

6

WORKFORCE

The Queensland Curtis LNG (QCLNG) Project will provide significant employment opportunities including more than 4,000 jobs at the peak of construction and more than 1,000 permanent positions when operational. The majority of opportunities will be in Gladstone and regional Queensland.

Skills required for the Project are drawn from a range of sectors including:

- management and administration
- engineering (civil, mechanical, wastewater, water and environmental)
- civil trades
- ironworking trades
- piping trades
- millwright trades
- mechanical trades
- electrical trades
- instrumentation trades
- subcontractors involved in building, site preparation, painting, fireproofing and insulation, jetty construction and tanks.

QGC, the Proponent of the QCLNG Project, aims to make maximum practicable use of local labour across all phases of development. The construction labour market in Queensland is in shortage of some skilled trades and availability of local labour depends on the number of concurrent, competing projects. To appropriately plan for managing workforce-related issues, QGC will implement the following:

- recruitment and retention programs and strategies to attract skilled trades and supervision personnel from and to the Gladstone and Surat areas, including a Project training and employment program
- a program of upskilling, training and development to increase local availability of trades where a local shortage exists
- a local content strategy focusing on the Project area, based on an accurate understanding of current and potential future business capacity
- ongoing skills and labour availability analysis
- measures to ensure accommodation and job-related transport needs of all workers are considered in the Project's execution planning.

Volume 8, Chapters 4, 5, 6 and 10 contains information on the skills required for the various phases of the Project, recruitment policies and likely labour sources. The following sub-sections provide a summary of workforce characteristics and accommodation.

6.1 CONSTRUCTION

Table 2.6.1 shows the expected maximum workforce required for construction of the various Project Components. Also outlined is the source of labour, duration of the construction phases, working hours, location and type of proposed accommodation.

The table also provides an estimated breakdown of workforce numbers by skill level. The construction workforce varies depending on the stage of construction, particularly in development of the LNG Component. Histograms showing predicted workforce numbers for the construction phases of the Gas Field, Pipeline and LNG Components are presented in *Volume 8, Chapters 4 and 6*.

6.1.1 Gas Field and Pipeline Workforce Requirements

6.1.1.1 Construction

QGC will source the workforce for the Gas Field Component construction first from the local and regional area, and then from other Australian states. Skilled labour is required in the following areas:

- compression infrastructure construction
- ironworking trades (e.g. welding, diesel fitting, gas fitting, boiler making)
- electrical trades
- mechanical trades
- drilling
- water infrastructure construction
- water treatment.

Pipeline construction involves work crews (collectively referred to as a 'spread') with three separate spreads likely to be used. A limited number of companies in Australia provide the specialised pipeline construction skills and techniques required. Typically, pipeline construction crews travel around from project to project. The Project will first seek to fill roles from within Australia.

Details of the size, location and management of temporary worker accommodation required during the construction phase either on-site and/or off-site are included in *Volume 2, Chapter 12*.

Table 2.6.1 Indicative Construction Workforce Numbers, Timing and Accommodation

Project Component	Manual Workforce (peak)	Non Manual Workforce (peak)	Source (local/regional/national/foreign)	Hours of Operation	Duration (approx.)	Accommodation
QCLNG Project						
Gas Field	2,000	225	Local employment (Western Downs local government area – LGA) to full capacity, estimated at 10 per cent Non-local labour (Queensland and Australia) estimated at 90 per cent – approximately 75/25 split between fly-in, fly-out and drive-in, drive-out	6 am – 6 pm Some night work	18 months (initial infrastructure development) Ongoing exploration well development	Several workers’ camps accommodating 200 to 300 people will be provided in rural locations, where possible on QGC land, within the Western Downs Regional Council area
Pipeline	450	50	Approximately 20 per cent regional labour (i.e. Dalby, Banana, Burnett, Roma, Gladstone and Rockhampton LGAs) 80 per cent specialised labour from other Australian states	12-hour shifts 6 am – 6 pm	12 months	Up to three mobile workers’ camps with up to six locations near to the Pipeline route, within Banana Shire and/or North Burnett Regional Council areas
LNG	1,200	300	Objective is to maximise local employment and participation, subject to availability of the required skills. Recruitment of skills in shortage will be predominantly from other Australian states and New Zealand. Strategy to be developed if labour from other countries is required	12-hour shifts 6 am – 6 pm Some night shift and weekend work as schedule requires.	50-60 months (for the first two trains)	Housing strategies developed for 50 per cent and 70 per cent local employment scenarios For non-local workers, a workers’ village with capacity for up to 1,200 workers, on Curtis Island
QCLNG Project Total	3,650	575		n/a	n/a	n/a

Project Component	Manual Workforce (peak)	Non Manual Workforce (peak)	Source (local/regional/national/foreign)	Hours of Operation	Duration (approx.)	Accommodation
Ancillary Infrastructure						
Swing Basin and Channel Dredging	125	125	Primarily Australian labour, with approximately one quarter of the workforce made up of expatriates providing specialist support from US, UK and/or European labour	24 hours	12 months	Short-stay accommodation, onshore workers' village as part of Calliope Road approved camp, or other option as determined by the Proponent.
Cumulative Peak Total	3,725	700				
(QCLNG Project + Associated Works)						

1. These persons are required in addition to the workforce of approximately 300 persons (staff and contractors) currently employed for QGC field operations.

6.1.1.2 *Operations*

QGC requires operations staff for management of the Gas Field Component and management and monitoring of the Pipeline Component.

It is anticipated that the on-site workforce for the Gas Field Component will comprise 800 permanent staff, including up to 700 manual staff and 100 non-manual staff, with half of the latter based in Brisbane. Manual labour performs the following functions:

- exploration drilling and survey
- well drilling and workover
- gas- and water-gathering infrastructure construction, operation and maintenance
- systems maintenance
- field compression and central processing plant operation and maintenance
- cultural heritage clearances
- liaison with landholders and other stakeholders
- workforce management.

Nominally, operations are structured in two staggered eight-hour shifts. Primarily, staff working on the Gas Field Component will be based locally. Workers from outside the region will be accommodated at QGC's existing permanent workers' villages. The workforce is expected to include contractors for monitoring, auditing and specialised maintenance tasks.

Operational management and monitoring of the Pipeline Component requires a permanent workforce of 20 based at Windibri in the Western Downs Regional Council area. Nominally, there will be one 12-hour shift. This workforce is also expected to include contractors for monitoring, auditing and specialised maintenance tasks.

6.1.2 ***LNG Component Workforce Requirements***

6.1.2.1 *Construction*

The construction phase of the LNG Component draws upon a range of skills including:

- civil trades
- ironworking trades
- piping trades
- millwright trades

- electrical trades
- mechanical trades
- instrumentation trades
- site preparation subcontractor
- painting, fireproofing and insulation subcontractors
- buildings subcontractors
- jetty subcontractors
- tank subcontractors.

Construction labour will be made up of craft personnel involved with direct and indirect work activities. These craft will be employed by the Engineering, Procurement and Construction (EPC) Contractor and through selected specialty subcontractors for specific identified work scopes (LNG storage tanks, marine facilities, site preparation etc.). However, the entire workforce will be under the day-to-day direction of the Engineering, Procurement and Construction (EPC) Contractor.

Direct activities are those where craft personnel are engaged with the installation and testing of the permanent plant facilities such as pipe fitters, concrete finishers, steel erectors, millwrights. Indirect activities are those where the craft personnel are involved in supporting services required to facilitate a construction operation such as temporary works, clean up, housekeeping, equipment maintenance, welfare facility maintenance, warehousing and materials storage.

Construction supervision (field non-manual personnel) will be provided through a combination of field engineers, supervisors, superintendents and site management. With the planned craft manpower peaks, approximately 200 construction supervisors will be engaged at peak in direction of the craft workforce for a total peak construction workforce (craft and field non-manual personnel) of approximately 1500 personnel (plus additional craft supporting indirect work).

Indicative construction workforce histogram providing breakdown of LNG Facility construction workforce by construction month is provided in *Volume 2, Chapter 13*.

6.1.2.2 *Operations*

The LNG Component requires a permanent workforce of approximately 162 workers including staff and contractors. This will include approximately 115 workers (operational, maintenance and security personnel) at the LNG Facility, split between:

- an eight-hour day shift (general staff)
- a 12-hour day shift (6am to 6pm for operations, maintenance and security personnel)

- night shift (6pm to 6am being primarily operations and security personnel, with maintenance as required).

Numbers of personnel on site will vary subject to maintenance requirements. Up to a further 50 personnel will be based on the mainland in Gladstone and include IT personnel, human resources, management and general administration.

A summary of operational workforce under normal operations is provided in *Table 2.6.2* below, noting that detailed organisation structure and rosters remain under development and may result in some variation to these workforce numbers.

Table 2.6.2 Indicative Operational Workforce

Work Rosters	LNG Facility (Curtis Island)	Mainland (Gladstone/ Brisbane)	Total Personnel
8-hour day shift	15	47	62
12-hour day shift	24 + approx. 20 contract as required	-	24 + approx. 20 contract as required
12-hour night shift	16	-	16
Off shift	40		40
Total (all shifts)	115	47¹	162

Note:

1: In addition to these mainland roles, a further 30 Project personnel (approximately) may be based in Brisbane.

It is expected that around 20 expatriate workers are required for specialised plant management and monitoring functions.

Major scheduled shutdowns for maintenance of the LNG Facility occur every three years per LNG train, requiring a workforce of up to 300 people for a period of approximately 3 weeks. Where possible, these workers will be drawn from the local area or other parts of Queensland. Workers for major shutdowns will most likely be housed in a workers' village, either on the Facility site or at the approved facility on Calliope Road.

Minor scheduled shutdowns for maintenance occur every six to 12 months and require a workforce of up to 50, comprised mainly of subcontractors. LNG Facility employees are expected to be drawn from the local labour pool. Accommodation for minor shutdown contractors will be sourced through the local short-stay market.

6.1.3 Ancillary Infrastructure Workforce Requirements

Other parties either solely or in conjunction with QGC may undertake construction of Ancillary Infrastructure (primarily dredging). The majority of labour for this infrastructure will be sourced from throughout Queensland and

other Australian states, with some specialised dredging personnel required from other countries.

It is anticipated that maintenance dredging of the Swing Basin and Shipping Channel will be required every two to four years. As dredging vessels move between ports, an Australian crew of about 25 will be accommodated within existing accommodation in Gladstone for the duration of the approximate six-week maintenance dredging contract.

Table 2.6.3 Summarises operational workforce numbers, hours of operation and probable accommodation for the workforce for all Project Components.

Table 2.6.3 Indicative Operations Workforce Numbers, Hours of Operation and Accommodation

Project Component	Manual Workforce	Non Manual Workforce	Source (local/regional/national/foreign)	Hours of Operation	Accommodation
Gas Field	700	100	Local and regional	6 am to 6 pm, 7 days/week	Local employment maximised
Pipeline	20	5	Regional	6 am to 6 pm, 7 days/week	QGC permanent worker camps will accommodate non-local workers
LNG	70	120	Local, regional and international	24 hrs/day, 7 days/week	QGC permanent worker camps will accommodate non-local workers With the exception of 20 expatriates, the workforce is expected to be drawn from local and Australian labour pools. Housing will be sourced through the local realty market, for up to 50 non-local employees