Australia Pacific LNG Project
Supplemental information to the EIS

Revised Construction Workforce Impact Assessment - LNG Facility

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1. Introduction

This report has been prepared as a result of changes to the estimated workforce requirement during the construction phase of the Australia Pacific LNG Project and in response to submissions received through the EIS public consultation process.

The construction workforce for the LNG facility was estimated in the draft EIS to reach a peak of 2,100 workers. Detailed planning has identified a larger optimal workforce for LNG facility construction than was earlier envisaged, with the peak workforce estimated at 3,300 which is approximately 60% greater than the workforce forecast in the Australia Pacific LNG Project EIS. The workforce forecast has also been expanded to account for key groups of subcontractors.

In addition to the increased optimum workforce, detailed planning has also allowed for a clearer estimate of the number of non-local workers who will be relocated into the Gladstone housing market for the construction period.

The methodology used to assess the social impacts associated with the increased workforce requirement remains consistent with the methodology used in the Social Impact Assessment lodged as part of the EIS. Additional information which was drawn upon included submissions made in response to the Australia Pacific LNG Project EIS, additional studies undertaken since the release of the EIS such as the Housing Options Assessment and newly available baseline data.

2. Review of Project Impacts and Mitigation

2.1 LNG Facility Workforce

2.1.1 Construction Workforce

The proposed construction timeframe remains as outlined in the EIS, that is, construction of Train 1 of the LNG plant and associated marine facilities is proposed to commence in April 2011 with completion by late 2014. Construction of Train 2 will commence approximately six months after Train 1 and expected to be completed in 2015 following completion of Train 1 to take advantage of the workforce and construction equipment already mobilised for the Project.

The construction workforce profile presented below applies to the construction of two LNG trains between 2011 and 2014. The peak construction period for the construction of Train 1 and Train 2 occurs in 2013, in which an estimated construction workforce of 3,300 will be required on the site on Curtis Island. It is estimated that the workforce requirements for Trains 3 and 4 will be similar in distribution and size.

As detailed in the EIS, Australia Pacific LNG is aiming to source an average of at least 20% of its construction labour force for the LNG facility locally, which is defined as those workers who live within 60km of the Gladstone general post office. The distribution of the local workforce will vary over the period of construction, with a greater proportion of local workers in the early months of the Project, coinciding with a higher utilisation of local sub-contractors for early works activities.

Since the EIS, further planning has enabled a more detailed estimate of the number of non-local workers who are expected to relocate to Gladstone and live within the existing housing market. Of this non-local resident workforce, it is anticipated that some workers will choose to remain in Gladstone permanently, whilst others will just reside for the duration of construction. Approximately 5% of the peak workforce (or 25% of those workers residing locally) are anticipated to relocate to Gladstone for the construction of the LNG Facility. It is anticipated that at peak (May – June 2012), up to 170 construction workers and their families may relocate to Gladstone. Demand will decease following this peak, with an average of 120 non-local resident construction workers until completion of construction of Trains 1 and 2 in 2015. It is expected the peak construction workforce for Trains 3 and 4 will be able to access a higher proportion of local workers, given that demand from other projects would have significantly dissipated and workers who relocated to Gladstone for Trains 1 and 2 may still be resident. As such there is a reduced likelihood that additional people will need to relocate to Gladstone for this second phase.

2.1.2 Operational Workforce

Operational workforce requirements remain the same as outlined in the EIS. The operation of the first two LNG trains is expected to require a workforce of 175, which will then ramp up to 325 between 2018 and 2020 as operations of Train 3 and Train 4 commence. Whilst the total operational workforce remains consistent with the EIS, further planning has identified a need to employ Operational staff well ahead of plant commissioning, with the initial operations workforce being employed in 2012. Up to 50 operational staff will be located in Gladstone from 2013, increasing to 100 by 2015.

Australia Pacific LNG aims to source, and/or locate, the operational workforce locally depending upon the skills and experience available. If suitable candidates can not be sourced locally, alternative sourcing strategies will be required. As such, it is anticipated that the operational workforce will comprise a mix of existing local residents and non-local workers who may chose to relocate to Gladstone. The first years of operation, particularly for Train 1 are expected to require the greatest number of non-local workers, with an estimated 60% of the operational workforce being sourced from outside the region. These experienced operational workers will be responsible for facilitating the up-skilling of the local workforce to operate Trains 3 and 4. The operational workforce will be split between two different rosters, either an eight hour day shift, or a twelve hour rotating shift.

Operational workforces for Trains 2-4 are expected to be able to be sourced locally, however this will need to be progressively reviewed, and the composition of the workforce determined (e.g. local/non local, and direct/non-direct) before more detailed planning is undertaken.

2.2 Housing Impacts

Australia Pacific LNG Project EIS submissions from regulators and the community raised concerns regarding potential impacts to housing affordability and accessibility for low income groups and key workers associated with the Project and to a greater extent the cumulative impact of multiple concurrent projects. Since the EIS, Australia Pacific LNG has continued consultation with key stakeholders regarding the Australia Pacific LNG housing strategy and social impacts.

2.2.1 Temporary Accommodation

Based on the revised workforce estimates, the LNG Facility will require a Temporary Accommodation Facility (TAF) of up to 2,600 beds at peak, which represents an increase of approximately 44% fom what was originally anticipated. Australia Pacific LNG is cognisant of the Coordinator General's recommendation that TAF's on Curtis Island be not larger than 1500 beds. As detailed in the information provided to the Coordinator General on the 19th February 2010 and outlined in the EIS, Australia Pacific LNG firmly believe that a single camp for the non-local Australia Pacific LNG workforce on the Project site is the most appropriate solution and will ensure that measures are put in place to mitigate social and environment impacts associated with this. Australia Pacific LNG remain committed to working proactively with the relevant regulatory bodies and government agencies to illustrate how impacts will be managed.

It is anticipated that the proposed TAF on Curtis Island will be completed by month 15 post mobilisation (approximately July 2012) and that the facility will cater for demand by gradually increased in size to cater for peak demand, and then gradually be demobilised during decommissioning. Prior to this, accommodation will be required for up to 325 non-local construction workers in Gladstone.

An additional TAF is also required in the Gladstone Regional Council area for pipeline construction workers. Australia Pacific LNG will consult with Gladstone Regional Council regarding the preferred locations for the camp, seek Councils' input to camp siting considerations and consult on mitigation measures where relevant.

2.2.2 Permanent Accommodation

Construction and Early Operations (2011-2015)

Further detailed planning and advice from Australia Pacific LNG's FEED contractor since release of the EIS has highlighted a preference to accommodate a proportion of the non-local workforce in the Gladstone housing market rather than temporary workers accommodation. Based on previous project experience, it is expected that this will include a combination of single employees and employees who will move to Gladstone with their family or partner. The table below details an estimate of the maximum number of singles and family/couples who will be housed in Gladstone over the construction period for Trains 1 and 2, and also includes the operational housing requirements during this period. The operational housing requirement is anticipated to be six from 2012, increasing to 50 by 2013.

Based on the construction and operational requirements detailed earlier and not inclusive of the FIFO workforce, the approximate maximum requirement for housing of non local resident employees on the mainland during the construction and early operational period is detailed below.

Table 2.1 Gladstone Housing Demand

Year	2011	2012	2013	2014	2015	2015
Construction	10	168	152	142	92	62
Operations		6	46	86	100	100
Total	10	174	198	228	192	162

If not appropriately mitigated, the additional demand on the Gladstone housing market has the potential to reduce affordability and access to appropriate housing options for the existing residents of Gladstone.

2.2.3 Ongoing Requirements

It is difficult to provide a reasonable estimate of the demand, if any, for additional community based housing from 2016 onwards. It is expected that housing will become available at the completion of the construction period of other proposed projects at Gladstone. Australia Pacific LNG will ensure that housing demand associated with the increase in the operational workforce post 2015 and commencement of construction of Trains 3 and 4 is assessed and monitored during the construction and operations period.

2.2.4 Mitigation

Temporary Accommodation

In response to the Australia Pacific LNG Project EIS submissions received which called for the provision of Gladstone based accommodation and a desire to limit impacts on the local housing market, Australia Pacific LNG has undertaken a detailed assessment into accommodation options for the initial 15 months of construction. Based on that assessment, Australia Pacific LNG has entered into discussions with the developer of an accommodation facility with preliminary development approval in the Gladstone Regional Council area with a view to securing accommodation for the non-local manual construction workforce from April 2011 to August 2012. This commitment will help facilitate the development of long term workforce accommodation for the Gladstone region. Accommodating the non-local manual workforce within temporary accommodation in the Gladstone region for the initial 15 months of project will encourage economic development opportunities whilst minimising impacts to the housing market and community values and safety.

Permanent Accommodation

Australia Pacific LNG has developed clear objectives for it's Housing and Accommodation Strategy as outlined below:

- Avoid or reduce upward pressure on housing sales and rental prices that may result from Project activities
- Minimise impacts on housing availability and associated social impacts due to Project activities
- Provide temporary accommodation solutions for the non-local workforce
- Maintain or improve access to affordable housing for the local community
- Avoid displacement of short-term accommodation users
- Ensure that Project workforce is able to be accommodated in reasonable proximity to work sites

Since submission of the EIS, Australia Pacific LNG has undertaken a Housing Options Assessment, which has established estimated housing demand resulting from the Project, assessed the existing and proposed availability of land and dwellings in the Gladstone region and updated the Gladstone housing market baseline profile provided in the EIS. These options are currently being evaluated and will form the basis of the further development of the Housing and Accommodation Strategy. Further development of the Strategy will involve continued consultation with a range of stakeholders including community, agencies and other proponents. The Strategy will focus on :

- Incentives for development of housing through various financial arrangements
- Monitoring pf the project's impacts on housing affordability and availability
- Community investment programs that identify opportunities to work with government and agencies that provide housing

Further information pertaining to the development and implementation of the Housing and Accommodation Strategy is provided in the Revised Draft Social Impact Management Plan.

2.3 Other Social Impacts

2.3.1 Population

During the construction period, there is an expectation that 9.5% of the non-local workforce will reside within the Gladstone community and which may increase population in the region. An evaluation of previous projects undertaken by ConocoPhillips and the FEED contractor has enabled an estimation of the proportion of the mainland housed workforce who may move to Gladstone with their families or partners. Previous workforce surveying undertaken by ConocoPhillips for its Darwin workforce in 2009 has been used to estimate the attributes of the family category. This survey found that the residential workforce comprised of the following:

- Family all children resident - 53%
- Family some children resident - 11%

- Family no children resident - 11%
- Couples- 19%
- Single – 6%

Whilst there is insufficient detail in the information to understand the age grouping demographic impact, it has been assumed for example that of the 117 families resident in 2012-2014, 64% are likely to require some form of health, education and/or childcare services relative to the under 18year old age bracket. Table 2.2 presents the estimate total population impact associated with the construction and operation of the LNG Facility between 2011 and 2015. This takes into consideration the estimate number of single non-local residents and non-local couples and families.

Table 2.2 Probable population impact Australia Pacific LNG mainland workforce (Trains 1&2)

	2011	**2011-12**	**2012-14**	**2014-15**
0-18 years	19	110	184	195
18 year and over	31	224	209	245
Total peak additional residents	50	334	393	440

This analysis uses a series of assumptions in order to project the probable direct population impact from Australia Pacific LNG's workforce to be housed on the mainland.

This analysis has assumed that there e major assumptions in arriving at these figures are:

- There will be 2 new residents per couple, and one new resident when designated single
- There will be an average of 3.97 new residents per family

It is expected that between 2015 and commencement of construction of Trains 3 and 4 in 2017, there may be a reduction in the population impact, however given the potential for non-local resident workforce to obtain work on other industrial projects during the interim period, it's not likely to be significant. Furthermore, the additional increase in population associated with Trains 3 and 4 is unlikely to have a significant population impact as much of the workforce will have remained in the region and be sourced for the existing labour pool.

2.3.2 Infrastructure and Services

The anticipated population increase as a result of the anticipated non-local residential workforce is expected to cause an incremental increase in demand for social and recreational facilities, and community services. The population increase stimulated by Australia Pacific LNG is likely to lead to increased demand for infrastructure and services including health, education, policing and community support services, particularly for families. Australia Pacific LNG will to continue to work with stakeholders to asses and evaluate Project related impacts and develop and implement appropriate mitigation measures as required.

2.3.3 Business and Employment

The increase in the estimated construction workforce numbers and further planning for workforce accommodation provides an opportunity for significant benefit to the Gladstone economy. Benefits for local businesses beyond that anticipated in the EIS include:

- Committing to housing our non-local workforce in a commercial temporary accommodation facility for the initial 14 months will help facilitate the development of long term workforce accommodation for use by other industries in the Gladstone region enabling further industrial growth and development
- The considerable increase in the number of non-local workers and their families in Gladstone and thus use of local businesses and services on a daily basis for the life of construction
- Increased non-local workforce who may access local goods and services as they travel between the site and their place of residence on the mainland

The increased workforce may also lead to an increase in the labour draw from local businesses and services, or from other industrial projects. Mitigation strategies for labour draw are outlined in the revised Downstream Social Impact Management Plan.

2.3.4 Mitigation

To ensure that any impacts associated with estimated increase to the Gladstone region population is appropriately managed, Australia Pacific LNG will continue to participate in Local Government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner. Furthermore Australia Pacific LNG will work with government, the community and other industries to plan for potential impacts and establish a culture of information sharing between proponents to ensure potential cumulative impacts are identified and mitigated in a coordinated fashion.

Since submission of the EIS, Australia Pacific LNG has further developed and revised the Social Impact Management Plan (SIMP). Proposed mitigation measures and strategies to respond to potential population, employment and business and services and infrastructure impacts are provided in this revised Plan.