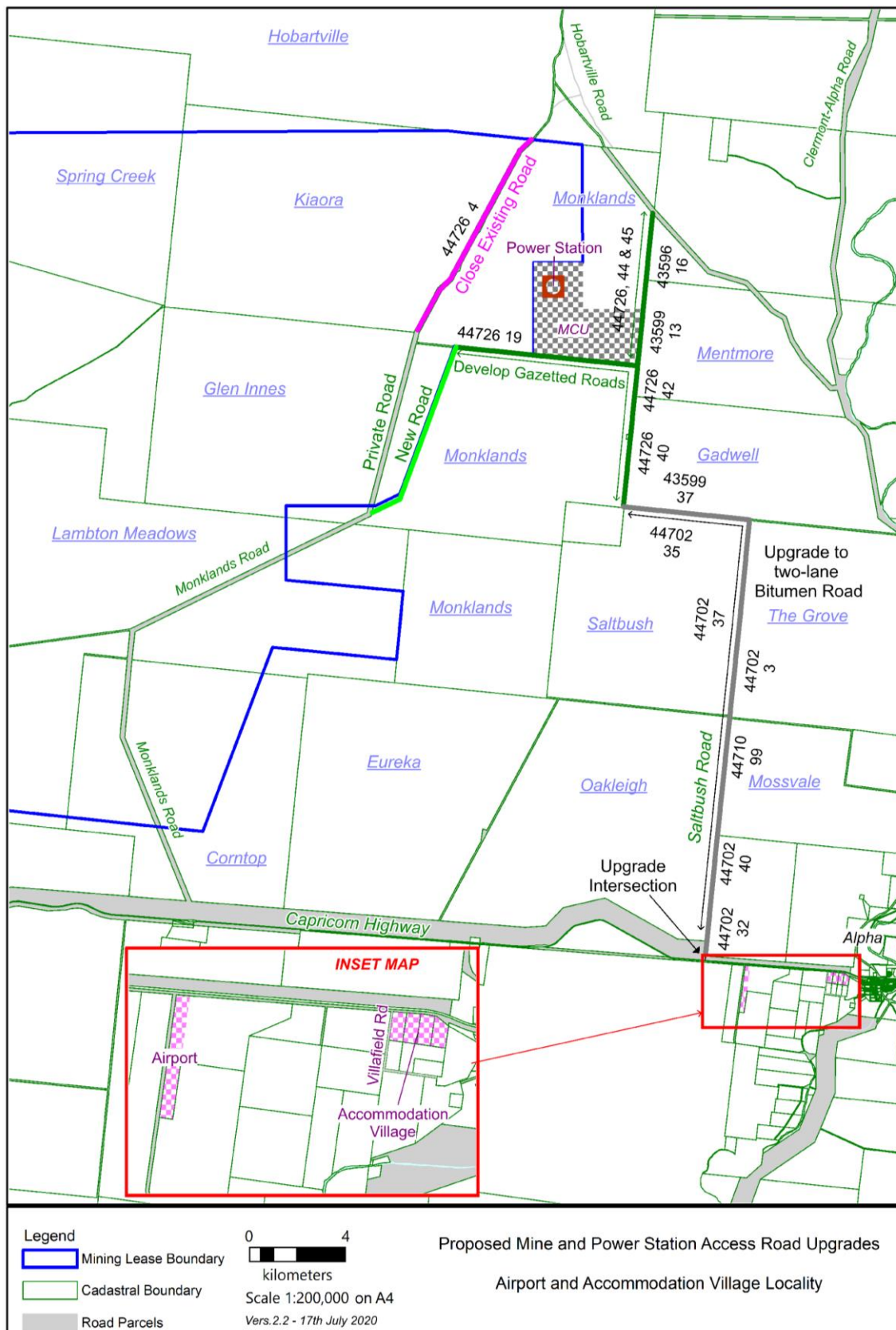
- *Conveyors* including Overland Conveyor to bring coal into the Power Station site from the adjacent Galilee Coal Project, Plant Feed Conveyors between the Coal Handling Plant and the Coal Bunkers,

- A *Coal Handling Plant* including a Coal Transfer Station, Coal Stacking Conveyor, Coal Stockpiles (sized for 12 weeks storage), Coal Reclaim Conveyors and Coal Stockpile Runoff Ponds,
- The *Power Station* which includes Coal Bunkers, Boilers and Turbine Hall, Air Cooled Condensers and Cooling Tower and Stack,
- *Flue Gas Desulphurisation*, including Limestone Silo, Limestone Prep Plant, Lime Injectors, Baghouse and Desulphurisation Plant,
- *Water Storage and Treatment* with Raw Water Dams, Water treatment Plant, Service Water Tanks and Waste Water Ponds,
- *Ash Handling and Containment Facilities*: Ash Silos, Pug Mill, and Truck Loading,
- *Ancillary Infrastructure* including Diesel Unloading and Storage, Hydrogen Store, Laboratory, Workshops, Storeroom, Fire Station, Administration Building, Amenities, Carpark and Lay Down Areas,
- *Power Transmission Infrastructure*, including a Substation, Switchyards and Transmission Line (note that the Transmission line will form part of a separate EPBC referral); and,
- A *Waste Containment Facility* including associated Ash Runoff Water Drains and Runoff Water Dam and Sedimentation Dam.

3.3 Associated infrastructure

In addition to these the Project will also require the upgrading of an access road, which is currently planned to be the Saltbush Road, an upgraded Alpha Airport and an accommodation village. The Proponent is intending to use the proposed Alpha Accommodation Village located at Villafield Road, directly to the west of Alpha as the main form of accommodation for the Project workforces. These associated infrastructures are planned to be constructed and operational prior to the construction of the Project.

FIGURE 5 PROPOSED PROJECT SITE, ACCOMMODATION VILLAGE AND AIRPORT



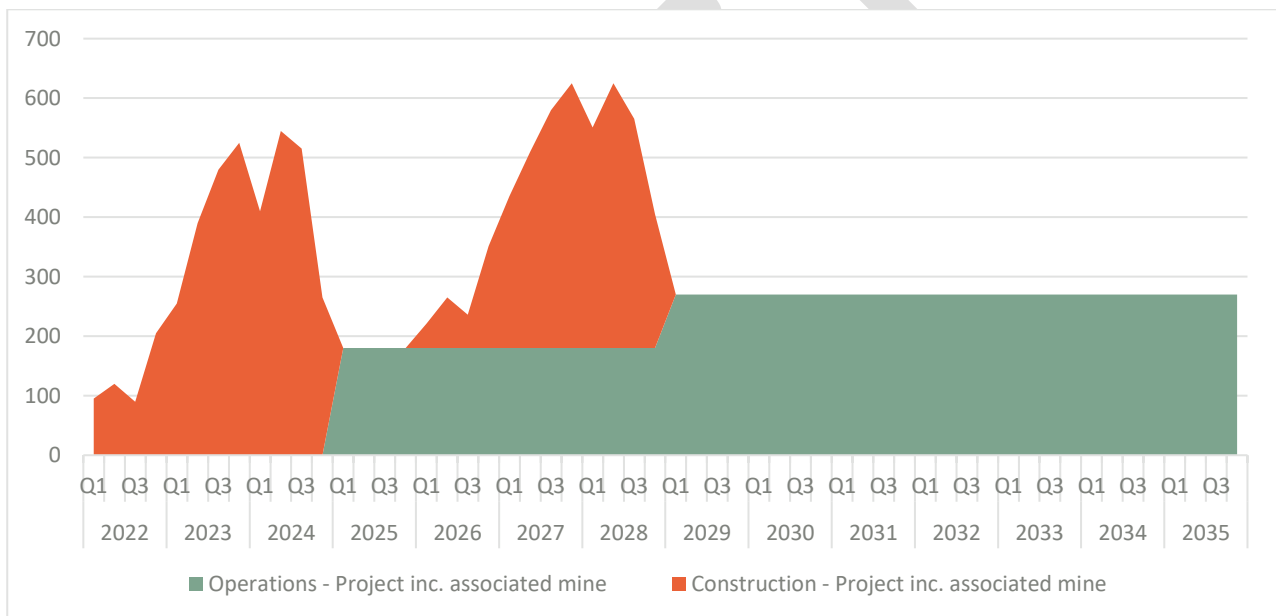
3.4 Workforce requirements

The construction workforce for the generators and associated open cut mine will commence at around 100 persons and ramp up to a peak workforce of approximately 500 persons at approximately the 8th quarter of the construction process. Following that, the construction workforce will decline quickly as the project moves into commissioning and commences operation. Construction of the second generator and expansion of the open cut mine will require a similar workforce size.

During the operational phase, approximately 90 people will be required to operate the power plant, and an additional 90 to operate the open cut mine. This will increase to approximately 180 persons for the mine operations when the mine is expanded to 4.8Mtpa.

Figure 6 below shows the indicative workforce requirements by quarter for the Project.

FIGURE 6 WORKFORCE REQUIREMENTS



Source: proponent data

Construction workforces are by nature short term, and tend to move from project to project. It is therefore likely the majority of the construction workforces will be sourced from outside the regional study area. The operational workforce is however likely to contain a mix of residents in the focus communities, residents from other towns and communities in the BRC, as well as from the rest of Queensland.

3.5 Construction process

Construction work will mostly occur during daytime and occur seven days per week. Some night time activities will be required throughout the construction process and in particular during commissioning.

Construction activities will include:

SOCIAL IMPACT ASSESSMENT

- site establishment and preparation for construction,
- bulk earth works,
- civil works, including building and plant foundations and drainage structures,
- erection of plant and equipment,
- plant testing and commissioning, and,
- completion and landscaping.

The Power station components will be sourced from overseas locations, most likely Korea, China or Japan, transported by ship to the Port of Gladstone, and by road to the site. The Proponent is likely to engage an Engineering, Procurement and Construction (EPC) contractor to carry out much of the work, who is in turn expected to engage several subcontractors.

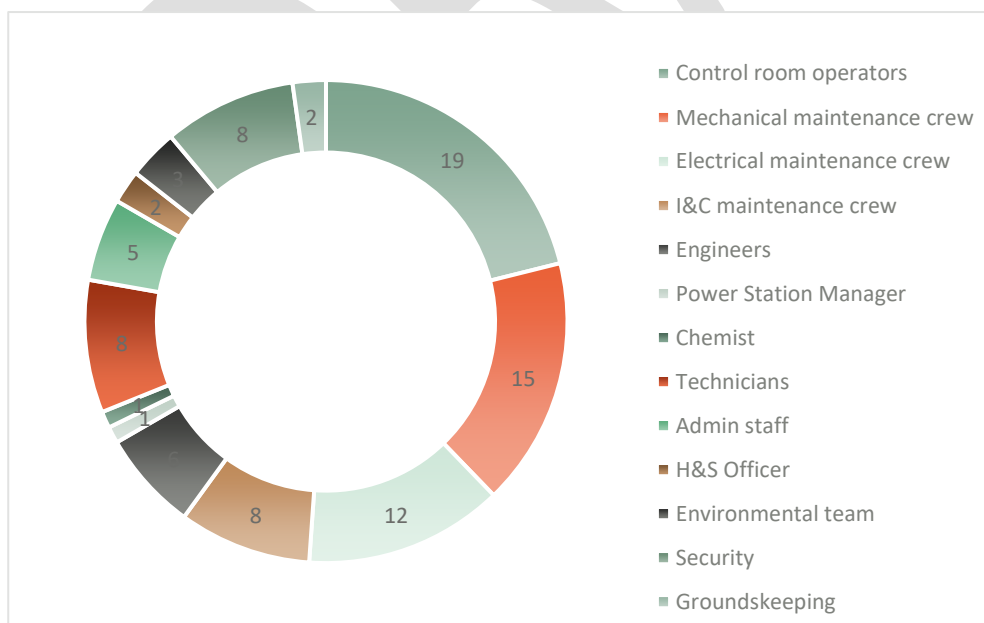
3.6 Nature of Operations

As noted above, the Power Station will require a permanent workforce of approximately 90 persons. Operations will be 24 hours, seven days per week, and is intended to require minimal manual intervention. Each shift is intended to be eight hours. The permanent workforce is expected to predominantly be employed by the Proponent with subcontractors used for various major maintenance and shutdown tasks. Some routine non-specialist tasks such as cleaning and security are also likely to be subcontracted.

The workforce rosters will include both shift work for operators, breakdown maintenance and critical path shutdown work, as well as traditional 9am – 5pm, Monday to Friday work for other roles such as engineering, administration, and most of the maintenance roles.

Figure 7 below shows the approximate number of staff by role for the power station.

FIGURE 7 APPROXIMATE WORKFORCE NUMBERS BY ROLE



Source: proponent data

In regards to skills and qualifications, the majority of the workforce will require trade qualifications predominantly in the electrical or mechanical trades, some will be trades assistants or apprentices, and a small number will require professional qualifications in engineering, chemistry or environmental science.

Most of the traffic to and from site during operations is likely to be workforce related and comprise light vehicles and buses.

3.6.1 Workforce recruitment, transport and accommodation strategies

As noted above the construction and operations workforces are likely to be sourced from within the focus communities (comprising existing residents and those relocating to live in these communities), from other towns and communities in BRC and from the rest of Queensland. Table 6 below outlines the preferred transport and accommodation approaches for each of these categories.

TABLE 6 WORKFORCE TRANSPORT AND ACCOMMODATION ARRANGEMENTS

Workforce origin	Transport arrangement	Project accommodation arrangement
Focus communities	Daily commute via bus or own vehicle.	Own home
Barcaldine Regional Council (likely to include Barcaldine, Aramac and Murrumbidgee)	Bus service to accommodation village and site	Accommodation provided in Alpha Accommodation Village for duration of roster
Rest of Queensland	Fly in Fly Out (FIFO) to Alpha Airport, bus service to accommodation village and site	Accommodation provided in Alpha Accommodation Village for duration of roster.

3.7 Project generated road traffic

Construction and operation of the Project will generate a mix of light, heavy and oversized vehicle traffic. Heavy vehicles will include a mix of rigid trucks, semi-trailers, and B-doubles, and some oversized vehicles. Heavy vehicles transporting materials, plant and equipment are likely to access the site via the Capricorn Highway via Emerald and Alpha from a variety of destinations. Most imported plant and equipment is likely to come in via the port of Gladstone. As noted above, traffic will access the site via Saltbush Road, which will be upgraded to a dual lane sealed road. The intersection between Saltbush Road and the Capricorn Highway will also be upgraded to enable vehicles to safely exit and enter the Highway.

The Project plans to provide a bus service between the site and the accommodation facility to reduce the risk of road traffic incidents. The Project is also considering a bus service between other towns in the regional study area and the site.

The Transport Impact Assessment undertaken for the Project forecast a peak of 246 workforce traffic vehicle movements per hour in mornings and the same amount in afternoons at peak construction in 2023. This figure is including light vehicles as well as buses, and is based on an early estimate of a peak of

1,840 construction workers. As the current workforce forecast is significantly lower, the likely workforce traffic generation is consequently likely to also be substantially lower.

As for heavy vehicles, it is estimated a total of 106 vehicle movements per day will be required at peak construction, with an estimated 54 being local traffic between site and Alpha, and 52 from further afield. Most of the local traffic is likely to be rigid trucks, and of the longer haul traffic 81% is likely to be articulated semi-trailers or larger. Some B-triples, type 1 road trains and oversized / over mass vehicles will be required. Further information on the traffic requirements and impacts of the project are provided in the Transport Impact Assessment developed to support the MCU application.

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4. COMMUNITY AND STAKEHOLDER ENGAGEMENT

Community and stakeholder engagement is an important data source for the SIA. It also serves to meet disclosure and consultation obligations, and provides communities and stakeholders with an opportunity to be informed about and provide feedback to the project. This section describes the community engagement process undertaken for the SIA, as well as key findings.

4.1 Purpose

The purpose of the SIA engagement is to enable a consultative and methodologically robust development of the SIA, as well as form foundations for the ongoing relationship between the Proponent and affected communities. The consultation methodology was developed to enable in-depth consultation with a sufficiently large number of community stakeholders.

4.2 Overview of engagement

Stakeholders with an interest in the SIA include local residents, community groups, local businesses, BRC and services and facilities in the local community, including schools, child care, health, Queensland Police Service (QPS) and Queensland Fire and Emergency Services (QFES). An initial stakeholder list was prepared during the scoping phase, and feedback sought from BRC. BRC also assisted with providing contact details for some stakeholders. Stakeholders on the list were contacted via phone and email, and consultation meetings arranged.

Consultation meetings took place in Alpha, Jericho, Barcaldine and Longreach with one or two respondents at most of the meetings. Meetings occurred at the stakeholders' businesses or organisations, homes or sometimes outdoors. A total of 34 persons were included in the stakeholder engagement process, comprising 14 females and 20 males. Respondents were informed about the purpose of the consultation followed by a brief presentation of the Project and questions about the respondents' views and thoughts on impacts, opportunities, aspirations and fears. Notes were taken at each meeting.

Table 7 below summarises the consultation events. It should be noted that many of the stakeholders that participated in the consultation held numerous roles in the community.

TABLE 7 STAKEHOLDER GROUPS CONSULTED

Stakeholder group	Consultation events
Barcaldine Regional Council	<ul style="list-style-type: none"> Alpha district office manager and planning consultant, 9/6/2020 Mayor and five councillors, 10/6/2020 Deputy CEO, 12/6/2020
Schools and early learning	<ul style="list-style-type: none"> Alpha State School principal, 9/6/2020 School Chaplains Alpha and Jericho State Schools, 9/6/2020 Jericho State School, 11/6/2020 C&K Community Kindergarten, Alpha, 11/6/2020

Stakeholder group	Consultation events
Health	<ul style="list-style-type: none"> Alpha Hospital, 9/6/2020 Jericho Health Service, 11/6/2020
Police and Emergency Services	<ul style="list-style-type: none"> QPS Alpha and Jericho, 10/6/2020 QFES Alpha and Jericho, 11/6/2020 QPS and QFES Longreach, 12/6/2020
Community, local industry and landholders	<ul style="list-style-type: none"> Alpha Tourism and Development Association, 10/6/2020 Alpha Jockey Club, 11/6/2020 Alpha Golf Club, 10/6/2020 Seven business owners / operators, 9/6/2020 – 11/6/2020 Three landholders, 10/6/2020 and 12/6/2020

4.3 Key themes raised

Key issues raised throughout the consultation program are expanded upon below. It is important to note that these are not quantified, and as such no claim is made to how statistically representative these opinions are. They are however the result of a strategic sampling process, focussing on key community members and representatives, and as such are likely to be reflective of community sentiment. Further, themes were relatively consistent across most of the consultation events and stakeholders, and many themes also resonate with those articulated in the *Approaching 2030* community plan. It is thus considered likely that the findings are a robust approximation of community perspectives in relation to the Project.

4.3.1 The Project would be welcomed by most of the community

The most pertinent theme that emerged during the consultation was community support for the Project. None of the respondents mentioned that they or the broader community did not want the Project to proceed. On the contrary, several respondents commented that they would like to see it developed quicker.

Some respondents did comment that small segments of the community may not be as welcoming as they would not want to see the towns changing too much, or that they may have concerns about the environmental impacts of the Project. A small number of respondents – although overall positive about the Project – also expressed a concern about the potential change to the quiet community lifestyle the Project would bring.

“The only negative is if it doesn’t happen.”

“We really need to see something happen.”

“The sooner the better...”

4.3.2 Aspiration for population growth, employment and training opportunities

Connected to the above, another pertinent theme arising from the consultation was the community aspiration for population growth. Nearly all respondents described how both Alpha and Jericho had

experienced prolonged periods of population decline and saw the Project as an opportunity to reverse this.

Respondents described both an aspiration for new residents to move into the towns, as well as providing employment and training opportunities for existing residents. The opportunity to provide apprenticeships to enable young people to stay on in the community and build a future there was frequently mentioned. Respondents mentioned positive flow on effects of population growth such as a more vibrant business community, more volunteers in community groups, and larger cohorts in the schools. Some stakeholder pointed out that they wanted to see opportunities from the Project extended to all communities across BRC, not just Alpha and Jericho.

“Something that we as a community would love to see is to keep our kids...”

“I just want to see the town flourish again.”

“I’m just excited for the job opportunities.”

4.3.3 Constraints to growth: water and power

Council in particular noted that there are some physical and infrastructure constraints to the growth of Alpha and Jericho. Both Alpha and Jericho rely on bore water for their water supply, and council noted that although there is sufficient water available at the moment, the treatment capacity at Alpha will need upgrading if the town was to grow significantly.

Flooding is another key issue in both Alpha and Jericho. Parts of Alpha is located in an area that has experienced several floods over the last decades. Jericho is also at risk of flooding, although a levee bank has been constructed to protect the town. However, some respondents were noticeably philosophical about the flooding risk, noting that you dealt with the flooding when it occurred, and that it should not be a constraint to growth. Council suggested that any future development of Alpha in particular would need to occur outside of the flooding zone.

Several respondents also noted the poor power connections in Alpha and Jericho. It was mentioned that the town suffered from frequent blackouts or brownouts, especially on hot summer days. Several businesses noted how this had led to damaged equipment or loss of refrigerated stock, and the accommodation providers commented how guests’ experiences were affected when the air conditioning in their rooms did not work. Whilst this was seen as a constraint to growth, there was also a very strong expectation that the Project participates in resolving the situation.

4.3.4 Importance of communication and involvement

Several respondents mentioned the importance of ongoing communication and community involvement from the Proponent. It was suggested that it was important to communicate regularly and with all community stakeholders, not just key people. Some community members also offered suggestions for various ways of communicating with the community, and mentioned that some residents – in particular the elderly – did not have computers or internet connections.

Respondents also mentioned their expectation that the Proponent gets involved with and supports the various community groups through sponsorships or volunteering. Although there was an expectation for

financial support of community groups, some respondents also mentioned how other proponents in the past had provided extravagant events or sponsorships, but that was not necessarily what the community wanted or needed.

Some respondents also mentioned the risk of division between the community and the Project should the Proponent not become involved in the community, or employees choose not to live in the community.

4.3.5 Impacts to services and facilities

Several respondents mentioned that the physical capacity of community services and facilities was sufficient to cope with Project induced population growth. Growth was also seen as an opportunity to increase the staffing levels at these, including more teachers or medical professionals, as well as volunteers in community and sporting organisations. Some respondents who were active volunteers in the community commented about how the need to increase the volunteer base in an ageing and declining community.

“We all get to wear many hats /.../ We need to get some bums on seats”

“We’re all ageing people, we just don’t have the manpower.”

Some respondents raised concerns about the difficulty in attracting professionals such as teachers and nurses to small communities like Alpha, and the potential difficulties in housing them should house prices escalate significantly. Representatives from the QPS also mentioned that demand for wide load escorts could be difficult to meet, should these be numerous. Council representatives were also wary of the impact on council owned assets, in particular water infrastructure (described above) and roads.

4.3.6 Impacts on landholders and neighbours

Some respondents expressed a concern about the impacts on affected landholders and neighbours. This was typically expressed as concern about Project employees (or associates of the population growth) trespassing onto properties, spread of weeds through Project vehicles, visual, air or noise emissions, or potential draw down of water bores.

4.3.7 Housing impacts

Some respondents talked about how investors had purchased properties at the height of the previous ‘boom’, and that many of these were now vacant and in various stages of disrepair, and wondered about the potential for housing impacts from the Project. Some were cautious about the negative impacts of another potential boom on key workers on lower incomes, and others saw increased demand as an opportunity for the housing stock to be rejuvenated and empty dwellings to be occupied again.

5. EXISTING SOCIAL ENVIRONMENT

This section describes the existing social environment in the focus communities and Barcaldine Regional Council LGA, and where relevant compare these with Queensland. The section is informed by data from the consultation, statistical data from ABS and the Queensland Government Statistician and other reports and publications.

5.1 Focus Communities

The proposed power station is to be located approximately 30km north west of Alpha in the Barcaldine Regional Council Area. Alpha is a small town of about 300 people. It is located at the intersection of the Capricorn Highway and the Alpha – Clermont Road, 170km west of Emerald, and 140km east of Barcaldine. Originally founded in the 1880's when the railway was expanding west, the town became a service centre for the surrounding properties and home to railway gangs. The town grew on the back of the agricultural industry with schools, churches, community groups and government services being established.

The town has experienced population decline for a protracted period of time due to increased efficiencies in railway track maintenance, agriculture, closure of the QR locomotive maintenance facilities and lately drought. As a consequence families have left the town, the school has smaller enrolment numbers and some businesses have closed. During the consultation, several community members reminisced about their once vibrant town which up to 1979 also had a Catholic School, and lamented the current decline.

“If you didn’t get into the pub at 5pm you couldn’t get a seat...”

Today Alpha is home to a state school, council offices and a depot, a hospital, a QFES station, some churches, police and a kindergarten. The town has a newly upgraded 25 metre outdoor swimming pool built to Olympic standards and large parklands. The business community in the town includes a hotel, a caravan park, bed and breakfast, a grocery shop, a pharmacy, a post office, two service stations, some mechanical businesses and rural traders. There is also a tourist information office in town.

“A lot of businesses have died down.”

“We can’t keep the families here.”

“Is there a future here for our children?”

Around 2010 several mining companies including AMCI, Hancock Prospecting and Waratah Coal pursued various coal projects in the area. These proceeded to various stages in the planning process, with AMCI, Hancock and Waratah receiving Coordinator General approval for their Environmental Impact Statements (EIS), and Hancock building and operating a test pit near Alpha. This led to an investor led property boom, with house prices increasing rapidly, followed by a decline as the projects were put on hold.

The town of Jericho is a small community approximately 50km to the west of Alpha. It is traversed by the Capricorn Highway and the railway. Like Alpha, Jericho was settled to service the surrounding agricultural properties. Jericho has also suffered population decline and the state suburb is currently home to around

100 persons. Consultation suggests about 50 to 60 people live in the township itself. The sentiment in Jericho about the population decline appears similar to that of Alpha.

There are very few services in Jericho. Town services include a health clinic, a school, a pool, some sports fields, a rural fire brigade and State Emergency Services (SES) unit. The town is also home to a drive in cinema, ostensibly the smallest in Australia. Businesses include a hotel, shop and some mechanical businesses. Jericho also has a public caravan park – Redbank Park which is frequented by grey nomads.

Today the economy in the area is dominated by cattle grazing, tourism and local and state government services. Business operators noted that the 'grey nomads' were an important aspect of the tourism economy, but also that most of them were only traversing the towns on their way to other destinations such as Barcaldine, Longreach or further west and north.

5.1.1 Land ownership and land use

The Project is located on a portion of the Monklands property, described as lot 2 on SP136836. The lot is a total of 6,300ha and the project will require 1,310ha. Of this, a disturbance area of 518ha will be subject to clearing and earthworks to construct the Project.

The project is surrounded by several other grazing properties including Hobartville to the north, Mentmore and Gadwell to the east, Kia Ora, Glen Innes and Cavendish to the west, and Saltbush, Oakleigh and Eureka to the south. The Bimblebox Nature Refuge (Glen Innes) homestead is located approximately 12 km to the south-west of the Project. The proposed access road to the project will be an existing gazetted council owned road that traverses Saltbush and Oakleigh. Figure 5 above shows these properties and the access road.

The predominant land use on these properties is cattle grazing, and approximately 50% of the properties are freehold.

The area where the Project is located is subject to a Native Title claim; the Clermont-Belyando Native Title Claim (QC2004/06), which was filed and registered with the National Native Title Tribunal in 2004 (National Native Title Tribunal, n.d.).

5.1.2 Governance

Alpha and Jericho were the main towns in the former Jericho Shire, which was amalgamated into the Barcaldine Regional Council in 2008, together with the former Aramac and Barcaldine Shires. There are various perspectives within the community on the success of these amalgamations. Some community members pointed out the positives of a larger shire, whereas others felt that Alpha and Jericho had had to subsidise projects in Barcaldine they did not benefit from.

5.1.3 Community values

Alpha and Jericho can be described as typical small rural communities. Community members describe the friendly and inclusive nature of the communities and the community spirit displayed in town. Some relatively new community members however described that it could take some time to be considered a 'local', but also that existing community members welcomed and embraced the newcomers when they witnessed commitment to the town such as becoming involved in community groups or purchasing a property. During consultation, community members commented about the safe and friendly nature of the town.

"Most of us here don't own a front door key."

"Everyone looks after one another."

Being in a remote area, community members are resourceful used to self-organise to resolve their challenges. The towns are community oriented, with several community or sporting groups. Community members are often volunteering in various capacities to keep their organisations functioning. In Alpha in particular, several community members mentioned the central role the Golf Club played in providing a place that held the community together. Jericho community members noted how active the Parents and Citizen's committee was in raising funds to support the school.

The community organisations in Alpha organise several events during the year, including markets, the Alpha Show, a rodeo and bull-a-rama and cricket tournaments. The biggest event in the social calendar is the Alpha Races, and residents described with pride how it had attracted about 3,500 guests in 2019.

As noted above, the communities of Alpha and Jericho have suffered population decline for a protracted period of time. Several community members mentioned this, and the importance of reversing the decline. This was framed both as an opportunity for new residents to move in as well as providing education and employment opportunities that enabled children to stay on in the community.

5.2 Regional Study Area

Barcaldine Regional Council LGA was formed in 2008 through the amalgamation of the former Barcaldine, Aramac and Jericho shires. It covers an area of 53,382.7 Km² and is home to about 2,800 people. The main centre in the LGA, Barcaldine, is located approximately 900km north west of Brisbane and 530km west of Rockhampton. The LGA is traversed by the Capricorn Highway running from Rockhampton to Barcaldine, where it joins the Landsborough Highway which runs between Morven and Cloncurry. In addition to Barcaldine, the main towns and communities in BRC are Alpha, Jericho, Aramac and Muttaborra. Figure 9 below shows BRC's location within the state of Queensland.

Barcaldine is the largest town in the LGA with approximately 1,400 residents. The town of Barcaldine was founded in the late 1880's as the railway expanded to the west. Barcaldine has

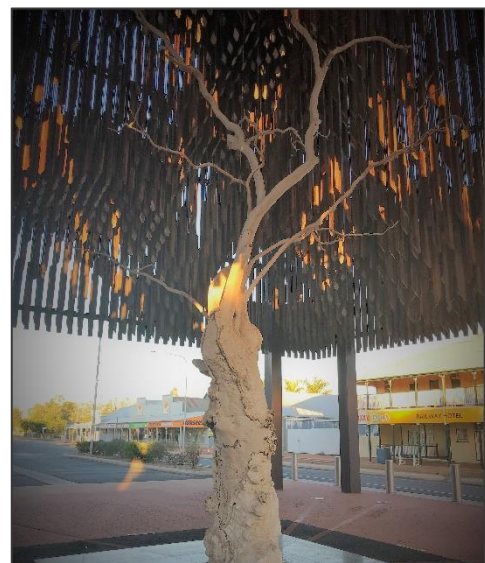


FIGURE 8 THE TREE OF KNOWLEDGE

played an important part in Australian history, as it was home to the shearers' strike in 1891 in which shearers fought for better pay and working conditions. This strike was instrumental in the formation of the Australian union movement and the Australian Labor Party. The town is home to museums, interpretive trails and monuments marking this history, including the site of the Tree of Knowledge where the original manifesto for the Australian Labor Party was declared.

The economy in the LGA is dominated by cattle grazing, but tourism also plays an important role.

FIGURE 9 REGIONAL STUDY AREA MAP



Source: Map data ©2020, GBRMPA, Google, Study area outlines generated from ABS Tablebuilder.

5.3 Population

5.3.1 Population, age and gender profile

At the time of the 2016 Census there were a total of 335 usual residents in Alpha and 115 in Jericho. BRC had a total of 2,865 usual residents. There are slightly more males than females across the regional study area with a sex ratio of 107 in Alpha, 105 in Jericho and 102 across BRC. By comparison, there are slightly more females than males in the rest of Queensland, with a sex ratio of 98. Table 8 below provides an overview of the population in the focus communities, the regional study area and Queensland.

TABLE 8 POPULATION

Area	Males	Females	Total	Sex ratio*
Alpha	172	161	335	107
Jericho	61	58	115	105
Barcaldine Regional Council	1,449	1,419	2865	102
Queensland	2,321,889	2,381,308	4,703,193	98

Source: Based on ABS (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d).

* Males per 100 females

The population of the regional study area is slightly older than that of Queensland. The median ages across the regional study area all over 40, with the highest in Jericho at 45. This is to be compared to Queensland where the median age is 37. Table 9 below provides the median ages of persons in these areas.

TABLE 9 MEDIAN AGE

Study area	Geography	Median age of persons
Focus communities	Alpha	43
	Jericho	45
Regional Study Area	BRC	42
State	Queensland	37

Source: ABS (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d).

5.3.2 Population trends

The population of BRC has been declining for some time. Estimates from the Queensland Government Statistician show a decline in the Estimated Resident Population (ERP) from 3,814 in 1991 to 2,849 in 2019, a decrease of 965 persons or 25%. During the same period the Queensland population increased by 72%. Data for the urban centre / locality (UCL) of Alpha is available from 2001¹. In the period since 2001, the population of Alpha declined by 22%. Data is not available for Jericho, but it is likely it has experienced similar trends. Table 10 below shows the population trends for the various study areas.

¹ Note that the geographic area of the urban centre / locality is slightly smaller than the state suburb which is used for the majority of the data in this section. Trend data for the latter is not available, however the differences are likely to be marginal.

TABLE 10 ESTIMATED RESIDENT POPULATION, 1991-2019

Study Area	1991	2001	2011	2019	% Change
Alpha UCL	N / A	403	359	314	-22%*
Regional Study Area	3,814	3,483	3,292	2,849	-25%
State	2,960,951	3,571,469	4,476,778	5,094,510	72%

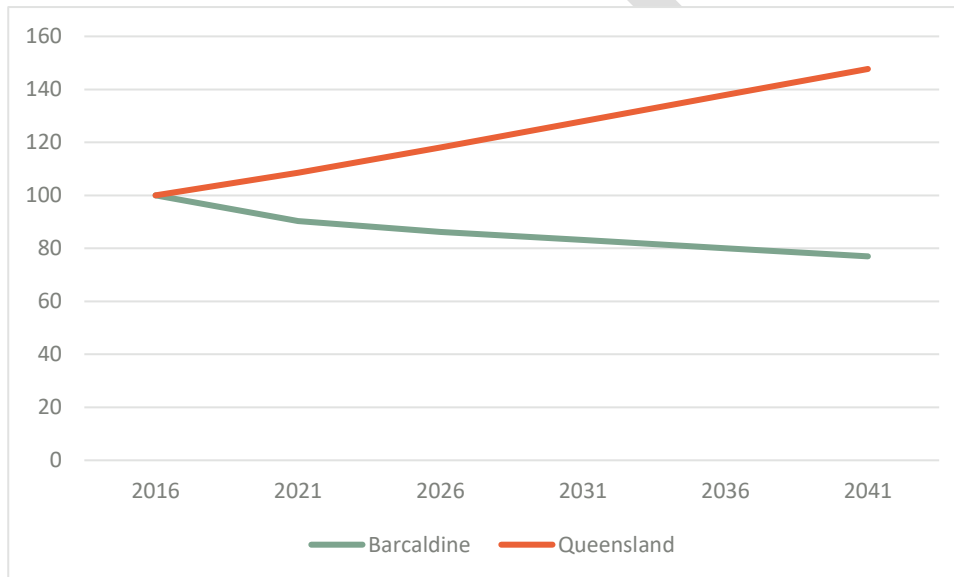
Source: ABS (State of Queensland, 2020b, 2020a)

* Since 2001

The population of BRC is projected to decrease from an ERP of 2,909 in 2016, to 2,239 in 2041, a decrease of 23%. By contrast, the Queensland population is projected to increase by approximately 47%.²

In summary, the regional study area and the focus communities have experienced population decline for some time and are projected to continue to do so in the future. As noted above, a key aspiration for many local stakeholders is to reverse this trend.

FIGURE 10 POPULATION PROJECTIONS (MEDIUM SERIES, INDEXED, 2016=100)



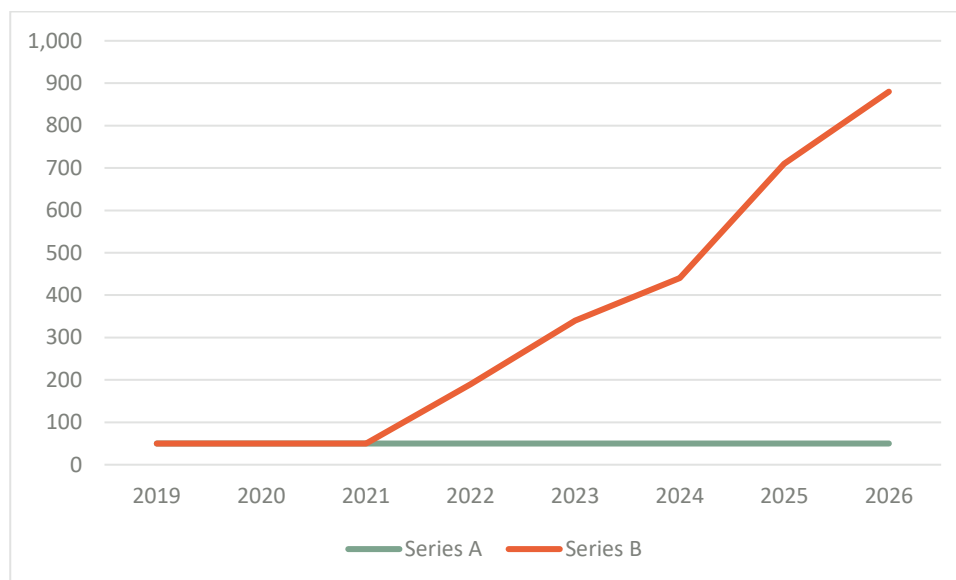
Source: Based on Queensland Government Statistician's Office (State of Queensland, 2018a)

The Queensland Government Statistician's office produces estimates and projections for non-resident workers associated with major resource operations and projects. The most recent projection for Barcaldine Regional Council includes a projection of non-resident workers with existing operations only (series A), and one where projects which have EIS approval and are awaiting other approvals and / or financial close are included (series B). Figure 11 below shows the projected non-resident workers in BRC to 2026. It should be noted that the non-resident workforce requirements for the Project are not included in

² Note that the Estimated Resident Population reported here is derived using a different methodology to the population figure reported in section 5.3.1, which is census data based on place of usual residence.

these projections, nor is it likely to have taken into account the updated sequencing of development for the GCP articulated in section 6.4.2 below.

FIGURE 11 PROJECTED NON-RESIDENT WORKERS IN BRC



Source: Queensland Government (Queensland Government Statistician's Office, 2020a)

5.3.3 Cultural identity and origin

Barcaldine Regional Council and the focus communities are more ethnically and culturally homogenous than Queensland. The proportions of people born in Australia, speaking only English at home and who are Australian citizens is higher in Alpha, Jericho and across BRC, compared to Queensland. Table 11 below shows these indicators.

TABLE 11 CULTURAL AND LINGUISTIC BACKGROUNDS

Study area	Birthplace Australia	English only spoken at home	Australian Citizen
Alpha	89%	96%	95%
Jericho	85%	96%	93%
Regional Study Area	86%	91%	90%
Queensland	71%	81%	83%

Source: Based on ABS data (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d). Percentage of persons.

5.3.4 Indigenous People

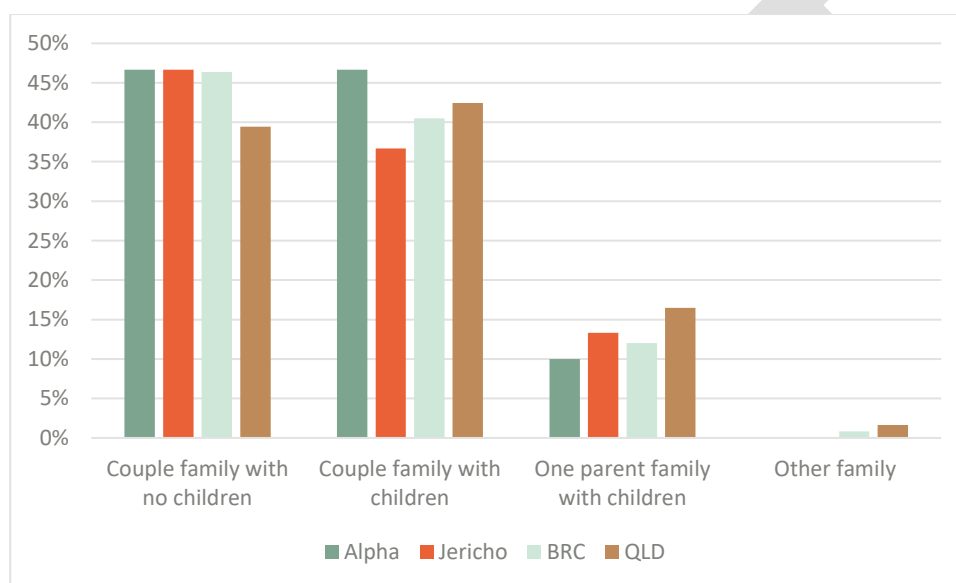
The 2016 Census recorded very few Indigenous persons in the focus communities of Alpha and Jericho, and these numbers are therefore not reliable. For the whole of Barcaldine Regional Council, a total of 169 persons identified as Aboriginal or Torres Strait Islander persons, representing 5.9% of the population. This is slightly higher than Queensland where approximately 4% identified as Aboriginal or Torres Strait Islander (Australian Bureau of Statistics, 2017b, 2017d). Consultation with service providers provide varying estimates on the number of Indigenous people in Alpha and Jericho, with some suggesting there

are very few Indigenous persons, and others suggesting a relatively large proportion of the communities were Indigenous. As an indication, the proportion of students in Alpha and Jericho Stat Schools who identified as Indigenous were 27.5% and 35% respectively in 2019 (Department of Education, 2020a, 2020b).

5.3.5 Families and households

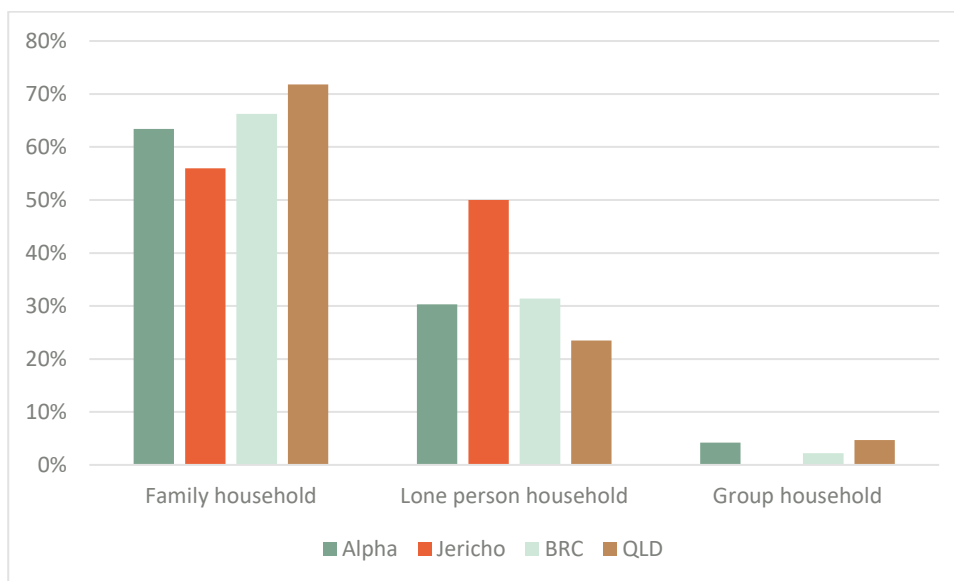
The proportion of family compositions for Alpha, Jericho and BRC is outlined in Figure 12 below and compared to Queensland. There are more couple families with no children in the focus communities and the regional study area than in Queensland, and fewer one parent families.

FIGURE 12 FAMILY COMPOSITION



Source: Based on ABS data (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d). Percentage of all families. Note that the data contains some very small values, particularly for Jericho.

There are fewer family households and more lone person households in the focus communities and the regional study area compared to Queensland. This may be reflective of the slightly older population in this area. Figure 13 below shows the percentage of household types across the study areas.

FIGURE 13 HOUSEHOLD COMPOSITION

Source: Based on ABS data (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d). Percentage of occupied private dwellings.

5.3.6 Disability

The number of persons with a core need for assistance – an indicator of profound or severe disability – is very low in the focus communities of Alpha and Jericho and therefore not reliable. Across the BRC a total of 110 persons had a need for assistance at the time of the 2016 census, representing 3.8% of the population. This is slightly lower than Queensland where 5.2% of the population had a need for assistance (Australian Bureau of Statistics, 2017b, 2017d).

5.4 Housing and accommodation

At the time of the 2016 census there were a total of 153 private dwellings in Alpha, and 57 in Jericho. Of these, 142 and 50 respectively were occupied, and 17 and 8 unoccupied. However, consultation with community stakeholders suggest the number of unoccupied dwellings in town is higher, with some estimating between 30 and 40 houses in Alpha being uninhabited. Some of these dwellings were reported to be in various states of disrepair, and council suggested many of them are located in the flood zones in Alpha and Jericho. Table 12 below shows the number of occupied and unoccupied private dwellings in the focus communities and BRC compared with Queensland from the 2016 Census.

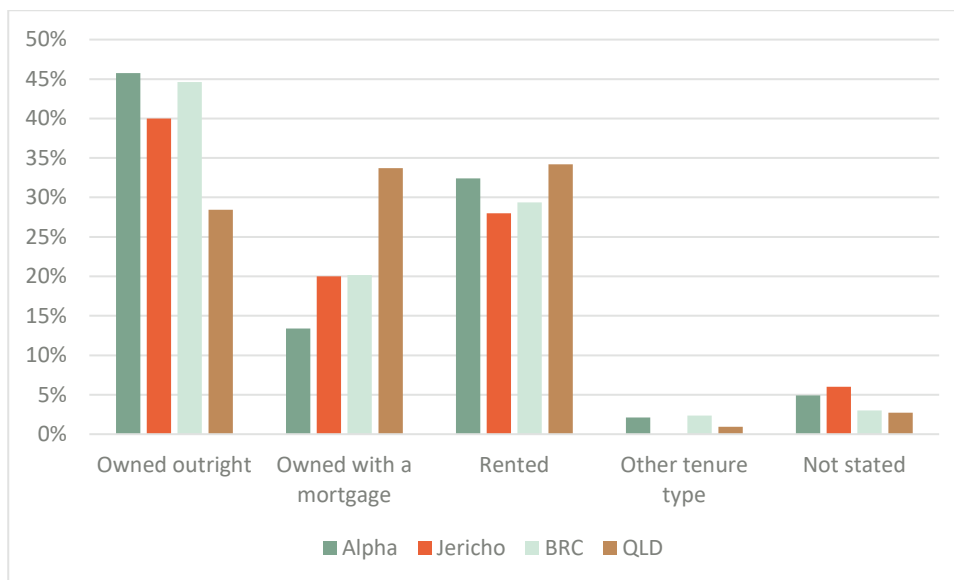
TABLE 12 DWELLINGS IN THE LOCAL STUDY AREA

State suburb	Occupied private dwelling	Unoccupied private dwelling	Total
Alpha	142	17	153
Jericho	50	8	57
BRC	1,096	226	1,318
Queensland	1,656,831	195,570	1,852,407

Source: ABS (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d). Count of private dwellings.

Most homes in the focus communities are owned outright or with a mortgage. 45% of the occupied private dwellings in Alpha and 40% in Jericho are owned outright, compared to 28% in Queensland. Conversely, the proportion of homes owned with a mortgage is lower at 13% in Alpha and 20% in Jericho, compared to 34% in Queensland. The proportion of rented dwellings is similar across the areas.

FIGURE 14 TENURE TYPES - DWELLINGS



Source: Based on ABS data (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d). Percentage of occupied private dwellings. Note the values for Jericho in particular are small and should be interpreted with caution.

5.4.1 Housing costs

Housing costs in the focus communities and BRC are lower than in Queensland. Data from the 2016 Census shows that median mortgage repayments and median rents are lower, sometimes significantly so, across these communities. More up to date rental cost data is calculated based on rental bond lodgements with the Residential Tenancies Authority (RTA). At 31 March 2020, the median rent for a 3-bedroom home in the Barcaldine Regional Council area was \$215, compared to \$370 for Queensland. Table 13 below shows the median mortgage repayment and median rent for Alpha, Jericho, Barcaldine Regional Council and Queensland from the 2016 census and the median rent for a 3-bedroom house for BRC and Queensland.

TABLE 13 MEDIAN HOUSING COSTS

Study area	Median mortgage repayment (\$/month, 2016 Census)	Median Rent (\$/week, 2016 Census)	Median Rent 3-bedroom house (\$/week, 2020 RTA)
Alpha	1,138	88	-
Jericho	542	80	-
BRC	1,040	100	215
QLD	1,733	330	370

Source: ABS and Queensland Government Statistician (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d; Queensland Government Statistician's Office, 2020b).

Median house sales prices have fluctuated over time with a generally upward trend between 2008 and 2013 to a peak of close to \$200,000, coinciding with the planning of several mining projects in the area. This was followed by a generally downward trend until late 2019, as these mining projects had not eventuated. In the 12 months to 31 December 2019 there were a total of 30 residential dwelling sales in Barcaldine Regional Council, with a median sale price of \$70,000 (Queensland Government Statistician's Office, 2020b).

5.4.2 Social and affordable housing

The census tenure types "rented through a state or territory housing agency" and "rented through housing cooperative, community or church group" provide an approximation of the available social and affordable housing in an area. The number of dwellings in these categories in the focus communities is too small to be reliable. Across Barcaldine Regional Council there were a total of 46 dwellings rented through a state or territory housing agency, and 3 rented through a housing cooperative or similar.³ This represents 4.2% and 0.3% of all dwellings in the area, compared to a provision of 3.2% and 0.5% across Queensland.

TABLE 14 SOCIAL HOUSING

Study area	Regional Study Area	State
Rented through state or territory housing authority	46 / 4.2%	52,858 / 3.2%
Rented through housing cooperative, community or church group	3 / 0.3%	8,657 / 0.5%

Source: Based on ABS (Australian Bureau of Statistics, 2017b, 2017d). Percentage of occupied private dwellings.

5.4.3 Homelessness

Data on homelessness is not available or reliable for the focus communities of Alpha and Jericho. For Barcaldine Regional Council however, a total of 8 persons were reported as homeless at the time of the 2016 census, representing a homelessness rate of 24.7 per 10,000 persons.⁴ This is lower than the homelessness rate for Queensland which was 45.6 at the same time (Queensland Government Statistician's Office, 2020b).

³ Note that the latter figure is very small and unlikely to be reliable.

⁴ Note that this figure is small and should be interpreted with caution.

5.4.4 Short term accommodation

There are a small number of accommodation providers in the focus communities who generally provide accommodation for travelling grey nomads or workers at various projects.

- *Alpha Caravan Park* is a caravan park with powered and unpowered sites as well as air-conditioned cabins.
- *Alpha hotel motel* provides motel style accommodation.
- *While Away Bed and Breakfast* in Alpha provides bed and breakfast services.
- *Jordan Valley Hotel* in Jericho provides a small number of hotel style accommodation rooms. Rooms are reportedly not ensuited.



FIGURE 15 ALPHA CARAVAN PARK

In addition, *Redbank Park* in Jericho provides camping facilities, amenities and a barbeque area on the Jordan River just outside of Jericho.

In addition to these existing short term accommodation facilities, BRC has approved an application for an accommodation village (2 off DA's) to be located on Villafield Road on the outskirts of Alpha. When fully built the village will contain a total of 264 accommodation units of one, two and three bedroom units and two bedroom duplexes, a caretakers' residence, a motel of 120 rooms, a conference centre and a tavern. When fully built the village will provide approximately 660 beds, including the motel accommodation. The Proponent has indicated its preference for using this accommodation village as its preferred accommodation solution for non-residential and potentially some residential employees, and is in the process of negotiating an agreement with the accommodation village owner.

5.4.5 Development activity

Residential development activity in Barcaldine regional council is relatively low. In the 12 months ending 31 March 2020 a total of four residential lots were registered across the LGA. There were two new house sales and three vacant lot sales in the 12 months ending 31 December 2019. No up to date data is available for the development activity in the focus communities (Queensland Government Statistician's Office, 2020b).

Anticipating population growth from the various mining projects in the shire, BRC has subdivided residential land within Alpha to enable further development. The blocks are serviced with road access and water. Like all homes within Alpha they will rely on septic systems for sewerage. A total of 36 blocks on Hooper Street and Gordon Street were subdivided and 26 of these remain in council ownership. Importantly, these blocks are located outside of the flood zone of Alpha.

5.5 Socio-Economic indicators

5.5.1 Income

Median incomes across the focus communities and the regional study area vary significantly. Overall, personal, family and household median incomes are similar to those of Queensland, except for in Jericho where they are consistently lower.

TABLE 15 MEDIAN INCOMES

Study area	Median Personal Income (\$/week)	Median Family Income (\$/week)	Median Household income (\$/week)
Alpha	\$713	\$1,525	\$1,116
Jericho	\$459	\$959	\$593
Regional Study Area	\$684	\$1,514	\$1,149
State	\$660	\$1,661	\$1,402

Source: ABS (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d)

5.5.2 Socio-economic disadvantage

The Socio-Economic Indexes for Australia (SEIFA) is a set of indexes that rank areas in Australia based on their relative disadvantage, which is calculated based on a set of socio-economic indicators from census data. For the index of relative socio-economic disadvantage, Alpha and Jericho were both found in the fifth decile, meaning these areas are in the middle of the disadvantage distribution for Australia.

TABLE 16 SEIFA – FOCUS COMMUNITIES

Study Area	Index of Relative Socio-economic disadvantage	
	Score	Decile
Alpha	995	5
Jericho	997	5 ⁵

Source: ABS (Australian Bureau of Statistics, 2018)

5.5.3 Labour force

Labour force participation rates vary significantly across Alpha, Jericho and Barcaldine Regional Council area. At the time of the 2016 census, Jericho had a relatively low labour force participation rate at 40%, whereas Alpha had a participation rate of close to 75%. Barcaldine regional council had a labour force participation rate of 65%. This is to be compared to Queensland where the participation rate was 61%. Unemployment rates were consistently very low across the focus communities and the regional study area, ranging from 0 to 2.8%, compared to 7.6% for Queensland. The most recent unemployment estimates available for the BRC indicates a 3.6% unemployment rate in the December quarter of 2019, comprising 60 persons (Australian Government Department of Education Skills and Employment, n.d.). It is

⁵ ABS cautions that the SEIFA values for Jericho should be interpreted with caution.

likely that the current economic crisis brought about by the COVID-19 pandemic have increased the unemployment rate in the area, however the extent of this is unknown at the time of writing.

Whilst the unemployment numbers are low, some community members reported that unemployment or being outside the labour force was a social issue in both Jericho and Alpha, with some families with no parent working thus experiencing disadvantage.

TABLE 17 LABOUR FORCE AND UNEMPLOYMENT

Study area	Labour force	Labour force participation	Unemployment
Alpha	211	74.6%	1.9%
Jericho	36	40%	0%
Regional Study Area	1,485	65.2%	2.8%
State	2,312,114	61%	7.6%

Source: ABS (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d)

5.5.4 Industries of employment and occupations

Employment by industry sector in Alpha and across Barcaldine Regional Council is concentrated to relatively few sectors, with Agriculture, Forestry and Fishing being the dominant sector at 29% and 32% of employed persons. This is followed by construction in Alpha (14%) and Health Care and Social Assistance (11%). In BRC, Agriculture, Forestry and Fishing is followed by Health Care and Social Assistance (9%) and Public Administration and Safety (9%) as the top industries of employment. These are fairly typical employment patterns in rural and remote areas, and is to be contrasted with the State of Queensland, where the top three industries of employment are Health Care and Social Assistance, Retail Trade and Education and Training.⁶ Consultation with community members suggest the main employers in Alpha and Jericho are council (more than 20 employees), the hospitals (approximately 20 employees), followed by Queensland Rail in Alpha.

TABLE 18 TOP THREE INDUSTRIES OF EMPLOYMENT

Alpha	Barcaldine Regional Council	Queensland
Agriculture, forestry and fishing (29%)	Agriculture, forestry and fishing (32%)	Health Care and Social Assistance (13%)
Construction (14%)	Health Care and Social Assistance (9%)	Retail Trade (10%)
Health Care and Social Assistance (11%)	Public administration and safety (9%)	Education and Training (9%)

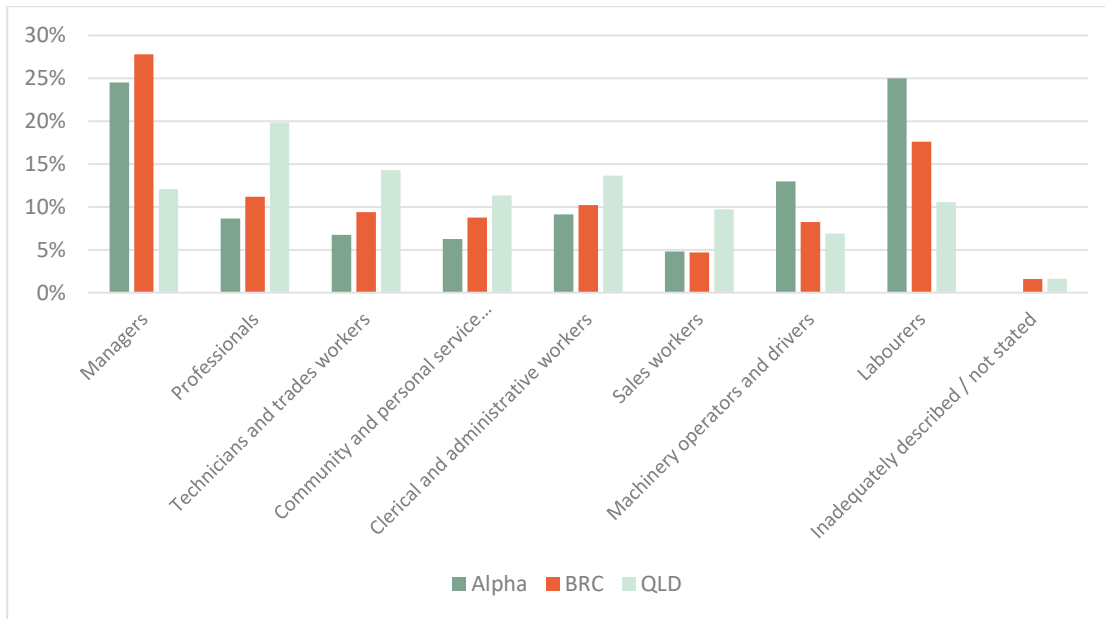
Source: Based on ABS (Australian Bureau of Statistics, 2017a, 2017b, 2017d). Percentage of employed persons.

Consultation with community members suggest there are a small number of people working in the mining industry in Alpha and Jericho. These tend to drive in – drive out (DIDO) to work at mines in the Bowen Basin.

⁶ Note that the values for Jericho are very small and have therefore not been included in this section. The total number of employed persons in Jericho at the time of the 2016 Census were 35 persons.

Consistent with the industries of employment noted above, the top occupation in Alpha and across BRC is manager. This is likely to represent a large proportion of self employed farmers and farm managers. This is followed by large proportions of labourers. Together, these two occupations make up 50% of the employed workforce in Alpha, and 46% across BRC. Figure 16 below shows the occupations across Alpha, BRC and Queensland at the time of the 2016 census.

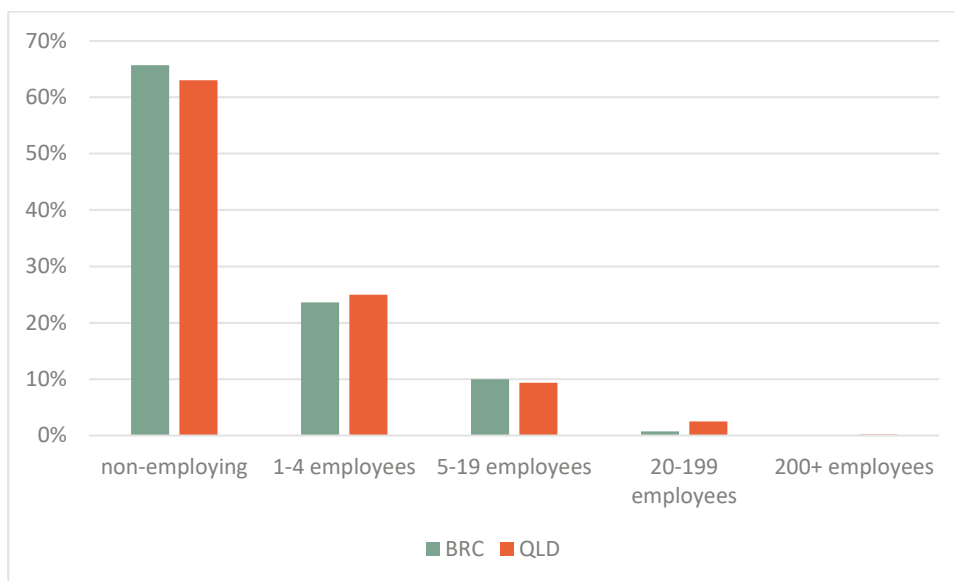
FIGURE 16 OCCUPATIONS



Source: Based on ABS (Australian Bureau of Statistics, 2017a, 2017b, 2017d). Percentage of employed persons

5.6 Businesses

There were 407 registered businesses in the Barcaldine Regional Council area at the end of June 2019. Most businesses in the area are small, with 270 non-employing and 97 employing between 1 and 4 employees. Three businesses employ more than twenty people. This pattern is relatively similar to that of Queensland. Figure 17 below shows the proportion of businesses in each employment size category.

FIGURE 17 BUSINESS EMPLOYMENT SIZE

Source: Queensland Government (Queensland Government Statistician's Office, 2020b). Percentage of registered businesses.

Most businesses within BRC are in the Agriculture, forestry and fishing industry, with 50% of all businesses in this category. This is followed by construction at 10% and Rental, hiring and real estate services at 8%.

TABLE 19 BUSINESSES BY INDUSTRY IN REGIONAL STUDY AREA

Industry	Number of businesses	Proportion
Agriculture, forestry and fishing	201	50%
Mining	0	0%
Manufacturing	10	2%
Electricity, gas, water and waste services	0	0%
Construction	40	10%
Wholesale trade	14	3%
Retail trade	18	4%
accommodation and food services	18	4%
Transport, postal and warehousing	23	6%
Information media and telecommunications	0	0%
Financial and Insurance services	10	2%
Rental, hiring and real estate services	31	8%
Professional, scientific and technical services	18	4%
Administrative and support services	3	1%
Public administration and safety	3	1%
Education and training	0	0%
Health care and social assistance	3	1%
Arts and recreation services	3	1%

Industry	Number of businesses	Proportion
Other services	9	2%
Not classified	0	0%
Total	404	100%

Source: Queensland Government (Queensland Government Statistician's Office, 2020b)

A search of *Black Business Finder*, the *Supply Nation* website and the *Deadly Directory* produced by the Department for Aboriginal and Torres Strait Islander Partnerships (DATSIP) identified 4 Indigenous organisations and businesses within the Barcaldine Regional Council area:

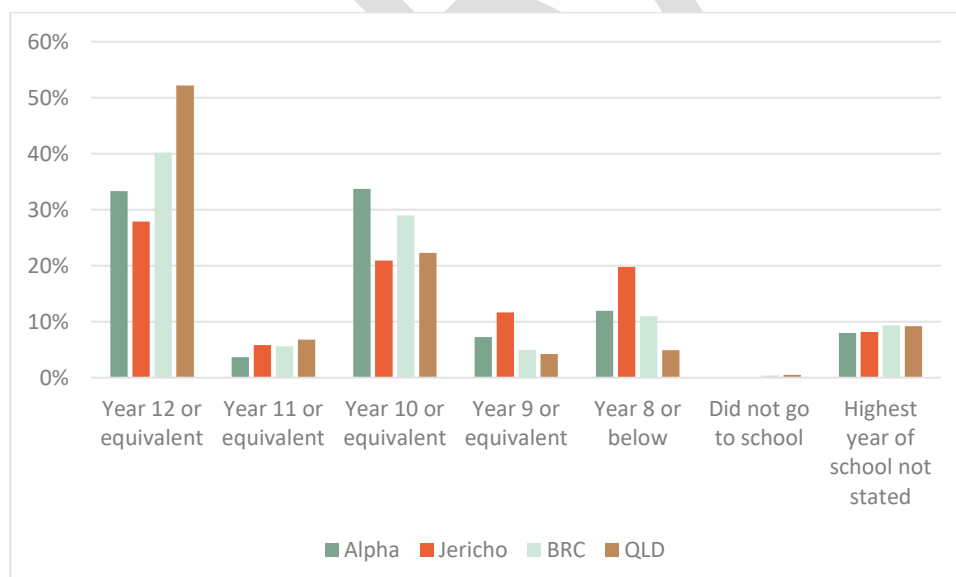
- Traditional Family Group P/L
- Central West Aboriginal Corporation
- Muyah Contracting
- Sidney D & Lesley A De Landelles

Some of these provide services which are likely to be required by the Project.

5.7 Education

School education completion is generally lower in the focus communities and across the BRC compared to Queensland. The proportion of the population that had completed year 12 as their highest year of school ranged from 28% in Jericho via 33% in Alpha to 40% across the BRC. By contrast, across Queensland 52% of the population had year 12 as their highest year of school completion. This pattern is fairly typical of rural areas with ageing populations.

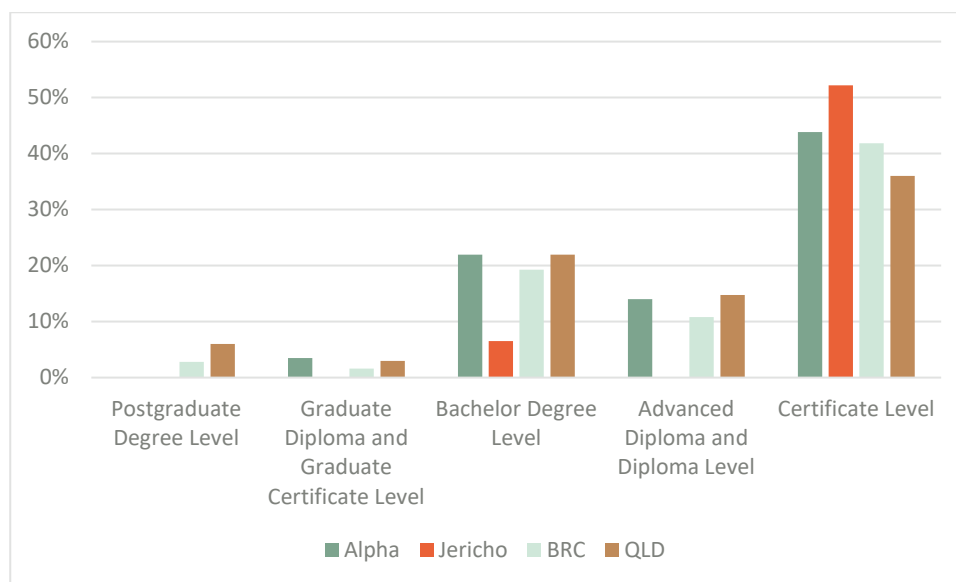
FIGURE 18 HIGHEST YEAR OF SCHOOLING COMPLETED



Source: Based on ABS (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d). Percentage of persons 15 years and older who are no longer attending school.

In terms of non-school qualifications, the population of the focus communities and BRC have higher proportions of people with certificate level qualifications and slightly lower proportions of people with university qualifications. The latter differences are however not large, except for the case of Jericho, where the value is very small and hence not reliable.

FIGURE 19 NON-SCHOOL QUALIFICATIONS⁷



Source: Based on ABS (Australian Bureau of Statistics, 2017a, 2017c, 2017b, 2017d). Percentage of persons 15 years and over with a qualification.

5.8 Health and wellbeing

Health and wellbeing statistics are not available for the focus communities or the regional study area. Consultation with service providers and communities however confirmed that the area is experiencing similar health challenges to many rural areas, including mental health challenges exacerbated by the ongoing drought. Many health issues such as diabetes, obesity and cardiovascular diseases are lifestyle related. Due to the remoteness of the area residents frequently travel long distances by road, and there is an ever present risk of road accidents.

5.9 Social infrastructure, services and facilities

5.9.1 Education facilities

There are two schools within the focus communities; Alpha State School and Jericho State School. Alpha was also home to a Catholic School that closed in 1979. Alpha State School is a prep to year 10 school, with nine teaching staff and approximately 40 students enrolled. There has been a decline in enrolments

⁷ It should be noted that the proportions of respondents whose level of education was not stated in the census is relatively high: 20% in Alpha, 35% in Jericho and 23% across BRC, compared to 17% in Queensland.

over the last few decades. Consultation with the school confirmed it has capacity to accommodate student numbers of more than 200. There is one school bus that picks up students along the road towards Emerald.

After finishing year ten, many of the students go on to boarding schools in central Queensland, with Rockhampton a common destination, some attend a week boarding school in Clermont, and others pursue distance education. Feedback from the community and the school suggests that very few of the students return to the Alpha community after having finished their studies.

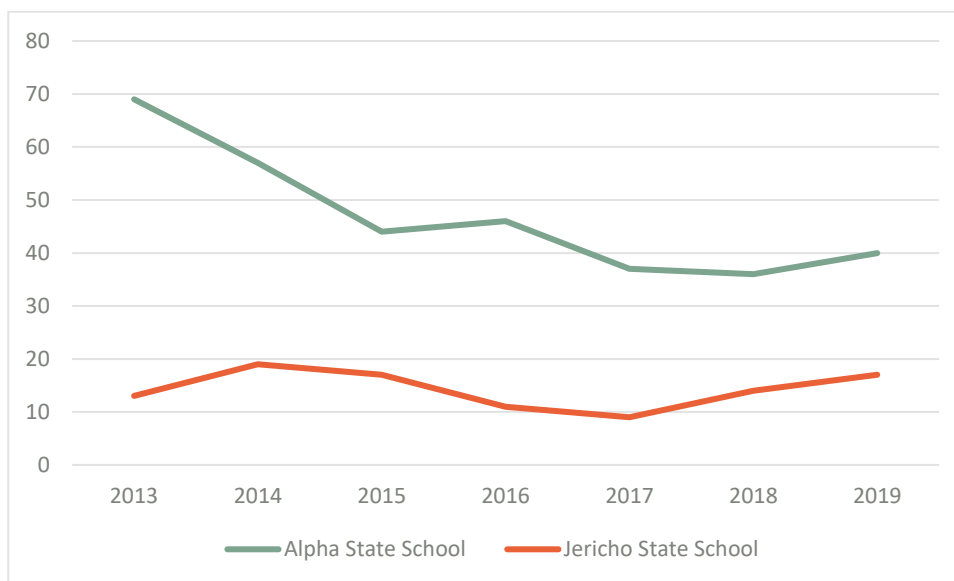
The Jericho State school offers prep to year 6 school education as well as a state delivered kindy program. It is a small school with currently 21 enrolments in prep to year six. However, the school services 30 students each week, including the school students, kindy students and distance education students who attend the school one day per week. There is no school bus, and some students from properties surrounding Jericho will travel upwards of 50 minutes per day to get to school. The school is staffed by a teaching principal, two teacher aides, and a business manager. The school has a Parents and Citizens committee which raises funds to support an additional teacher. A school chaplain is based in Alpha but works across both schools, providing support and guidance to students. After completing year 6 most of the students go on to boarding school or travel daily by bus to the state school in Barcaldine.



FIGURE 20 ALPHA STATE SCHOOL

Figure 21 shows the student enrolment numbers for the Alpha and Jericho State Schools from 2013 to 2019.

FIGURE 21 ENROLMENTS ALPHA AND JERICHO STATE SCHOOLS



Source: Queensland Government, Department of Education (Department of Education, 2015a, 2015b, 2018a, 2018b, 2020a, 2020b)

There is also a kindergarten in Alpha; C&K Jellybeans Community Kindergarten. The kindy offers long day legacy kindy, limited hours care and a vacation care program. The centre can cater for up to 21 children, and currently has 4 in kindy and 8 in limited hours care.

Within the BRC there are an additional three state schools, including the Barcaldine State School (prep to year 12, Aramac State School (prep to year 10), and Muttaborra State School (prep to year 6). There is also a Catholic school in Barcaldine – St Joseph’s – which offers prep to year 6 education.

5.9.2 Tertiary and technical education

There is no tertiary education available in the focus communities or the regional study area.

5.9.3 Emergency services and police

The focus communities are serviced by a two officer police station in Alpha and one officer station in Jericho. The police station in Alpha is co-located with QFES and the Alpha hospital. The station has capacity to accommodate additional officers should there be a demand for additional police resources. Policing issues are generally related to traffic, but also drug issues, domestic violence and various social issues. The Alpha police is active in engaging the broader community and has convened a community consultative group consisting of the various community organisations and services to coordinate and share information. The group generally meets on a quarterly basis.

QFES has an auxiliary station in Alpha with six fire fighters, and a rural brigade in Jericho with approximately 13 members. The properties surrounding both towns are serviced by primary producer brigades consisting of four to five members each, and who are generally equipped with slip on units. QFES is often called upon to assist with road crashes.

5.9.4 Health and community services

The Alpha hospital and multipurpose health centre was developed in 2017 and has 4 acute beds, 4 aged care beds and 2 emergency beds. It is a nurse led hospital with approximately 20 staff, 14 of which are medical. It is attended by a doctor four days per week. The hospital offers a range of primary and emergency health services, visiting allied health and mental health services and videoconference facilities for consultation with specialists located outside of Alpha. The hospital also operates a nurse led ambulance. There are five accommodation units for staff located in the hospital grounds.



FIGURE 22 ALPHA HOSPITAL AND MULTIPURPOSE HEALTH SERVICE

There is also a health service in Jericho which employs two people. The health service provides primary health services as well as visiting allied health services. The Royal Flying Doctors service (RFDS) is used for retrieval of patients to larger hospitals, and can access Alpha and Jericho via their respective airfields.

There is also a Meals on Wheels service which is provided by hospital staff and volunteers and serves approximately 200 meals per month. Council provides a home and community care (HACC) service to elderly residents.

5.9.5 Essential services

Alpha and Jericho are both serviced by treated sub-artesian bore water. There is no sewerage in either of the towns and residents rely on septic systems.

Several stakeholders mentioned the poor power supply in Alpha. Alpha is located at the 'end of the line' and as such the town experiences frequent blackouts or brownouts, especially during hot summer days. One respondent pointed out that they had had 44 blackouts in a year, and several business owners mentioned how the brownouts had destroyed electronic equipment or how they had lost refrigerated stock due to lack of power.

5.9.6 Other community facilities and services

Both Alpha and Jericho is home to large well maintained parks, including the Settlers Park in Alpha and the Redbank Park camp ground in Jericho. There are also showgrounds, sports fields for various sports, race courses and relatively modern pools in both communities.

The towns are home to several churches, including Uniting, Anglican and Catholic and non-denominational churches.



FIGURE 23 WIRE BULL IN SETTLERS PARK IN ALPHA

5.10 Summary of Baseline

In summary, the key points emerging from this social baseline are:

- The focus communities of Alpha and Jericho are small, rural and remote communities with a strong community spirit and a friendly nature. The economy is characterised by cattle grazing and tourism. The council and the health services are large employers in the town.
- The focus communities, and the broader BRC have experienced population decline for some decades. A key aspiration of the communities is to reverse this trend, bring families back into the towns, and provide education and employment opportunities for children to stay on in the community.
- The focus communities are home to few community services and facilities, however the physical capacity of the facilities that exist are generally able to cope with growth.
- The towns of Alpha and Jericho are constrained by flooding, availability of treated potable water and suffer from poor electricity provision.
- Other than a large number of agricultural enterprises, there are few businesses in the focus communities. These generally service the agricultural industry or provide for tourists, particularly grey nomads.
- Housing costs in the focus communities are low and there is limited movement in the housing market. In Alpha in particular there are several vacant blocks within the township, a relatively large number of unoccupied private dwellings in varying conditions. A proposed accommodation village on the outskirts of the town will deliver up to 657 beds for resident and non-resident resource workers.
- There are varying views of the proportion of Indigenous people within the focus communities, and census data is unreliable. The proportion of Indigenous students in the two schools is high.

6. SOCIAL IMPACTS

This section identifies and analyses social impacts that may occur as a result of the Project. Key data sources for the impact identification and assessment are the specifics of the project, the social baseline, information from the stakeholder and community engagement, and workforce sourcing scenarios. The data has been supplemented and correlated with published literature and SIA good practice guidelines where relevant.

When assessing social impacts, the rating tool described in section 1.3 has been used. However, as social impacts are not always easily quantified, the descriptors provided in the matrix serve as a guide orienting the assessment, taking into account additional factors such as the extent and intensity of the impact, the likely stakeholder experience of the impact, subject positions, as well as degrees of stakeholder vulnerability.

In this chapter, social impacts will be assessed considering the Power Station Project as well as the open cut portion of the GCP that is intended to supply the Power Station. It should be noted that the latter is not subject to the current approvals process, but it is nevertheless included to provide stakeholders with a view of the likely social impacts of the totality of the required projects. Other associated projects, including the remainder of Waratah's GCP project intended for export coal is addressed under the cumulative impact section.

The section proceeds as follows; first, workforce sourcing scenarios are described, second, social impacts are identified and assessed, and finally potential cumulative impacts are described.

6.1 Workforce sourcing scenarios

6.1.1 Construction workforce

The construction process for each of the generators and associated open cut mine will last approximately 36 months. Construction workforces for the first generator will initially be approximately 100 persons, increasing to a peak of about 500 persons in the 8th to 11th quarter of the process, and then reduce as the Project is commissioned and operations commence. Construction of the second generator and expansion of the open cut will require a similar construction process, but construction workforces will be slightly lower, peaking at approximately 445 persons.

Construction workforces are often temporary in nature and move from project to project. It is therefore considered unlikely that a substantial number of construction workers would relocate to live in the focus communities or the broader BRC for the Project. Given the relatively small pool of available workers in the focus communities it is also considered unlikely that a large portion of the workforce would be able to be sourced from existing residents without causing substantial impact to existing business through increased competition for labour. Notwithstanding that, it is likely that a small number of workers will be sourced from the focus communities and the broader BRC area. Most construction workers are likely to be sourced from the remainder of Queensland or Australia and FIFO to site.

Table 20 below outlines assumptions for two construction workforce sourcing scenarios: one with a modest local component (scenario C1) and one with a larger local component (scenario C2).

TABLE 20 ASSUMPTIONS – CONSTRUCTION WORKFORCE SCENARIOS

	Scenario C1 – Modest local component	Scenario C2 – Larger local component
Existing residents in focus communities	2.5%	5%
Existing residents in BRC (less focus communities)	5%	10%
FIFO from rest of QLD / AUS	92.5%	85%
Relocating permanently to BRC / Focus communities	0%	0%
Accommodation and transport (shared across both scenarios)	<ul style="list-style-type: none"> Focus community residents day commute and stay in own home. BRC residents Bus in Bus out (BIBO) and stay in Project provided accommodation for duration of roster. FIFO workers stay in Project provided accommodation for duration of roster. 	

Note: percentage of total workforce.

Figure 24 below applies these assumptions to the peak workforce requirements for both phases and describes direct population related implications for each.

FIGURE 24 CONSTRUCTION WORKFORCE SCENARIOS

	Scenario C1: Modest local component	Scenario C2: Larger local component
Peak construction first phase: 545 workers	<p><i>Workforce composition</i></p> <ul style="list-style-type: none"> 14 focus community residents. 27 from rest of BRC. 504 from rest of QLD / AUS. <p><i>Implications</i></p> <ul style="list-style-type: none"> Workforce accommodation required for 531 workers. FIFO required for 504 workers. BIBO required for 27 workers. 	<p><i>Workforce composition</i></p> <ul style="list-style-type: none"> 27 focus community residents. 55 from rest of BRC. 436 from rest of QLD / AUS. <p><i>Implications</i></p> <ul style="list-style-type: none"> Workforce accommodation required for 491 workers. FIFO required for 436 workers. BIBO required for 55 workers.
Peak construction second phase: 445 workers	<p><i>Workforce composition</i></p> <ul style="list-style-type: none"> 11 focus community residents. 22 from rest of BRC. 412 from rest of QLD / AUS. <p><i>Implications</i></p> <ul style="list-style-type: none"> Workforce accommodation required for 434 workers. FIFO required for 412 workers. BIBO required for 22 workers. 	<p><i>Workforce composition</i></p> <ul style="list-style-type: none"> 22 focus community residents. 45 from rest of BRC. 378 from rest of QLD / AUS. <p><i>Implications</i></p> <ul style="list-style-type: none"> Workforce accommodation required for 423 workers FIFO required for 378 workers BIBO required for 45 workers.

Under *scenario C1 – modest local component* peak construction of the first generator and associated open cut will result in 14 residents in the focus communities being employed, 27 from the remainder of BRC and just over 500 from rest of Queensland or Australia. *Scenario C2 – larger local component* would see employment from the focus communities of 27 persons, 55 from the rest of BRC, and 436 from rest of Queensland or Australia.

Under both of these scenarios, a large construction workforce accommodation village will be required; catering for approximately 530 workers under scenario C1 and 490 under scenario C2.

6.1.2 Operational workforce

The operational workforce for the Project is anticipated to commence at around 90 workers for the Power Plant, and an additional 90 workers at the open cut mine that is feeding the plant, totalling 180 workers. This will increase to a total of 270 workers when the second generator is operational and the open cut expands to produce 4.8 Mtpa.

It is likely that a larger component of the operational workforce can be sourced from the focus communities and the broader BRC area. This will likely consist of existing residents as well as those who relocate to the area to work on the Project. Table 21 below outlines assumptions underlying two operational workforce sourcing scenarios: scenario O1 which has a modest workforce component from the focus communities and the BRC, totalling 50% of the workforce, and scenario O2 with a larger local and regional component comprising 80% of the workforce.

TABLE 21 ASSUMPTIONS – OPERATIONAL WORKFORCE SCENARIOS

	Scenario O1 – Modest local component	Scenario O2 – larger local component
Existing residents in focus communities	5%	5%
In-migrating residents to focus communities	25%	45%
Existing residents in BRC (less focus communities)	10%	15%
In-migrating residents to BRC (less focus communities).	10%	15%
FIFO from rest of QLD / AUS	50%	20%
Accommodation, transport and family composition (shared across both scenarios)	<ul style="list-style-type: none"> • Focus community residents day commute and stay in own home. • BRC residents BIBO and stay in Project provided accommodation for duration of roster. • FIFO workers stay in Project provided accommodation for duration of roster. • Household size of in-migrating residents is similar to QLD at 2.6. 	

Note: percentage of total workforce.

Figure 25 below applies these assumptions to the operations workforces at both 180 and 270 workers and outlines direct implications for accommodation requirements and population growth of each.

FIGURE 25 OPERATIONAL WORKFORCE SCENARIOS

	Scenario O1: Modest local component	Scenario O2: Larger local component
Operations workforce – one generator + open cut (2.4Mtpa), 180 workers	<p><i>Workforce composition</i></p> <ul style="list-style-type: none"> 9 existing focus community residents in workforce. 45 workers relocating to focus communities. 18 workers existing BRC residents. 18 workers relocating to rest of BRC. 90 workers from rest of QLD / Aus. <p><i>Implications</i></p> <ul style="list-style-type: none"> 117 new residents in focus communities of which approximately 27 children. Demand for 45 homes in focus communities. 47 new residents in rest of BRC of which approximately 11 children. Demand for 18 homes in rest of BRC. Workforce accommodation required for 126 workers. BIBO required for 36 workers. FIFO required for 90 workers. 	<p><i>Workforce composition</i></p> <ul style="list-style-type: none"> 9 existing focus community residents in workforce. 81 workers relocating to focus communities. 27 workers existing BRC residents. 27 workers relocating to rest of BRC. 36 workers from rest of QLD / Aus. <p><i>Implications</i></p> <ul style="list-style-type: none"> 211 new residents in focus communities, of which approximately 49 children. Demand for 81 homes in focus communities. 70 new residents in rest of BRC, of which approximately 16 children. Demand for 27 homes in rest of BRC. Workforce accommodation required for 63 workers. BIBO required for 27 workers. FIFO required for 36 workers.
Operations workforce, two generators + open cut (4.8Mtpa)	<p><i>Workforce composition</i></p> <ul style="list-style-type: none"> 14 existing focus community residents in workforce. 67 workers relocating to focus communities. 27 workers existing BRC residents. 27 workers relocating to BRC. 135 workers from rest of QLD / Aus. <p><i>Implications</i></p> <ul style="list-style-type: none"> 176 new residents in focus communities of which approximately 40 children. Demand for 67 homes in focus communities. 70 new residents in rest of BRC of which approximately 16 children. Demand for 27 homes in rest of BRC. 	<p><i>Workforce composition</i></p> <ul style="list-style-type: none"> 14 existing focus community residents in workforce. 122 workers relocating to focus communities. 41 workers existing BRC residents 40 workers relocating to BRC. 54 workers from rest of QLD / Aus. <p><i>Implications</i></p> <ul style="list-style-type: none"> 316 new residents in focus communities of which approximately 73 children. Demand for 122 homes in focus communities. 105 new residents in BRC, of which approximately 24 children. Demand for 40 homes in BRC.

<ul style="list-style-type: none"> • Workforce accommodation required for 189 workers. • BIBO required for 54 workers. • FIFO required for 135 workers. 	<ul style="list-style-type: none"> • Workforce accommodation required for 135 workers. • BIBO required for 81 workers. • FIFO required for 54 workers
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In summary, *scenario O1 – modest local component* would entail 117 people moving to the focus communities, increasing to 176 when the second generator is operational. This would see a demand for 45 homes in the focus communities, increasing to 67. Up to 14 existing focus community residents would be employed by the Project under this scenario. For the rest of BRC, this scenario would see employment for 27 existing residents and 27 workers and families moving into the area. 135 workers would be sourced from the rest of Queensland or Australia and FIFO to work on the Project.

Under *scenario O2 – larger local component*, the implications for the focus communities are employment of up to 14 existing residents and immigration of up to 122 workers and families, totalling 316 new residents. BRC would see 105 new residents, of which an estimated amount of 24 would be children and 41 existing residents provided employment. Approximately 54 workers would FIFO to the Project.

6.2 Impact identification and assessment

6.2.1 Population impacts

The construction and operation of the Project will see significant population change to the focus communities and the broader BRC, including presence of non-resident workers as well as resident population growth. Findings from the consultation suggests this would be overwhelmingly seen as a positive impact, as the area has experienced protracted population decline. Population growth will also come with some challenges such as infrastructure and housing provision. The extent to which these eventuate will depend on the scale of the growth.

Resident population

The operational workforce requirements are likely to lead to growth in the direct resident population in the focus communities and the regional study area. Should the first scenario play out, the population of the focus communities would increase with 26% when the first generator is operational and 39% when the second generator commences operation. The second scenario which implies a larger local component would see the focus communities grow with 39% and 70%. Proportionally, the growth across BRC would be more modest, between 6% and 10% in the first phase and increasing to between 9% and 15% in the second.

TABLE 22 POTENTIAL DIRECT POPULATION GROWTH IN LOCAL STUDY AREA

	Focus Communities		All of BRC	
	Phase 1 – 180 workers	Phase 2 – 270 workers	Phase 1 – 180 workers	Phase 2 – 270 workers
O1 – Modest Local	117 / 26%	176 / 39%	164 / 6%	246 / 9%
O2 – Larger Local	211 / 47%	316 / 70%	281 / 10%	421 / 15%

Note: Table shows number of new persons in each area under the different scenarios and percentage growth on 2016 Census figures (450 persons for the focus communities and 2,865 for all of BRC). The figures do not include indirect or induced population growth.

Non-resident population

The Project will also lead to a growth in the non-resident worker population. At peak of the first construction phase between 491 and 531 non-resident workers are expected to work on the project, including those that commute from other communities within BRC. At peak of the second construction phase between 423 and 434 non-resident construction workers are likely to be based in Project provided accommodation. In addition to these, the operational workforce scenarios suggest between 63 and 126 operational workers will be non-residential.

As the focus communities have a total population of 450 persons the presence of a large non-residential workforce will be significant. This is likely to lead to increased demand for essential services such as power, water, waste and sewerage, and some additional demand for health and related services. If not managed well, the presence of a large non-residential workforce can also lead to feelings of insecurity for existing residents, as well as potential for behavioural incidents involving the workforce. These are discussed further below.

6.2.2 Employment

As discussed above, the direct employment effects of the Project would be:

- Construction workforce opportunities extending over 36 months, peaking at around 545 jobs for the first construction phase, and 445 for the second phase.
- Operational workforce opportunities commencing at 180 jobs and increasing to 270.

These employment effects are overwhelmingly positive and significant both at the focus community level and across the broader BRC. Under both operational scenarios the Project will be the largest employer of residents in the focus communities and a significant employer within BRC.

In addition to these direct job opportunities it is likely the project will generate indirect employment effects in other sectors. These are difficult to quantify but are likely to be noticeable both at a local and regional level.

Although overwhelmingly seen as a positive by local community members, the increased employment opportunities may also lead to increased competition for labour for existing local businesses. If not managed well, and if access to labour is further constrained by other factors such as limited available housing stock, this could become a significant negative impact for other local businesses.

6.2.3 Housing and Workforce accommodation

The Project will give rise to additional demand for housing and accommodation, particularly in the focus communities but also in other areas of BRC. Demand is likely to be for both non-resident workforce accommodation, and permanent housing for resident workers who relocate to, or young people who choose to stay on, in the area.

Non-resident workforce demand

Table 23 below outlines the potential number of non-resident workers at peak of phase 1 and phase 2 under the modest local and larger local component scenarios, thus providing an indication of the likely number of units of accommodation required for the Project. Should these scenarios eventuate, the demand for non-resident accommodation will be between 491 and 531 units at the peak of phase one, and between 486 and 560 at peak of phase two.

This demand far outstrips the temporary accommodation currently available in the focus communities. As discussed in 3.3, the Proponent is intending to utilise the proposed Alpha Accommodation Village as the main accommodation facility for its non-resident workers. This will provide a total of 264 units of non-resident accommodation and 120 motel rooms to a total of approximately 660 beds, sufficient to absorb this demand. Should this however not be completed on time or to a sufficient scale, the non-resident workforce demand is likely to cause significant impacts to the housing markets in the focus communities, which may also in turn affect the tourism industry. The Proponent, through the infrastructure agreement with Council, will ensure that sufficient housing is provided to meet non-resident workforce demand by working closely with the Accommodation Provider to provide an accommodation Village that has the potential to be scalable and adaptable to meet peak workforce demand, and avoid putting undue pressure on existing accommodation facilities and the residential housing market.

TABLE 23 POTENTIAL DIRECT NON-RESIDENT ACCOMMODATION DEMAND

	Peak of Phase 1 (construction only)	Peak of phase 2 (construction and operation)
Modest Local Component	531	560
Larger Local Component	491	486

Resident workforce demand

The Project is likely to cause demand for additional permanent housing in the focus communities as well as in the broader BRC. Table 24 below shows the potential demand for dwellings based on the operational workforce sourcing scenarios outlined above. Even at the modest local component, the anticipated in-migration will represent a substantial additional housing demand. However, there are currently approximately 40 serviced vacant residential lots in Alpha, as well as a large number of unoccupied dwellings in both Alpha and Jericho, with some stakeholders estimating between 30 and 40 empty homes in Alpha alone. Although some of these are reported to be in varying conditions, it is likely that at least some of them are or can be brought into habitable condition. Additionally, the proposed Alpha Accommodation Village will provide a mix of dwellings, some of which will be suitable for permanent residents with small families. It thus seems likely that the available developable land and housing stock can absorb the direct demand induced by the *Modest local component* scenario, particularly if in-migration occurs over a period of time.

Should the *Larger local component* scenario play out, the demand for housing is likely to be unsustainable under existing conditions, and additional land would need to be made available for development. It is also likely that the Project may bring about increased indirect and induced demand for housing and accommodation as a result of growth in associated industries. It is however impossible to predict the quantum of that growth.

It is considered likely that the housing market in the other towns in BRC can absorb the additional demand brought about by either scenario particularly as this may occur over a period of time.

TABLE 24 POTENTIAL DIRECT RESIDENTIAL HOUSING DEMAND

	Focus Communities		BRC	
	Phase 1	Phase 2	Phase 1	Phase 2
Modest Local Component	45	67	18	27
Larger Local Component	81	122	27	40

There is also a risk of investor driven housing speculation causing escalating house prices and a potential boom – bust scenario in local housing markets. Whilst many residents appear to want to see an increase in the value of their homes which have been depressed since the previous boom, increasing rents may affect residents on low incomes, potentially pushing them out of the rental market in the focus communities. Should a boom – bust scenario eventuate, there is also a risk of investor driven over-development, leading to house prices becoming depressed again.

6.2.4 Local and Indigenous business

The Project is likely to have a significant and predominantly positive impact on businesses throughout the BRC area through its direct procurement practices but also as generally increased economic activity benefits other businesses. As noted in section 5.6, a large proportion of the businesses in BRC are in the construction sector and as such may be able to support the construction phase of the project.

The Project may also negatively impact businesses in the local area through two pathways. An increased competition for local workers may see local businesses and other organisations struggling to retain and attract staff. Should the Project lead to a significantly increased demand for temporary accommodation in the focus communities there is a risk that this may crowd out the existing tourism market. The latter is however unlikely as most tourists are using caravans, and the Project is unlikely to compete for accommodation with this segment.

6.2.5 Social infrastructure and services

The resident population growth caused by the Project is the main driver of increased demand for social infrastructure and services.

School, childcare and early learning

Table 25 below outlines the assumed additional children in the focus communities under each of the operational scenarios and the two phases. It should be noted that the number of *school aged* children is likely to be smaller, but also that any indirect or induced population growth will add additional children to these numbers. As noted in section 5.9.1, consultation with schools in the focus communities have confirmed that the schools have physical capacity to accommodate growth caused by the Project. As such, additional school enrolments are unlikely to cause any negative impacts. On the contrary, several stakeholders discussed how they would like to see larger enrolments and more vibrant school communities. Likewise, consultation with the early learning facilities suggest they have the physical capacity to accommodate additional enrolments.

TABLE 25 POTENTIAL ADDITIONAL CHILDREN IN FOCUS COMMUNITIES

	Phase 1	Phase 2
Scenario O1 – Modest Local	27	40
Scenario O2 – Larger Local	49	73

Social and community services and community groups

It seems unlikely that the Project would cause any direct negative impacts on the limited social and community services that are found in the focus communities. These include HACC and meals on wheels which provide support and care for primarily elderly residents. It is unlikely that the Project would either create additional demand for these services, or cause significant labour shortages in these.

On the contrary, to the extent these rely on volunteers for service provision, these and other community groups and organisation may benefit from an injection of additional volunteers. Consultation with community members suggest there is a hope for the Project to provide an injection to the community groups through financial support and volunteering.

Essential services – power, water, waste

Depending on which of the scenarios described above eventuates, it is possible that the Project will cause significant additional demand on essential services in the focus communities. Several stakeholders commented on the poor power provision in Alpha and Jericho, and it is likely that additional demand from residents and non-resident workers will further increase the load on the power system.

Likewise, it was noted that Alpha and Jericho rely on treated sub-artesian bore water for its potable water supply and that there are capacity constraints both with regards to bore water availability and capacity of the water treatment plants. It is likely that additional demand caused by the Project will mean additional bores or upgrades to treatment capacity will be required.

With regards to waste and sewerage no concern was raised about capacity constraints. Alpha and Jericho do not have sewerage systems, and individual residences rely on septic systems for their sewerage. This leads to density constraints as residential lots need to be large enough to accommodate the systems. Some stakeholders commented that if the town of Alpha grew significantly it may make sense to provide sewerage.

Health services

It is possible that the Project will lead to an increased demand for health services in the focus communities due to increased resident workers and their health service needs. The non-resident workforce may also cause an increased demand on the health services due to workplace health and safety incidents or acute health issues for the workforce while on shift. However, consultation revealed that most residents view the potential for additional health services as a positive. The health service facilities in Alpha and Jericho appear to have the physical capacity to absorb additional staffing.

Police and Emergency services

Alpha and Jericho rely on auxiliary and volunteer fire and emergency services and the towns are home to a two and one officer police station each. It is likely that the Project will cause additional demand on these services, related to increased traffic and potential for road accidents, increased demand for wide load

police escorts, even though these additional tasks are advertised state-wide internally to the Police Department, and potential for non-resident workforce behaviour issues. It was however noted that the Alpha police and emergency services station in particular is relatively modern and has capacity to accommodate additional staff. It is also possible that the Project may contribute to an increased volunteer base for the emergency services.

6.2.6 Community health and wellbeing

Impacts on landholders and neighbours

The Project is likely to cause some disturbance to the directly affected landholders and neighbours. As noted in section 3, the Power Station will require a portion of one privately held property, and the open cut mine will require a portion of another. The land required for the Project will be acquired through commercial arrangements providing the landholders with agreed compensation for the land. However it is still possible that landholders may experience stress and uncertainty as to whether and when the Project will go ahead and the fairness of the process.

Additionally, nearby landholders are concerned about disturbance from traffic or workers (or associates of the workers) who may stray into their properties disturbing their life. The potential for spread of weeds is also an ever present concern for many landholders. Landholders have also expressed concern that the mine component of the Project will cause draw down of their groundwater supplies.

An assessment of air quality impacts during construction and operations predicted that at all sensitive receptors – including the dwellings of nearby landholders – emissions would comply with the relevant air quality objectives. In a similar vein, an acoustic assessment undertaken for the Project found impacts to be below applicable noise limits. The actual amenity impacts of the project are thus predicted to be very low.

Changing community dynamics

A growing population and presence of non-resident workers may also change the dynamics of the focus communities. Many residents commented on the safe and community oriented life in these towns, and it is possible that this may change as more workers are present in town, as residents may experience feelings of insecurity or alienation. There is also a risk of community division between Project employees and others who may benefit from the development, and those who may not. However, consultation with community members suggest they are aware of these risks, but would often prefer to deal with the negatives of growth, rather than continue to experience the current trajectory of decline.

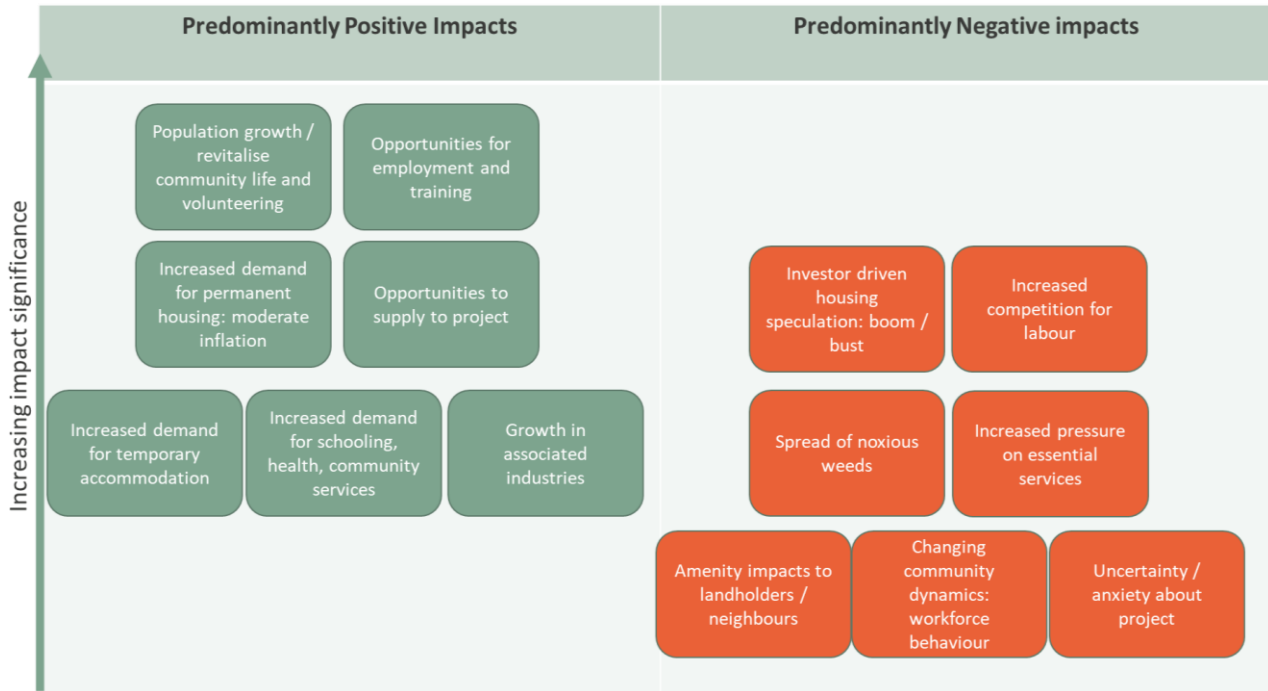
6.2.7 Impacts of Project closure

Closure of the Project is likely to see loss of employment, loss of business opportunities and a potential outmigration from the focus communities. However, whether or to what extent these occur will depend on the social and economic conditions in the focus communities at that point in time, including the availability of alternative employment. It is therefore impossible to predict how these impacts will be experienced at the time of writing.

6.3 Significance assessment

Figure 26 below summarises these impacts and their relative significance. Table 26 overleaf describes these in more detail including a brief discussion on the rationale of each assessment based on the discussion above. Potential impacts of Project closure are included but not assessed.

FIGURE 26 IMPACT SIGNIFICANCE SUMMARY



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TABLE 26 IMPACT IDENTIFICATION AND ASSESSMENT

Driver	Impact / Opportunity	Phase	Affected stakeholders	Positive / negative	Significance	Rationale
Construction and operations workforce needs <ul style="list-style-type: none"> • Employment opportunities residents in focus communities and BRC. • Workers and their families moving into focus communities and BRC • Workers and families purchase or rent houses in focus communities and BRC • Presence of non-resident workers in focus communities. 	Population growth / reversal of decline – opportunity to revitalise community life and volunteering.	Construction / Operations	Focus communities BRC	Positive	Very high	Highly likely to occur, anticipated and seen as positive by most stakeholders.
	Opportunities for employment and training.	Construction / Operations	Focus communities BRC	Positive	Very high	Highly likely to occur, anticipated and seen as positive by most stakeholders.
	Increased demand for permanent housing. Potential for moderate rental and purchase price inflation.	Construction / Operations	Focus communities	Predominantly Positive	High	Likely to occur, seen as positive by many as current house prices are depressed. Need to manage / monitor to avoid unsustainable escalation.
	Investor driven housing market speculation and potential boom / bust scenarios	Construction / Operations	Focus communities – particularly renters Investors	Negative	High	May occur and may impact small number of community residents, particularly vulnerable people. Mitigation measures may be required.
	Increased demand for temporary accommodation	Construction / Operations	Accommodation providers	Positive	Medium	Highly likely to occur. Will impact small number of accommodation providers positively

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Driver	Impact / Opportunity	Phase	Affected stakeholders	Positive / negative	Significance	Rationale
	Increased pressure on essential infrastructure and services.	Construction / Operations	Council Focus community residents	Negative	Medium	Likely to occur. Will affect council and residents if not mitigated. However mitigation relatively straightforward.
	Increased demand for schooling, health and community services.	Construction / Operations	Focus communities Service providers	Predominantly positive	Medium	Highly likely to occur, mostly seen as opportunity by residents.
	Changing community dynamics / workforce behavioural incidents.	Construction / Operations	Focus communities	Negative	Low	May occur and may cause sense of insecurity and inconvenience. May require mitigation.
Construction and operations activities: <ul style="list-style-type: none"> Blasting, earthmoving and clearing and other use of machinery. Light and heavy road traffic Procurement of goods and services Workforce spending Use of water, electricity, 	Opportunities to supply to Project.	Construction / Operations	Businesses in focus communities and BRC	Positive	High	Highly likely to occur and anticipated by residents, will likely mostly benefit regional community.
	Increased competition for labour	Construction / Operations	Businesses in focus communities and BRC	Negative	High	May occur and impact business in similar sectors. Mitigation required.
	Growth in associated industries	Construction / Operations	Businesses in focus communities and BRC	Positive	Medium	Likely to occur but may be contained to small number of businesses.
	Uncertainty about project timing, impacts etc	Construction / Operations	Landholders Focus communities	Negative	Low	Likely to occur but likely to not be intense. May require mitigation.

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Driver	Impact / Opportunity	Phase	Affected stakeholders	Positive / negative	Significance	Rationale
generation of waste and sewerage			BRC			
	Amenity impacts or disturbance to landholders and neighbours.	Construction / Operations	Landholders and neighbours	Negative	Low	May occur and cause nuisance. High concern among landholders. May require mitigation.
	Spread of noxious weeds	Construction / Operations	Landholders and neighbours	Negative	Medium	Likely to occur if not mitigated. Can have significant economic impact on landholders. Mitigation required.
<i>Project closure</i> ⁸ <ul style="list-style-type: none"> • Wind down of operations • Decommissioning of plant • Rehabilitation of site • Workforce redundancy 	Reduction in workforce – population decline	Closure	Focus communities BRC	Negative	-	-
	Loss of business opportunities	Closure	Businesses in focus communities and BRC	Negative	-	-
	Return of Project land to grazing	Closure	landholders	Positive	-	-

⁸ Note that the Power Station is planned for an operational life of a minimum of 50 years.

6.4 Cumulative impact assessment

Cumulative impacts are defined as “successive, incremental and combined impacts of one or more projects (existing, current and foreseeable future projects) on society, the economy or the environment” (Vanclay et al., 2015, p. 79). In assessing cumulative impacts of the Project the methodology outline in section 1.3.3 was followed.

6.4.1 Potential Projects with cumulative effects

Table 27 below lists all relevant major projects in the Galilee Basin and considers the risk of material cumulative social impacts arising as a result of the interaction between these and the Project. In conclusion, this screening process suggests that the *Galilee Coal Project* is the main project that should be considered for the cumulative impact assessment. It, and potential cumulative social impacts are further described below.

TABLE 27 CUMULATIVE IMPACT SCREENING

Project	Proponent	Approvals Status	Risk of material cumulative social impact
Galilee Coal Project	Waratah Coal	EIS completed and evaluated in 2013. Mining Lease (ML) application submitted.	High – directly adjacent to and linked with the Project.
North Alpha Coal Project	Waratah Coal	Pre-approval	Medium – relatively close in location, but timing uncertain.
South Galilee Coal Project	AMCI	EIS completed and evaluated in 2014.	Low – although proximate in location, evaluation report is likely to have lapsed and likelihood of proceeding considered very low.
Alpha Coal Project	GVK Hancock	EIS completed and evaluated in 2012.	Low – although proximate in location the likelihood of proceeding concurrently with Project considered very low.
Kevin’s Corner Project	GVK Hancock	EIS completed and evaluated in 2013.	Low – although proximate in location likelihood of proceeding concurrently with Project considered very low.
Carmichael Coal Mine and Rail Project	Adani	In construction	Low – relatively distant location, largely FIFO based construction / operation, construction may be complete prior to Project commencing.
China Stone Project	MacMines	EIS completed and evaluated in 2018.	Low – relatively distant location may proceed concurrent with the Project but likely to be largely FIFO based.

Source: Queensland Coordinator General (Queensland Government Department of State Development Tourism and Innovation, n.d.) and Proponent information.

6.4.2 The Galilee Coal Project

The Galilee Coal Project EIS was completed in August 2013 with the Coordinator General issuing his evaluation report on the project. The GCP is a proposed open cut and underground coal mine located directly adjacent to the Project, 30km north west of Alpha. Initially the GCP included a proposed rail link to the port of Abbot Point near Bowen, however the proponent is currently looking at other options. An application for an ML and Environmental Authority (EA) for the GCP was lodged in October 2019.

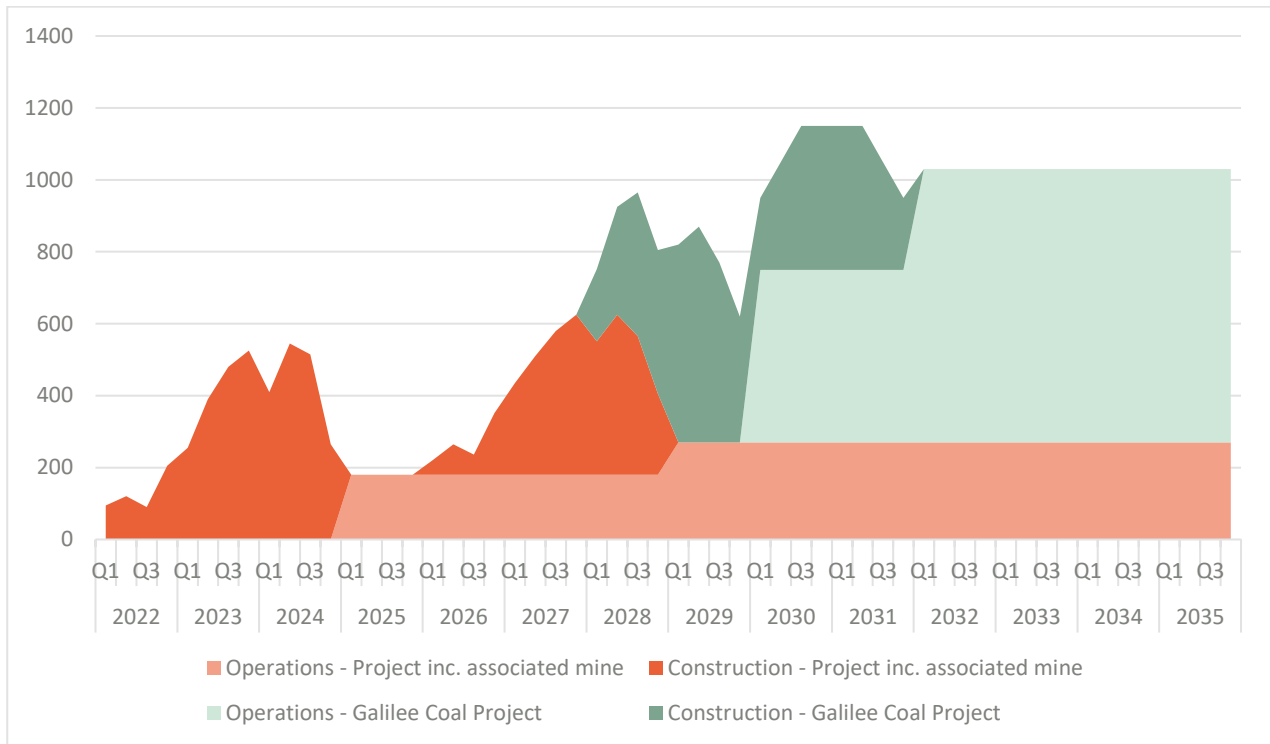
As noted in section 3, an open cut mine of 2.4Mtpa will be developed initially to supply the Power station with coal, increasing to 4.8Mtpa when the second generator is completed. Following that, the Proponent proposes to construct an underground mine in two stages, with the first stage planned to commence in 2028 and the second in 2030. Construction workforces are expected to peak at around 600 workers for the first of the underground stages, and 400 for the second. Operational workforce requirements are likely to commence at around 480 workers when the first of the underground stages is operational, increasing to 760 at the second stage. When the second stage is operational the GCP is intended to produce 15Mtpa product coal. The proponent also has an option to further increase production to up to 30Mtpa through expansion of the underground mine⁹. This is likely to occur in the late 2030's depending on world market condition. The underground mine is proposed to be operated using longwall technology.

It is likely the GCP construction workforces will be largely non-residential and FIFO based workers. The operational workforces are however likely to contain a mix of workers sourced from the local area, the broader region as well as from the rest of Queensland and Australia. It is currently impossible to forecast the exact composition of these workforces, but a reasonable assumption is that approximately 5% of the operational workforce may be sourced from the focus communities of Alpha and Jericho.

Figure 27 below shows the likely cumulative workforce demand for the Project and the GCP combined.

⁹ The ML application provides capacity to mine up to 56Mtpa (ROM) which equates to 40Mtpa of product coal.

FIGURE 27 LIKELY CUMULATIVE WORKFORCE DEMAND – PROJECT AND GCP



Source: proponent data.

6.4.3 Potential cumulative impacts

Although the GCP is proposed by the Proponent and is connected to the Project through the open cut mine, the majority of cumulative impacts are likely to occur at least eight years into the future from the time of writing. There is a large degree of uncertainty as to how the impacts of the Project will play out, how the social and economic dynamics of the focus communities may change during that period, and how that will affect how cumulative impacts eventuate. It is therefore difficult to quantify these with any degree of certainty. However, it seems likely that cumulative impacts will be of a similar nature to the impacts identified earlier in this chapter, although of a greater magnitude. The following are the impacts that are most likely to be material.

Non-resident population growth and associated demand for accommodation and infrastructure

If the assumption of a near 100% FIFO construction workforce and a 5% local component of the operational workforces for the GCP eventuate, the demand for additional non-residential accommodation will be significant. Accommodation for more than 700 workers is likely to be required, in addition to what is already required for the Project. Additional workforce accommodation in the form of an additional or expanded accommodation village near Alpha, or a permanent workers camp at the ML is likely to be required at around 2028, should the current staging remain. It would appear that most, if not all, of the projects other than the Waratah projects intend to accommodate the non-resident workers adjacent to the ML area, which would have little effect on Alpha for non-resident workers.

Should a larger component of the operational workforce choose to be residential, it also seems likely that additional land within Alpha and Jericho would need to be made available to provide housing for relocating workers and their families. This will also most likely require additional water sources and treatment capacity in Alpha and potentially Jericho.

Employment impacts

The GCP is likely to exacerbate the employment effects, both positive and negative, of the Project. It will provide direct additional employment that is available to residents in the community as well as the broader region and Queensland. There is also likely to be further indirect employment effects of in associated industries and services. Increased competition for labour is also likely to be exacerbated, affecting existing employers in the community.

Community safety

Depending on the workforce accommodation location and practices, the presence of large non-residential workforces in the community is likely to give rise to feelings of insecurity and changing community dynamics. The large number of non-residential workers may also give rise to an increase in crime.

Likewise, the impacts on landholders and neighbours in terms of potential disturbances is likely to increase as more project vehicles and more workers are present in the vicinity.

Demand for health and emergency services

The presence of large construction and operations workforces is likely to give rise to an increased demand for health and emergency services due to health and safety incidents or other acute health issues. This may impact the Alpha Hospital, as well as lead to an increase in demand for aero medical retrieval.

Traffic

It is likely there will be cumulative traffic impacts, particularly if the construction of the second stage of the Project and the first stage of the GCP happen concurrently. This is likely to be experienced by residents in Alpha and other road travellers. Should demand for police escort for oversized vehicles coincide, even though these additional tasks are advertised state-wide internally to the Police Department, there is also likely to be additional demand on limited police resources. There will also be increased operational workforce traffic, consisting of light and heavy vehicles travelling between accommodation and the site.

6.4.4 Potential management measures

As both the Project and the GCP are owned by the Proponent, it is likely it can adequately coordinate its management measures to address any cumulative impacts, thus removing a key barrier to cumulative impact management. In particular the Proponent commits to:

- Updating the Galilee Coal Project SIMP prior to construction of the underground mine to ensure it adequately responds to the social situation at that point in time;
- Entering into negotiations with Barcaldine Regional Council around trigger points for cumulative growth;
- Ensuring an adequately scaled *accommodation village* is in place prior to constructing the underground mine;



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- Coordinating *traffic planning* for the Project and GCP to minimise concurrent traffic, particularly of oversized loads;
- Ensuring the upgrade of Saltbush Road and intersection with Capricorn highway is scaled to accommodate traffic from both projects as required.

Also, should other nearby Galilee Basin projects move towards construction in the period leading up to the GCP underground mine construction, the proponent will seek to convene a cumulative impacts consultation group as envisaged in the GCP EIS.

7. SOCIAL IMPACT MANAGEMENT PLAN

In this section the SIMP for the project is presented. It is structured to align with the five key matters for SIA described in the guideline (State of Queensland, 2018b), including community and stakeholder engagement, workforce management, local business and industry participation, housing and accommodation and community health and wellbeing. A comprehensive monitoring and reporting framework is also presented.

Management strategies have been designed to address significant social impacts, many of which are likely to be experienced positively by the community. The same change processes that drive these could however also, if not managed well, lead to significant negative impacts for the community. The management strategies have therefore been designed to achieve a balance between meeting community aspirations of population growth and community revitalisation on the one hand, and avoiding the negative impacts of too large and rapid growth on the other.

This section proceeds as follows. It first describes the key instruments addressing social impacts, then outlines accountability for managing social impacts, then proceeds to describe the social impact management plans, and concludes with outlining the monitoring and reporting framework.

7.1 Instruments for addressing social impacts

The proponent will put in place a range of instruments, agreements and management plans which will address various aspects of the social impacts identified in this SIA. These are outlined in Table 28 below.

TABLE 28 KEY INSTRUMENTS ADDRESSING SOCIAL IMPACTS

Instrument	Content
Infrastructure Agreement	<p>The Proponent proposes to enter into an infrastructure agreement with BRC, with the aim of mitigating impacts on council owned infrastructure and addressing logistics challenges of the project. with regards to social impact, the agreement will address:</p> <ul style="list-style-type: none"> • Upgrade to Alpha Airport • Upgrade to and realignment of the Project access road (Saltbush Road) and intersection with the Capricorn Highway • Upgrade of Saltbush Road • Development of the gazetted road connecting Saltbush Road to the Power Station site • Closure of the northern portion of Monklands Road and Transfer of the section immediately south (through Glen Innes) from public road to Private Road • Develop new road between closed part of Monklands Road and the new developed gazetted road to the power station site

	<ul style="list-style-type: none"> Contributions to upgrade sections of the Capricorn Highway
Environmental Management Plan (EMP)	With respect to social impacts the EMP for the Project and the mine will be aimed at managing amenity impacts such as dust, noise and light emissions, as well as contain requirements for complaints management.
Road Use Management Plan (RMP)	The RMP for the Project is intended to address road related safety risks, including to the community. Likely content will include traffic sequencing, provision of bus service, driver training and fatigue management.
Emergency Response Plan	The Emergency Response Plan for the Project will detail how potential emergencies will be managed, including preparation, response and recovery.
Social Impact Management Plan (SIMP)	The SIMP for the Project is described below and will address social and economic issues relating to community engagement and the consultative process, workforce management, housing and accommodation, local procurement and community health and wellbeing.

Where relevant, the SIMP outlined below references actions to be included in the other instruments described in Table 28.

7.2 Accountabilities for delivery of SIMP

The Proponent is ultimately accountable for the delivery of the SIMP. A senior manager within the Proponent will be designated as a key accountable person, and will establish a cross functional committee to ensure management is coordinated within the company. Contractors with a major site presence will be required to implement aspects of the SIMP as relevant depending on the nature of their contracts, and obligations under this SIMP will be included in contracts to ensure they are implemented.

Delivery of the actions within the SIMP will however also depend on the involvement and partnership with other organisations and stakeholders, including within the local community.

7.3 Action Plan

7.3.1 Community and Stakeholder Engagement

The Community and stakeholder plan outlined in Table 29 below describes the actions the proponent will take to inform, consult and involve the community in the Project. It is primarily focussed on stakeholders within the focus communities of Alpha and Jericho and the broader BRC.

The plan is intended to ensure the Project develops and maintains a productive and respectful relationship with the focus communities as well as to address impacts relating to uncertainty around the project

development. The actions outlined in the table below will be implemented through annually reviewed community plans that specify how and when actions will be implemented.

The Proponent will commence delivering the community engagement program contained here once approval has been received for the Project.

TABLE 29 COMMUNITY AND STAKEHOLDER ENGAGEMENT ACTION PLAN

Action ID	Action	Timing
COMENG1	Establish a community consultative committee as the main interface between the Proponent and the community.	Prior to construction and at minimum for duration of construction
COMENG2	Establish and operate a 1800-number and maintain project email address for project information, feedback and complaints.	Prior to construction and ongoing
COMENG3	Engage a community relations officer based in the focus communities.	Prior to construction and at minimum for duration of construction
COMENG4	Publish regular project updates using existing local community newsletters such as the Alpha Mail.	Prior to construction and ongoing
COMENG5	Participate in and support community events in the focus communities.	Prior to construction and ongoing
COMENG6	Publish construction notifications during constructions to update community on potential impacts and disturbances.	Construction
COMENG7	Provide regular updates and presentations to Barcaldine Regional Council.	Prior to construction and ongoing
Performance Indicators	<ul style="list-style-type: none"> Stakeholder satisfaction with community engagement and consultation. Number of complaints received by theme and timeframes for resolution. 	

A complaints and feedback policy and process has been developed for the Project.

7.3.2 Workforce Management

The workforce management plan will seek to ensure a balance between local, regional and FIFO residents in the workforce. The plan will aim to ensure community aspirations for employment are met while negative social impacts associated with very large influxes of workers are avoided. Management of workforce behaviour in the community is also addressed in the plan.

In general, the Project will aim for a workforce composition that is aligned with the *modest local component* operational workforce scenario described in section 6.1 above.

TABLE 30 WORKFORCE MANAGEMENT ACTION PLAN

Action ID	Action	Timing
WORK1	Designate all power station operational roles as residential, meaning FIFO will not be offered, or only as a last resort.	Operations

Action ID	Action	Timing
WORK2	Provide relocation and live local incentives to operational employees who choose to live in the focus communities.	Operations
WORK3	Conduct recruitment campaign in focus communities and BRC.	Prior to operations
WORK4	Develop tailored training program for locally and regionally based candidates if skills gaps exist.	Prior to operations
WORK5	Ensure all operational vacancies are advertised in local and regional outlets.	Operations
WORK6	Provide a minimum of 10% of employment positions to apprenticeships and traineeships per year, prioritising residents in focus communities and BRC.	Operations
WORK7	Collaborate with local schools and TAFE to investigate opportunities for school based traineeships.	Operations
WORK8	Develop a Project specific <i>Code of Conduct</i> and ensure workforce – including contractor workforces – are required to follow it.	Construction and operations
WORK9	Organise regular events and opportunities for volunteering that fosters integration between the Project and the community.	Operations
WORK10	Partner with local community organisations to develop a welcoming package / process for new residents.	Operations
WORK11	Ongoing liaison with police and other relevant stakeholders regarding workforce behaviour.	Construction and operations
Performance Indicators	<ul style="list-style-type: none"> • Number and percentage of employees who are local residents, residents in BRC, and Indigenous persons • Number of apprentices and trainees in workforce • Number of workforce behavioural incidents and complaints. 	

7.3.3 Housing and Accommodation

The Project will seek to ensure its housing and workforce solutions contribute to a positive growth in the housing markets in the focus communities and BRC, whilst seeking to avoid unsustainable boom – bust scenarios or negative housing impacts to people on low incomes.

The project's housing and accommodation action plan is contained in Table 31 below. The plan has been scaled to meet anticipated demand for permanent housing associated with the *modest local component* operational workforce scenario.

TABLE 31 HOUSING AND ACCOMMODATION ACTION PLAN

Action ID	Action	Timing
ACCOM1	Ensure Alpha Accommodation Village is developed to meet peak demand from Project non-resident workers.	Prior to construction
ACCOM2	Conduct a detailed housing study to understand and quantify the availability of suitable housing in the focus communities.	Prior to construction

Action ID	Action	Timing
ACCOM3	Incorporate requirements to use Alpha Accommodation Village for non-resident construction and operations workers. Consider utilising other commercial accommodation for temporary visitors.	Construction and operations
ACCOM4	Designate all power station operational roles as residential, meaning FIFO will not be offered, or only as a last resort	Operations
ACCOM5	Provide relocation and live local incentives to operational employees who choose to live in the focus communities	Operations
ACCOM6	Monitor housing costs in focus communities on an ongoing basis.	Construction and operations
Performance Indicators	<ul style="list-style-type: none"> • Number of employees relocating to the area. • Number of non-resident workers in project provided accommodation. 	

7.3.4 Local business and industry procurement

The local business and industry procurement plan will seek to maximise participation of local and Indigenous businesses in the construction and operations of the Project, and support businesses to build their capability to supply to other potential projects. In this action plan, local businesses refers to businesses that are located in the Barcaldine Regional Council area and that employ BRC residents.

TABLE 32 LOCAL BUSINESS AND INDUSTRY PROCUREMENT ACTION PLAN

Action ID	Action	Timing
LOCBUS1	Incorporate local and Indigenous business participation requirements in construction and operations contracts and ensure these are passed on to lower tier contractors as relevant.	Prior to construction
LOCBUS2	Hold supplier information sessions together with major contractors in focus communities and other towns in BRC.	Prior to construction
LOCBUS3	Establish register of capable local and Indigenous businesses and ensure this is shared with major contractors.	Prior to construction
LOCBUS4	Ensure upcoming work packages are communicated to local business.	Construction and operations
LOCBUS5	Support capability building programs in partnership with local organisations where needed (such as tender writing workshops, HSE requirements etc).	Prior to construction
LOCBUS6	Adopt, and ensure that large contractors working on the project adopt, the principles outlined in the Australian supplier payment code for regional small and medium businesses, including no more than 30 day payment terms.	Construction and operations

Action ID	Action	Timing
LOCBUS7	Support business mentoring program for local businesses who are not in the supply chain of the project, such as agriculture and tourism.	Operations
Performance Indicators	<ul style="list-style-type: none"> Spend with BRC and Indigenous businesses Number of BRC and Indigenous businesses supplying to project. 	

7.3.5 Health and community wellbeing

The health and community wellbeing action plan aims at ensuring the workforce does not pose an unsustainable demand on local health services, that employees are safe and healthy, and that the Project contributes to community wellbeing. Table 33 below contains the health and community wellbeing action plan.

TABLE 33 HEALTH AND COMMUNITY WELLBEING ACTION PLAN

Action ID	Action	Timing
HEALTH1	Provide on-site medical staff and services for the Project as per regulated requirements as a minimum, including paramedics and first aid training to all operational staff	Construction
HEALTH2	Provide workforce health and wellbeing programs, including an EAP program.	Construction and operations
HEALTH3	Develop <i>communications protocol</i> with QPS and QFES to ensure smooth management of potential incidents.	Construction and operations
HEALTH4	Develop <i>Emergency Response Plan</i> in consultation with QFES. The plan will consider items such as joint training exercises, compatibility of equipment and dedicated volunteering and capacity building.	Prior to construction.
HEALTH5	Develop <i>community investment strategy</i> in consultation with BRC and focus community organisations. The community investment strategy is likely to include: <ul style="list-style-type: none"> Sponsorship of local community groups and organisations Volunteering opportunities Support for long term sustainable growth of the communities 	Prior to construction and life of project
HEALTH6	Encourage employee integration in the local community through supporting welcoming events and similar processes.	Construction and operations
Performance Indicators	<ul style="list-style-type: none"> Spend on community development initiatives; and Health, safety and wellbeing incidents, including those that require medical treatment outside of site. 	

7.4 Monitoring and reporting

The SIMP monitoring and reporting program will consist of the quantitative performance indicators described in the action plans above, tracking of the implementation of the actions in these plans, qualitative feedback from communities and stakeholders gathered during consultation. The Project will provide public annual reports on its SIMP implementation throughout the construction phase. Figure 28 below summarises the monitoring and reporting program.

FIGURE 28 OVERVIEW OF MONITORING AND REPORTING PROGRAM

Monitoring and Reporting Program			
Quantitative Performance Indicators	Action Plan implementation tracking	Qualitative feedback from communities and stakeholders	Annual reporting

7.5 Review

This SIMP will be comprehensively reviewed following completion of the first construction stage.

REFERENCES

- Australian Bureau of Statistics. (2017a). 2016 Census of Population and Housing, General Community Profile, Catalogue Number 2001.0, Alpha, SSC30045.
- Australian Bureau of Statistics. (2017b). 2016 Census of Population and Housing, General Community Profile, Catalogue Number 2001.0, Barcaldine Regional Council, LGA30410.
- Australian Bureau of Statistics. (2017c). 2016 Census of Population and Housing, General Community Profile, Catalogue Number 2001.0, Jericho, SSC31453.
- Australian Bureau of Statistics. (2017d). 2016 Census of Population and Housing, General Community Profile, catalogue number 2001.0, Queensland (3).
- Australian Bureau of Statistics. (2018). 2033.0.55.001 Socio-Economic Indexes for Australia (SEIFA), 2016.
- Australian Government Department of Education Skills and Employment. (n.d.). Small Area Labour Markets publication, December Quarter 2019. Retrieved July 2, 2020, from <https://www.employment.gov.au/small-area-labour-markets-publication-0>
- Barcaldine Regional Council. (2018). *Approaching 2030 - Barcaldine Regional Council Economic and Community Development Strategy*.
- Department of Education. (2015a). Alpha State School, Annual Report 2015.
- Department of Education. (2015b). *Jericho State School, Annual Report 2015*.
- Department of Education. (2018a). *Alpha State School, Annual Report 2018*.
- Department of Education. (2018b). *Jericho State School, Annual Report 2018*.
- Department of Education. (2020a). *Alpha State School, Annual Report 2019*.
<https://doi.org/10.3934/math.2020i>
- Department of Education. (2020b). *Jericho State School, Annual Report 2019*.
<https://doi.org/10.3934/math.2020i>
- Jericho Shire Council. (2013). *Jericho Shire Planning Scheme 2006* (Vol. version 2).
- National Native Title Tribunal. (n.d.). Register of Native Title Claims Details, QC2004/06 - Clermont-Belyando Area Native Title Claim. Retrieved July 1, 2020, from http://www.nntt.gov.au/searchRegApps/NativeTitleRegisters/Pages/RNTC_details.aspx?NNTT_FileNo=QC2004/006
- Queensland Government. (2009). *Central West Regional Plan 2013-2016*. Retrieved from <http://www.rdacentralwest.org.au/wp-content/uploads/2014/12/RDA-Central-West-Regional-Plan-2013-2016.pdf>
- Queensland Government Department of State Development Tourism and Innovation. (n.d.). Completed Projects. Retrieved July 2, 2020, from <https://www.statedevelopment.qld.gov.au/coordinator-general/assessments-and-approvals/coordinated-projects/completed-projects.html>
- Queensland Government Statistician's Office. (2020a). *Bowen and Galilee Basins non – resident population*

projections, 2016 to 2022.

Queensland Government Statistician's Office. (2020b). Queensland Regional Profiles: Resident Profile for Barcaldine (R) Local Government Area.

State of Queensland. (2018a). Projected population, by local government area, Queensland, 2016 to 2041.

State of Queensland. (2018b). *Social Impact Assessment Guideline*.

State of Queensland. (2018c). Strong and Sustainable Resource Communities Act 2017, (March).

State of Queensland. (2019). Planning Act 2016. Retrieved September 13, 2019, from <https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2016-025>

State of Queensland. (2020a). Estimated resident population (a) by urban centre and locality (b), Queensland, 2001 to 2019p.

State of Queensland. (2020b). Estimated resident population by local government area (LGA), Queensland, 1991 to 2019p.

Vanclay, F., Esteves, A. M., Aucamp, I., & Franks, D. M. (2015). *Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Projects*.

APPENDIX A – SIA SCOPE

Updated and finalised 20200515 following meeting with council representatives

Background and Context

Waratah Coal Pty Ltd has lodged an application for a Material Change of Use (MCU) for a public utility (power station and associated infrastructure) with Barcaldine Regional Council (DA221920). The Project involves the proposed development of a 1,400 Megawatt ultra-supercritical (HELE — High Efficiency Low Emissions) Power Station adjacent to the Galilee Coal Project and will have the dual purpose of servicing the public network and proving the power needs for the Galilee Coal Project mine operations.

Council has requested additional information from Waratah Coal. In particular, Council has requested that Waratah Coal carries out a Social Impact Assessment (SIA), generally in accordance with the Queensland Government SIA guidelines (2018).

This document sets out the matters to be included in the SIA.

Objective of the SIA

- 1) The objective of the SIA is to:
 - identify and assess potential negative social impacts arising from the Project and propose mitigation measures,
 - identify and assess potential benefits arising from the Project and propose enhancement measures.

Focus areas

- 2) Focus of the impact assessment will be on the communities closest to the project, particularly Alpha and Jericho, and the broader Barcaldine Regional Council.
- 3) The impact assessment will pay particular attention to impacts and opportunities relating to:
 - local housing and accommodation markets, including where and how project workforces will be housed,
 - employment opportunities for local and regional residents, including extent of FIFO work practices, as well as impacts on existing businesses and organisations of increased competition for labour,
 - impacts to local and regional roads,
 - anticipated demand for local services and facilities,
 - impacts of population growth on town resilience particularly in relation to flooding,
 - cumulative impacts of the Project in combination with associated projects.

Overall approach

- 4) The SIA will be developed generally in accordance with the Queensland Government SIA guidelines and in close consultation with Barcaldine Regional Council.
- 5) The SIA will include the following data:

- statistical data from ABS and the Queensland government statistician, relevant local and regional plans
 - proponent data, including related technical studies such as air, noise, traffic and economic assessments, workforce projections,
 - information gathered through consultation.
- 6) The SIA report will include the following sections:
- an introductory chapter describing the SIA methodology,
 - a description of the project,
 - a description of the stakeholder and community engagement undertaken for the SIA,
 - a social baseline describing the existing social environment,
 - a section describing social impacts and opportunities,
 - a social impact management plan (SIMP), containing management measures for all significant impacts.

Social Baseline

- 7) The SIA will describe the existing social environment in the communities of Alpha and Jericho, Barcaldine Regional Council area, and where relevant compared with Queensland.
- 8) The social baseline will – at a minimum – contain the following indicators:
- cultural values, lifestyles, fears and aspirations,
 - demography: age, sex, family composition, cultural and ethnic origins,
 - housing: rental and purchase costs, vacant housing, development potential,
 - employment; industries of employment, workforce participation, unemployment,
 - businesses: number of businesses, industries of operation,
 - education levels,
 - services and facilities.

Community and stakeholder consultation

- 9) The community and stakeholder consultation section will outline consultation methods, stakeholders consulted and summarise findings from these.
- 10) The following stakeholders will be consulted:
- Selected key residents of Alpha and Jericho,
 - Barcaldine Regional Council; councillors, executives and officers within planning, economic development community development,
 - representatives of the local school, health services, emergency services and community organisations,
 - landholders in the direct vicinity of the Project.
- 11) Consultation methods will include:
- face to face consultations with key stakeholders,
 - tele/video conference meetings.

An information sheet outlining key facts about the project will be shared with participants prior to meetings.

- 12) Consultations will seek input to:
- the social baseline,
 - anticipated impacts,

- preferred mitigation strategies.

Impact assessment

- 13) The section describing social impacts and opportunities will describe potential social impacts, assess the likelihood and consequence of these and consider cumulative social impacts.
- 14) The social impact identification and assessment will be informed by the social baseline, community concerns and aspirations, other technical studies as well as workforce sourcing scenarios.
- 15) The cumulative impact section will consider potential cumulative social impacts from the Project, in conjunction with other projects in the area, including:
 - the Galilee Coal Project (mine),
 - the Alpha Accommodation village construction,
 - upgrade of the Alpha airport,
 - potential transmission line projects,
 - other potential projects in the direct vicinity of the Project.

Social impact management plan

- 16) Measures to enhance positive impacts and mitigate negative impacts will be captured in a social impact management plan.
- 17) The SIMP will articulate mitigation or enhancement measures, and for each measure describe which impact it is addressing, timing for implementation, and the party accountable for implementation.
- 18) The SIMP will identify practical performance indicators.

Timing

- 19) The SIA will be delivered in accordance with the following indicative timeframes:
 - consultation meetings will be carried out in June 2020,
 - draft findings from the SIA will be presented to Council in July or August 2020,
 - the final SIA will be submitted to Council on or before the end of August 2020.

COVID-19 considerations

Consultations will be carried out in accordance with restrictions imposed in relation to the COVID-19 pandemic. Face to face meetings and interviews with key stakeholders will be carried out should current restrictions allow. Should this occur, social distancing will be applied at these meetings, hand hygiene will be practised and appropriate PPE utilised if requested by participants. Remote consultations, including tele- or videoconference options will be offered to stakeholders who do not wish to participate in face to face meetings.

DOCUMENT PROPERTIES

Title	Version	Issued	Principal Author	Client
Social Impact Assessment for the Galilee Power Project	DRAFT B	July 2020	Daniel Holm	Waratah Coal Pty Ltd