

Jemena Northern Gas Pipeline Pty Ltd

Northern Gas Pipeline

Draft Environmental Impact Statement

APPENDIX R – SOCIAL IMPACT ASSESSMENT SCOPING STUDY

Public

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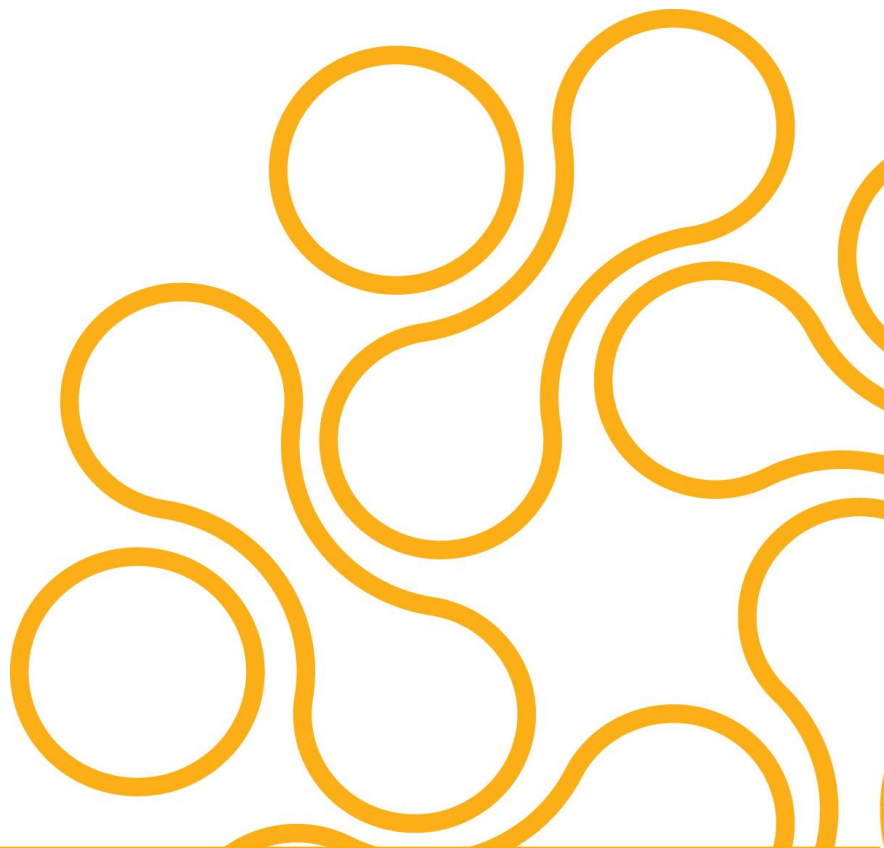
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EXECUTIVE SUMMARY

The purpose of this Social Impact Assessment (SIA) Scoping Study is to provide guidance to the conduct of the Economic Social Impact Assessment (ESIA) for the Northern Gas Pipeline (NGP).

A scoping study sets the scene for the work that is to follow, through:

- Setting the context in which the SIA is being undertaken.
- Identifying the initial potential social and economic impacts.
- Identifying the stakeholders to be consulted regarding social impact
- Setting out the plan for consultations.
- Identifying any further research that is required to be undertaken.
- Setting the methodology and the framework through which the social and economic impacts are both understood and managed.

This SIA Scoping Study also contains a framework Economic and Social Impact Management Plan (ESIMP).

PROJECT BACKGROUND

In the last quarter of 2014 the Northern Territory Government (NTG) (NT Government, 2016) commenced a competitive process to select a preferred proponent to build, own and operate a gas pipeline to transport gas from the Northern Territory (NT) to link in with the existing gas pipeline networks in either of South Australia, at Moomba, or at Mount Isa in Queensland (QLD).

The purpose of the project is to connect northern Australian gas resources to the eastern Australian gas market which is expected to face significant supply shortfall in coming years.

There were four potential pipeline routes initially proposed, two each associated with the routes shown in Fig.1.

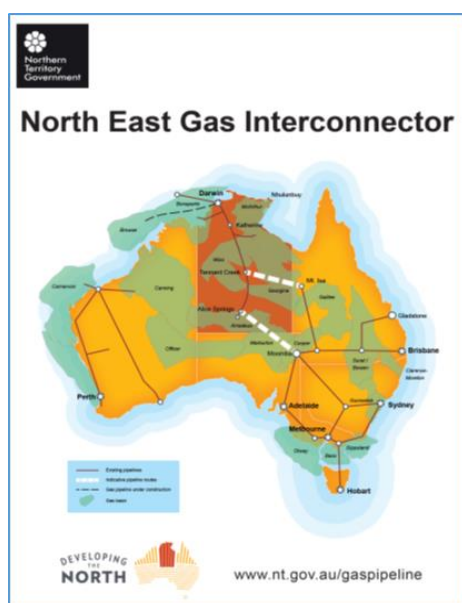


Figure 1: NEGI Pipeline route options

Assessment in the competitive process effectively had three primary elements: the financial and technical capacity to build, own and operate the pipeline, the commercial proposal that bidders put forward and the social and economic contribution. As the successful proponent Jemena is required to maximise NT involvement, beyond typical major project facilitation, in a way that provides:

- significant employment opportunities in regional and remote areas of Northern Australia, particularly for Indigenous people; and,
- significant business opportunities for Northern Territory (NT) businesses (including Indigenous businesses).

Jemena Limited (Jemena) was the successful bidder and, subsequently, established Northern Gas Pipeline Pty Ltd (Jemena), to build, own and operate the project.

For consistency with its other Australian assets, Jemena renamed the project as the Northern Gas Pipeline (NGP Project).

The Project is expected to deliver legacy benefits in regional and remote areas of the NT, during both the construction and operation phases and provide long term regional and remote economic development.

Jemena selected a northern route that connects the existing Amadeus Gas Pipeline (AGP), from Warrego just north of Tennant Creek in the NT to the Carpentaria Gas Pipeline (CGP), just south of Mount Isa in Queensland.

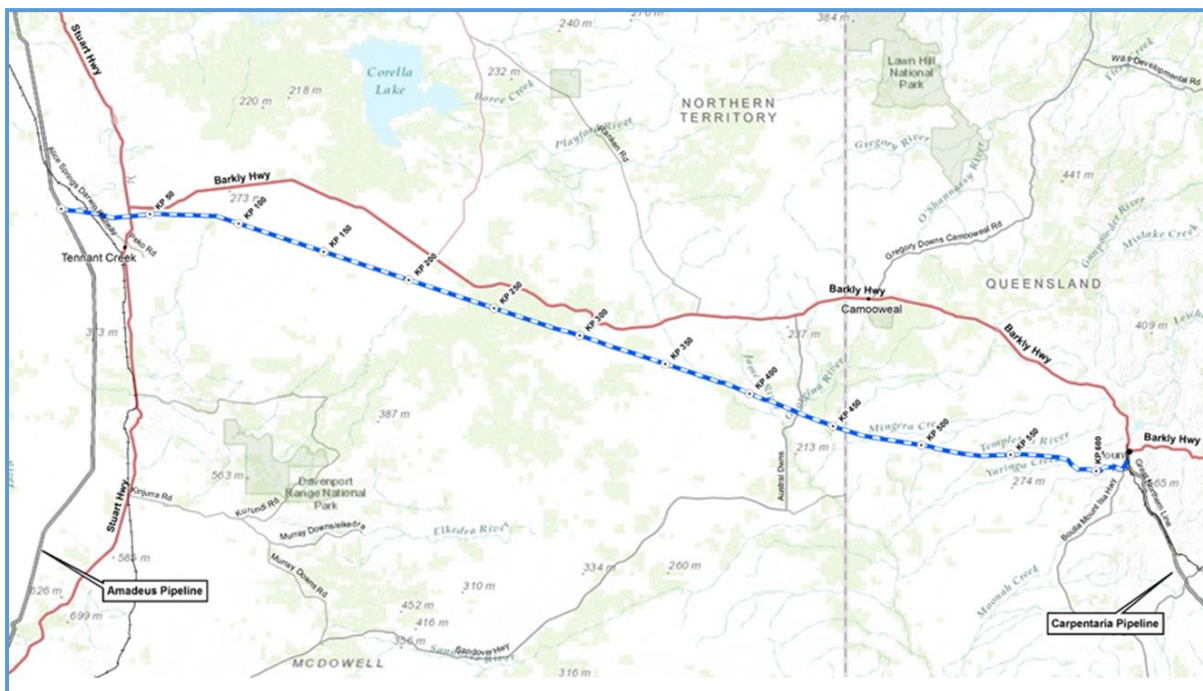


Figure 2: Jemena's NGP Route

ECONOMIC AND SOCIAL IMPACT ASSESSMENT

The principal purpose of a SIA Scoping Study is to establish the goals and boundaries of the overall assessment of impacts and to focus the efforts of the Economic Social Impact Assessment (ESIA) on key and material impacts.

This is done through gathering sufficient preliminary information to determine the areas of influence of the project; describing the regulatory and policy frameworks; drawing in parallel, on the Economic Impact Assessment (EIA); defining the range of matters to be covered by the Economic & Social Impact Assessment (ESIA), including the level of stakeholder consultations that will be needed and who is to be consulted. The information in this Scoping Study, the EIA and subsequently the ESIA, will inform the final Economic and Social Impact Management Plan (ESIMP) for the project. The diagram below illustrates how this process works.

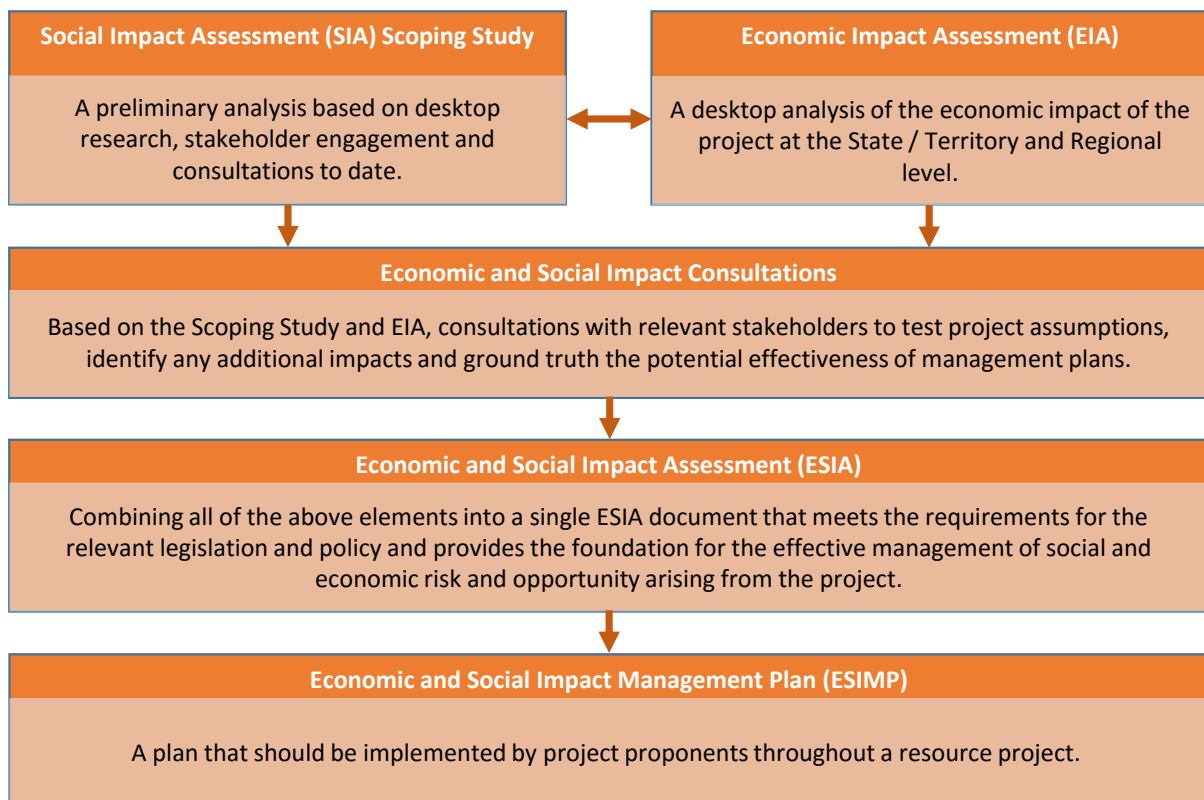


Figure3: Process for managing economic and social risk and opportunity.

The ESIA for the NGP Project is driven by the following factors:

1. Projects that require either an Environmental Impact Statement (EIS) or Public Environmental Review (PER) are required to prepare and submit an Economic and Social Impact Assessment and Management Plan (ESIA and ESIMP) by the NT Government.
2. Government sponsored projects of \$5 million and more must meet the NT's Building Northern Territory Industry Participation policy, which includes measures to benefit small and medium enterprises (SMEs), measures for the health and wellbeing and for the economic and social advancement of Indigenous¹ people through the preparation and submission of a Northern Territory Industry Participation Plan (IPP).
3. Jemena's commitment to undertaking best practice social and economic impact management and to meet its commitments to the NT Government and the communities in the project area.

Consistent with the NT EPA Guidelines, the ESIA will:

- Document the economic and social impacts of the Project on the region and more broadly, where relevant.
- Assess the risks of the Project not realising its projected economic and social benefits.

¹ Throughout this document, references to Indigenous, Aboriginal or Aboriginal and Torres Strait Islander people are used interchangeably, except where otherwise noted.

- Encourage development of new and/or expansion of existing businesses in the locality.
- Foster sustainable development and community health and wellbeing.
- Provide for appropriate contingencies to protect the community, local business owners and residents in the event of forced or unpredicted delays.
- Discuss the risks of the Project, related infrastructure and associated workforce negatively impacting on identified economic and social issues in the region.

The NGP Project is in the Planning phase and the ESIA and ESIMP will be completed in the second half of 2016 in accordance with the abovementioned process, allowing for the best practice management of social and economic risk and opportunity throughout the construction phase and into the operations phase of the project.

PEOPLE AND COMMUNITIES

The project footprint is entirely located in the Barkly Region of the NT and the Mount Isa City Council region of north-west Queensland.

The Barkly Regional Council is the second largest Local Government Area (LGA) in Australia and covers approximately 325,000 km² of land in the eastern portion of the NT. The area is sparsely populated with 8,056 residents (Australian Bureau of Statistics, 2013). The Barkly LGA includes Tennant Creek, which is the most populous town in the region with a population of approximately 3,600 people (Australian Bureau of Statistics, 2013). The major economic activities in the Barkly region are beef production and public administration.

Mount Isa City Council covers an area of 43,310 km² and has an approximate population of 22,779 people (Australian Bureau of Statistics, 2013). The City Council area includes the city of Mount Isa and the town of Camooweal and extends from the NT border to just east of Mount Isa. The major economic activities in the Mount Isa City Council area are mining and health care along with public administration.

The main towns and communities located near the project include:

- Tennant Creek
- Alpururulam
- Camooweal
- Mount Isa

There are also a number of smaller Aboriginal communities, family outstations and pastoral stations and homesteads in the vicinity of the project.

The map below shows the NGP Project location and the various towns, communities, family outstations, land tenure and Aboriginal interests in the area. The map also shows the potential geographic area of social impact for the project, noting that the potential economic impact of the project can be expected to extend throughout the regions, the NT more broadly, Queensland and Australia.

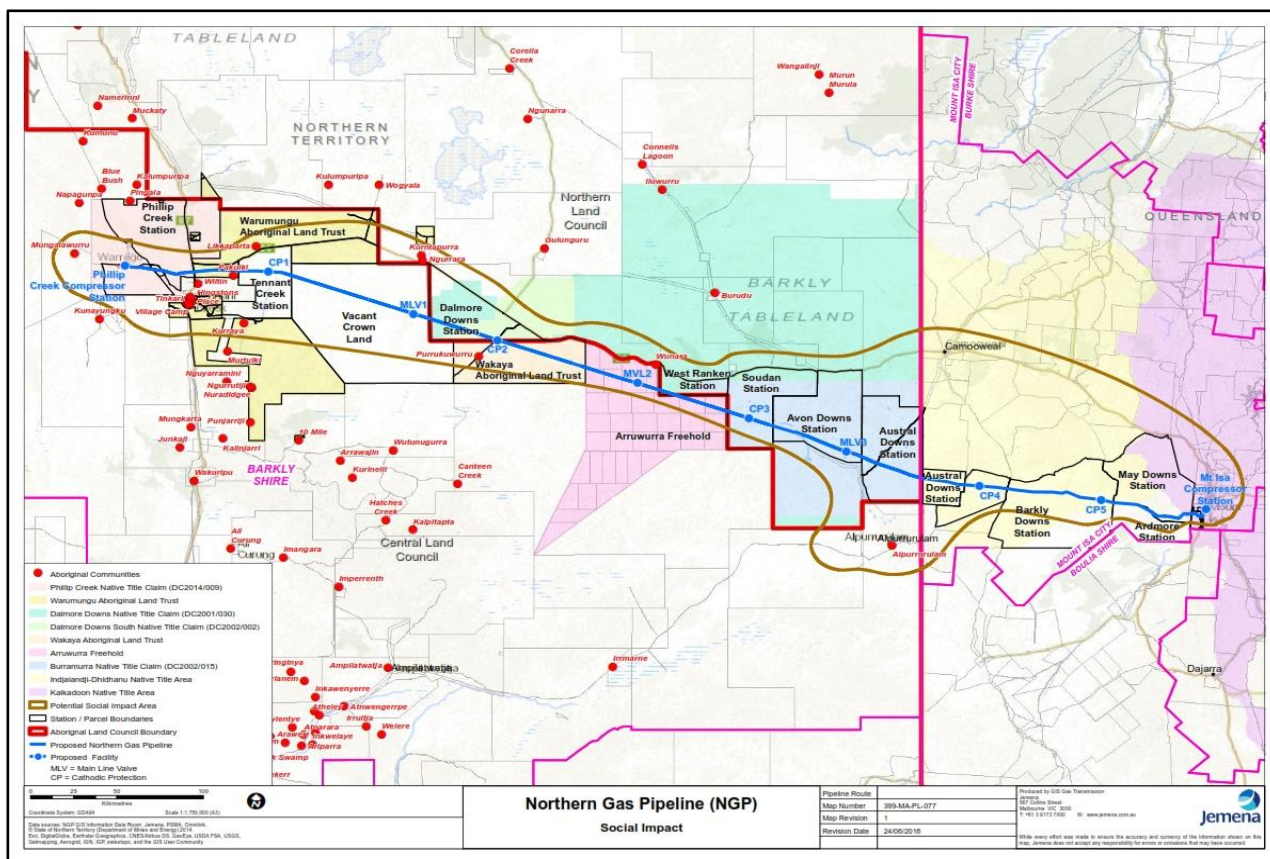


Figure 4: Project map outlining the potential NGP geographic scope of social impact

CIRCLE ADVISORY

Circle Advisory Pty Ltd (Circle) was appointed by Jemena in 2015 to provide support and assistance in managing the social and economic impact of the NGP Project. Circle's role in the project has involved the development and implementation of plans and activities associated with local and Indigenous participation, Aboriginal land and Native Title, cultural heritage management and social and economic impact assessment.

Further information regarding Circle is set out in Appendix F to this document.

ABBREVIATIONS AND TERMINOLOGY

ABS	Australian Bureau of Statistics
AEDI	Australian Early Development Index
AGP	Amadeus Gas Pipeline
ALRA	<i>Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)</i>
APGA	Australian Gas and Pipelines Association
APPEA	Australian Petroleum Production & Exploration Association
BNTIP	Building NT Industry Participation
CGP	Carpentaria Gas Pipeline
CEMP	Construction Environment Management Plan
CHMP	Cultural Heritage Management Plan
CP	Cathodic Protection
CRG	Community Reference Group
CSRM	Centre for Social Responsibility in Mining
DIIS	Department of Industry, Innovation and Science
EA Act	<i>Environmental Assessment Act (NT)</i>
EIA	Economic Impact Assessment
EIS	Environmental Impact Statement
ERP	Emergency Response Program
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
ESIA	Economic Social Impact Assessment
ESIMP	Economic Social Impact Management Plan
GDP	Gross Domestic Product
GSP	Gross State Product
IAIA	International Association of Impact Assessment

IAP2	International Association of Public Participation
IFC	International Finance Cooperation (World Bank Group)
ILUA	Indigenous Land Use Agreement
IPIECA	International Petroleum Industry Environmental Conservation Association
IPP	Industry Participation Plan
ISO	International Organisation of Standardisation
LGA	Local Government Authority
LPSPD	Leading Practice Sustainable Development Program for the Mining Industry
MCA	Minerals Council of Australia
MICS	Mount Isa Compressor Station
MLV	Main Line Valve
MNES	Matters of National Environmental Significance
NGP	Northern Gas Pipeline
NT	Northern Territory
NTA	<i>Native Title Act 1993 (Cth)</i>
NT EPA	Environmental Protection Authority
P&G Act	<i>Petroleum and Gas (Production and Safety) Act 2004 (QLD)</i>
PCCS	Phillip Creek Compressor Station
PFES	Northern Territory Police, Fire and Emergency Services
P RTP	Project Ready Training Program
QLD	Queensland
REDC	Barkly Regional Economic Development Committee
ROW	Construction Right of Way
SIA	Social Impact Assessment
SME	Small to Medium Enterprise

TMP	Traffic Management Plan
ToR	Terms of Reference
UNEP	United Nations Environment Programme
WBSCD	World Business Council for Sustainable Development

1. PROJECT DESCRIPTION

Jemena's Northern Gas Pipeline (NGP) project will involve the construction of a new, approximately 622km long, 12-inch, buried natural gas pipeline connecting the existing Amadeus Gas Pipeline (AGP) at the proposed Phillip Creek Compressor Station (PCCS) located 45km north-west of Tennant Creek in the NT to the existing Carpentaria Gas Pipeline (CGP) at Mount Isa in QLD. At the Mount Isa end the NGP will be connected to the CGP at the proposed Mount Isa Compressor Station (MICS) about 7km south of Mount Isa.

The chosen route for the NGP will traverse (ref Fig. 2) mainly remote and sparsely populated cattle stations and Aboriginal Land south of the Barkly Highway. Along the pipeline corridor there will be several above ground facilities as set out below.

The pipeline route and proposed locations for above-ground facilities have been progressively refined through consultation with land owners, Aboriginal Traditional Owners and Land Councils, Native Title holders and other parties with interests in the land.

The Project is divided into three phases:

1. Planning: 2016.
2. Construction and Commissioning: early 2017 to 2018.
3. Operations: 2018+

Actual construction of the pipeline will be undertaken over a period commencing as early in the dry season of 2017 as possible, with the intended completion of the construction of the PCCS and MICS by second quarter 2018.

Typical pipeline construction activities involve clearing and grading, trenching, pipe-bending, welding and lowering in followed by testing, backfilling and land reinstatement.

The project will construct the following infrastructure and facilities described in order from west (NT) to east (Queensland):

- A 12-inch buried underground gas pipeline; approximately 457 km of which will traverse land in the NT and 165 km in Queensland.
- A Start of Line (SOL) receipt/compressor station at Warrego, located 45 km north-west of Tennant Creek (NT). Referred to as the Phillip Creek Compressor Station (PCCS), the site will cover an area of 9 hectares (ha) (300 m by 300 m).
- Three Main Line Valve (MLV) facilities at locations along the pipeline, two covering an area of approximately 0.12 ha (30m x 40m) each and one covering an area of 0.24 ha (30m x 80m).
- An End of Line (EOL) delivery station located to the south-west of the Mount Isa power station (Queensland). Referred to as the Mt Isa Compressor Station (MICS), the site will cover an area of 9 ha (300 m by 300 m).
- Five cathodic protection (CP) stations, spaced between PCCS, MICS and the MLV sites, each covering an area of approximately 0.04 ha (20 m by 20 m). The CP sites will

comprise buried anode beds, located some distance from the pipeline (generally less than 500m) and connected to the pipeline by buried cables.

The construction schedule is driven by the project objective to achieve commencement of gas transportation services in 2018. The project has a capital value in the order of \$800 million.

The construction footprint will comprise a 30m wide pipeline construction Right of Way (ROW). Temporary facilities required to support construction will include workforce accommodation camps, access tracks (upgrade of existing and construction of new), additional works areas (turn-around points, additional workspace for crossings and if required temporary storage areas), water supply bores and dams for storing water required for dust suppression and hydrostatic testing (pressure testing) of the pipeline. The construction ROW and all temporary facilities, access tracks and works areas will be decommissioned and rehabilitated on completion of the construction phase. The only components to be retained are access tracks to the permanent above-ground facilities (i.e. compressor stations, MLV and CP stations), limited access along the easement and any access tracks or dams requested by the land holder.

Following construction of the pipeline, landholders will be able to resume use of the land, other than the conduct of excavation activities or erection of permanent structures or buildings over the buried pipeline. Pipeline markers will be provided at fences, road crossings and other locations as required. An operational easement will be established; however, there is limited ongoing requirement for vegetation clearance or maintenance along the pipeline easement.

Gas drawn from the AGP will enter the PCCS, in which the nitrogen components from the gas will be removed and the gas will then be transported across the NGP to the MICS. At the MICS the gas will be transferred into the CGP.

Day-to-day operation and maintenance of the compressor stations and above-ground facilities will be performed by field staff based at the PCCS and MICS and living in Tennant Creek and Mount Isa. Control room staff based in Melbourne will perform a range of remote management and monitoring functions; the control room staff manage throughput of the pipeline, customer billing, daily gas accounting and planning for scheduled outages.

The pipeline has a design life of 30 years, but with ongoing integrity management, and subject to appropriate commercial drivers, the operational life is expected to be longer. If and when the pipeline is no longer required, it will be decommissioned and all above ground infrastructure will be disposed of appropriately in accordance with the legislative requirements applicable at the time.

The map below shows the NGP running between Tennant Creek in the west and Mount Isa in the east, along with an overview of the onshore gas pipelines in Australia.



Figure 5: NGP and the gas pipeline network in Australia

2. STANDARDS, REGULATORY AND POLICY FRAMEWORK

This Scoping Study and the ESIA is guided by a range of international and Australian guidelines, policies and standards recommended by international organisations, relevant Australian Governments and industry best practice as these apply in the Australian context.

It relates to and informs the project approvals that occur within the legislative framework of the NT and Australian Governments.

In particular, the NT Environmental Protection Authority (NT EPA) requires the conduct of an ESIA for projects that are assessed as requiring an Environmental Impact Statement (EIS) level of assessment, pursuant to the *Environmental Assessment Act (NT) (EA Act)* (NT EPA, 2013).

In Queensland projects that are assessed as requiring an EIS level of assessment also are required to undertake a Social Impact Assessment (SIA) (DSD, 2013). The NGP Project *does not* require an EIS level of assessment in Queensland as it falls under the threshold of impact due to the fact that there is only 165km of pipeline in that state.

In the case of the NGP, environmental approvals in Queensland are obtained under the *Petroleum and Gas (Production and Safety) Act 2004* (QLD) and in this case an Environmental Authority was obtained in late 2015. A Pipeline Survey Licence was also issued under the P&G Act and a Pipeline Licence is expected to be granted, subject to the submission of acceptable environmental management plans.

Matters of National Environmental Significance (MNES) pursuant to the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* in Queensland if required, will be addressed through the NT EIS process.

Notwithstanding the Queensland regulatory context, Jemena has undertaken to conduct the ESIA across the whole NGP as a matter of best practice.

Existing Australian Government and some State and Territory legislation for environmental assessment has always included social and economic aspects in its definition of environment; however, the level of expectation and treatment of these aspects has often been overshadowed by matters associated with the biophysical aspects of the environment.

In the past decade or so, particularly as a result of the resources construction boom, both in minerals and onshore gas (CSG), significantly greater focus has been given to the social and economic aspects of resource projects, and community and stakeholder concerns and aspirations.

Thus Australian, State and Territory governments have begun to move toward a more integrated impact assessment model, equally valuing environmental, economic and social impacts as they are seen as more and more as interconnected and equally significant. This has long been the case at the global level.

2.1. GLOBAL

At the global level, economic and social impact assessment is standard practice for resource development. The following sets out the key global level standards, guidelines and policies.

International Finance Corporation (IFC) - World Bank: The IFC's *Environmental and Social Performance Guidelines* (IFC, 2012) provide guidance on identifying and evaluating environmental and social risks and impacts of projects, adopting a mitigation hierarchy to anticipate, minimize or avoid

residual impacts, manage grievances, promote improved environmental and social performance and promote the means for adequate engagement with affected communities.

International Association of Impact Assessment (IAIA): As a peak body for impact assessment globally, the IAIA plays a leading and proactive role in the improvement and dissemination of EIA and SIA concepts and practices. The IAIA's *Social Impact Assessment: Guidelines for assessing the social impact of projects* (Vanclay, et al., 2015) is intended to provide widely accepted and agreed guidance to practitioners involved in SIA and have been developed explicitly for the international context. IAIA also provides the *Respecting Indigenous Peoples and Traditional Knowledge Best Practice Principles* (Croal & Tetreault, 2012) which aims to promote integration of traditional knowledge and respectful incorporation of Indigenous Peoples in impact assessment.

International Petroleum Industry Environmental Conservation Association (IPIECA): The IPIECA was founded following the establishment of the United Nations Environment Programme (UNEP) and is the principle global oil and gas industry association for environmental and social issues. It is the petroleum industry's principle channel of communication with the United Nations. It develops, shares and promotes good practices and knowledge to help the industry improve its environmental and social performance. IPIECA provide reporting guidance targeted at organisations operating in the oil and gas sector to encourage consistent and high quality sustainability reporting as an enabler of stakeholder engagement, transparency and performance improvement. IPIECA provides a variety of publications to help guide the industry (IPIECA, 2013).

International Association for Public Participation (IAP2): IAP2 is an international association which seeks to promote and improve the practice of public participation and community engagement. As an international leader in public participation, IAP2 has developed a *Quality Assurance Standard for Community Stakeholder Engagement* to underpin best practice approaches in this area (IAP2, 2015). The IAP2 provides a model for public participation that is commonly used in Australia.

World Business Council for Sustainable Development (WBCSD): The WBCSD is a CEO-led organization of forward-thinking companies that galvanises the global business community to create a sustainable future for business, society and the environment. Through its members, the Council applies its respected thought leadership and effective advocacy to generate constructive solutions and take shared action to drive business action on sustainability in the coming decade and beyond. The WBCSD provides a wide variety of publications related to social impact to help guide businesses in managing social impact (WBCSD, 2016), particularly in the area of local economic participation.

International Organisation of Standardisation (ISO): The ISO 31000:2009 provides principles and generic guidelines on risk management, not specific to any organization type, industry or sector and is commonly used in environmental impact management. The ISO's *Risk Management: Principles and Guidelines* can also be used in the area of social impact management (ISO, 2009). In 2010, ISO released a set of guidelines on *Corporate Social Responsibility (ISO 26001)* (ISO, 2010) that seek to provide guidance on how businesses can operate in a socially responsible way through translating principles into actions and sharing global best practice. As it provides guidance rather than specific requirements, this standard does not provide for certification for those businesses implementing it.

2.2. AUSTRALIA

Environment Protection and Biodiversity Conservation Act 1999 (Cth): Provides protection of the environment especially Matters of National Environmental Significance (MNES). The Act also

promotes a co-operative approach to the protection and management of the environment involving governments, the community, landholders and Indigenous peoples. The key approval required under this legislation is the Environmental Impact Statement (EIS), within which social and economic factors must be considered.

Aboriginal Land Rights (Northern Territory) Act 1976 (Cth) (ALRA): The ALRA was established to recognise existing land held by Aboriginal Traditional Owners based on Aboriginal Tradition and to provide the basis upon which Aboriginal people in the NT could claim rights to land. The ALRA has a number of provisions relating to the conditions upon which access to and use of Aboriginal Land can occur, including mining developments and developments such as the NGP. Agreements can be reached with the Traditional Owners through negotiations with Land Councils, for among other things, social and economic impact.

Native Title Act 1993 (Cth) (NTA): The NTA was established for the purposes of the recognition of Aboriginal native title in Australia and to provide the basis upon which Aboriginal native title holders could claim native title to land, except where it had been validly extinguished. The NTA has a number of provisions relating to how developments can occur where native title exists and consequently, affords various levels of rights to native title holders relating to the impacts that such developments, e.g. the NGP, might have on their native title rights. The NTA allows for a variety of agreements to be made between parties in relation to native title, e.g. Indigenous Land Use Agreements (ILUAs) and often such agreement will include matters relating to social and economic impact.

Australian Jobs Act 2013 (Cth): This Act aims to support the creation and retention of Australian jobs by requiring Australian Industry Participation plans for major projects to ensure that Australian entities and people have full, fair and reasonable opportunity to bid for the supply of goods or services for a projects.

Australian Government Department of Industry, Innovation and Science (DIIS): DIIS has developed in conjunction with the mining industry and other interest groups the Leading Practice Sustainable Development Program for the Mining Industry (LPSDP). The LPSDP comprises workshops and a series of fifteen free handbooks that provide practical advice to proponents on sustainable development including guidance on Working with Indigenous Communities and Community Engagement and Development (DIIS, 2016)

2.3. NORTHERN TERRITORY

Environmental Assessment Act: This Act ensures that matters considered to be capable of having a significant effect on the environment, in the opinion of the NT Environmental Protection Authority (NT EPA), are fully examined and taken into account in proposals and project activities.

Economic and Social Impact Guidelines: The ESIA will be completed giving due regard to the NT EPA's *Guidelines for the Preparation of Economic and Social Impact Assessment* (NT EPA, 2013), which are issued by the NT EPA to provide advice to proponents and the public generally on the standards that the EPA expects to be considered during the environmental impact assessment process.

Northern Territory Aboriginal Sacred Sites Act: This Act ensures a practical balance between the recognized need to preserve and enhance Aboriginal cultural tradition in relation to certain land in the Territory and the aspirations of Aboriginal and all other peoples of the Territory for their economic, cultural and social advancement. The Act provides a procedure for the protection and registration of sacred sites, providing for entry onto sacred sites and the conditions to which such entry is subject,

establishing a procedure for the avoidance of sacred sites in the development and use of land through the Aboriginal Areas Protection Authority (AAPA). For the NGP Project, Jemena will need to seek the grant of an Authority Certificate from the AAPA for the project to ensure protection against the inadvertent entry to or disturbance of a sacred site.

Heritage Act: The *Heritage Act 2011* protects places that have been declared as heritage places. This is inclusive of European heritage places (e.g. buildings, shipwrecks, grave sites), Aboriginal (e.g. rock art sites, artefact scatters, stone carvings, or Macassan (e.g. remains of trepang processing sites). All Aboriginal or Macassan archaeological places have been declared to be heritage places and relate to the past occupation of the NT by Aboriginal or Macassan people. Other places are protected if the Minister for Lands, Planning and Environment declares them as heritage places. A place can be declared as a heritage place if it has heritage significance. The place is significant for its historical, scientific, aesthetic or social significance. The Heritage Branch of the Department of Lands, Planning and Environment maintains a database of all known Aboriginal and Macassan archaeological places in the NT. For the NGP Project, Jemena will require Work Approvals for the management of any heritage sites located.

Building NT Industry Participation (BNTIP): Projects in the NT of \$5 million or more that are NT Government assisted private sector projects must meet the BNTIP policy, if they are not NT Government assisted they will be actively encouraged to meet the policy, which includes measures to benefit small and medium sized enterprises, measures for the health and wellbeing of associated communities and for the economic and social advancement of Indigenous people through the preparation and submission of an IPP (DoB, 2015). An 'assisted private sector project' is defined as a project with the NT Government makes either a direct financial investment and / or an indirect quantifiable contribution beyond standard government provision of regulatory approvals.

2.4. QUEENSLAND

Social impact assessment guideline: The Queensland Department of State Development has published a set of guidelines for project proponents, to help guide the assessment of the social impact of projects under Terms of Reference for projects assessed under either the *State Development and Public Works Organisation Act 1971* ("the Coordinator General's Act"), or under the *Environmental Protection Act 1994*. The purpose of the guidelines is to ensure the identification of the social impacts directly related to the project and how these are to be avoid, managed, mitigated or offset. Similarly, the guidelines contemplate the proponent developing strategies to capitalise on social opportunities. Social impact assessment is required to cover: community and stakeholder engagement; workforce management; housing and accommodation; local business and industry content and health and community wellbeing.

Aboriginal Cultural Heritage Act 2003 (Queensland): The aim of this Act is to provide effective recognition, protection and conservation of Aboriginal cultural heritage. The Act also provides for the negotiation and agreement of Cultural Heritage Management Plans (CHMP) with recognised Aboriginal Parties for developments such as the NGP.

Queensland Heritage Act: The Act is established to provide for the conservation of Queensland's cultural heritage and in doing so establishes the Queensland Cultural Heritage Council and a register of places, the Queensland Heritage Register. The Act requires the reporting of the discovery of archaeological artefacts and provides for the management of places of local cultural heritage

significance by local governments. The Act also allows for the regulation of development affecting Queensland heritage places, in conjunction with other legislation.

2.5. AUSTRALIAN INDUSTRY

Australian Gas and Pipelines Association (APGA): The APGA is the industry body associated with the gas pipeline industry in Australia. It has produced a set of guidelines for the development and maintenance of meaningful relationships with land tenement holders, communities, authorities and businesses around pipeline infrastructure (APGA, 2015).

The Australian Petroleum Production & Exploration Association (APPEA): APPEA is Australia's peak oil and gas exploration and production industry representative body. To support achieving APPEA's vision of being "recognised as the credible, respected and influential voice of the oil and gas exploration and production industry in Australia", APPEA and its members subscribe to a Principles of Conduct that includes, amongst others, a commitment to "Use open and effective communication and engagement with communities, regulators, government, and other affected parties." (APPEA, 2016)

Minerals Council of Australia (MCA): The MCA is Australia's peak resources industry body that "represents Australia's exploration, mining and minerals processing industry, nationally and internationally, in its contribution to sustainable development and society." The MCA and its members operate under a sustainable development framework, Enduring Value, that comprises 10 Principles including engaging "... at the earliest practical stage with likely affected parties to discuss and respond to issues and conflicts concerning the management of social impacts." (MCA, 2015)

2.6. JEMENA

As a provider of energy to homes and businesses, Jemena's approach to the communities that it works in is to establish and maintain enduring relationships with its customers and the communities it serves.

Jemena seeks to be a good neighbour and wants to enrich the welfare and amenity its customers and communities enjoy. Jemena strives to ensure that its operations meet the highest safety and environmental standards (Jemena, 2016).

3. SOCIAL IMPACT MANAGEMENT

The prime purpose of social impact management in the context of resource development projects is to ensure that social and economic risk is identified and mitigated to as low as reasonably practicable and that social and economic opportunity is optimised. In simple terms, this is to say that in implementing a resource project, the project proponent should seek to avoid the bad things as much as possible and make the most of the good things that can arise from the project, for the communities and the local economy involved.

In doing so, proponents need to engage with and understand the communities and the local economy through desktop research, consultation and reflection. Consistent with the meaning of Jemena, that is, to listen or to hear² (Sydney University, 1999-2001). They also need to respond to the concerns and aspirations raised by the communities in a way that is practical and relevant and which is possible and reasonable within the particular capacities of the project.

These learnings must then be incorporated into project plans and implemented throughout the project, ensuring that there are clear responsibilities for plan implementation and that there is ongoing dialogue with the communities involved.

The following sections describe the practice of SIA in a broad sense as well as the approach used for the Social Impact Management of the NGP Project.

The approach to the identification and management of socio-economic risks and opportunities is also discussed, expanding on the model referred to earlier in this study. The program for community and stakeholder consultations is also set out.

3.1. SIA PRACTICE

The global, Australian, NT, Queensland and pipeline industry standards, policies and guidelines have been set out in Section 2 above. In addition to these there are myriad of guidelines, academic papers and documents available that are available in the discourse that can provide information and direction to proponents in how to best manage the social and economic impacts of their projects.

The practice of social impact management is a developing field.

The International Association for Impact Assessment (IAIA) plays a leading role in the improvement and dissemination of the concepts and practices of SIA globally and has produced, in particular, the *Social Impact Assessment: Guidelines for assessing the social impact of projects*, referred to above.

The IAIA's definition of impact assessment is:

“... the process of identifying the future consequences of a current or proposed action. IAIA is the leading global network on best practice in the use of impact assessment for informed decision making regarding policies, programs, plans and projects. Members of IAIA believe that impact assessment is a practical tool for helping meet today's needs without compromising the opportunities of future generations.” (IAIA, 2016)

ESIA includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans,

² Jemena is a derivation of the Wagiman word “Jemen-na”, the literal translation of which is ‘to listen or to hear’.

projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment. (Vanclay, 2003).

In the Australian context, there are significant differences between the approaches taken by the various States and Territories, generally always within the context of environmental assessments.

In the context of the NGP Project the NT EPA's guidelines and those of the Queensland Department of State Development are most relevant.

In terms of SIA practice in Australia, the field remains an emerging and developing practice.

In 2009, the Queensland Government, in partnership with the Queensland University's Centre for Social Responsibility in Mining (CSRMI) and the Queensland Resources Council undertook research to determine leading practice approaches for addressing the social impacts of resource development and looked at a number of jurisdictions, including South Africa, Canada, New South Wales and Western Australia and also a range of corporate policies, including the policies of the International Finance Corporation (IFC) (Franks, 2009).

SIA practice (concepts, frameworks, methodologies, approaches) must remain malleable in order for them to remain globally and nationally relevant and at the same time allow for project and industry specific, local community and economy specific and the resulting plans, to be practical and fit for purpose.

As mentioned above, an ESIA and an ESIMP are developed as part of a broader Environmental Impact Assessment, which evaluates the likely environmental impacts of a project, taking into account inter-related bio-physical, socio-economic, cultural and human health impacts, both beneficial and adverse. All of these impacts and associated mitigation plans should feed into Project Management Plans, particularly Construction Environment Management Plans (CEMPs), otherwise the risks will not be managed.

In general terms, ESIA is the process that is used to assess the social and economic impacts of planned interventions or events (e.g. resource projects) and so importantly, guide the development of an Economic and Social Impact Management Plan (ESIMP) which includes strategies for the ongoing monitoring and management of those impacts.

Thus, ESIA should not be understood only as the task of predicting social impacts, assessing them and obtaining the relevant approvals within an environmental impact assessment process.

Economic and Social Impact Management is a process, not a one off approval event, as it is the process through which long term and mutually beneficial relationships with communities and stakeholders can be established and maintained. It does not necessarily fit well with environmental approval processes as often, right up to the time that the project EIS is being published, detailed project descriptions are often still evolving and this is what is required as the basis for stakeholder consultation (Kernaghan, 2008).

Consequently, ESIA (community and stakeholder engagement) should start early in the project development process, be undertaken alongside the environmental approval processes and implemented thereafter.

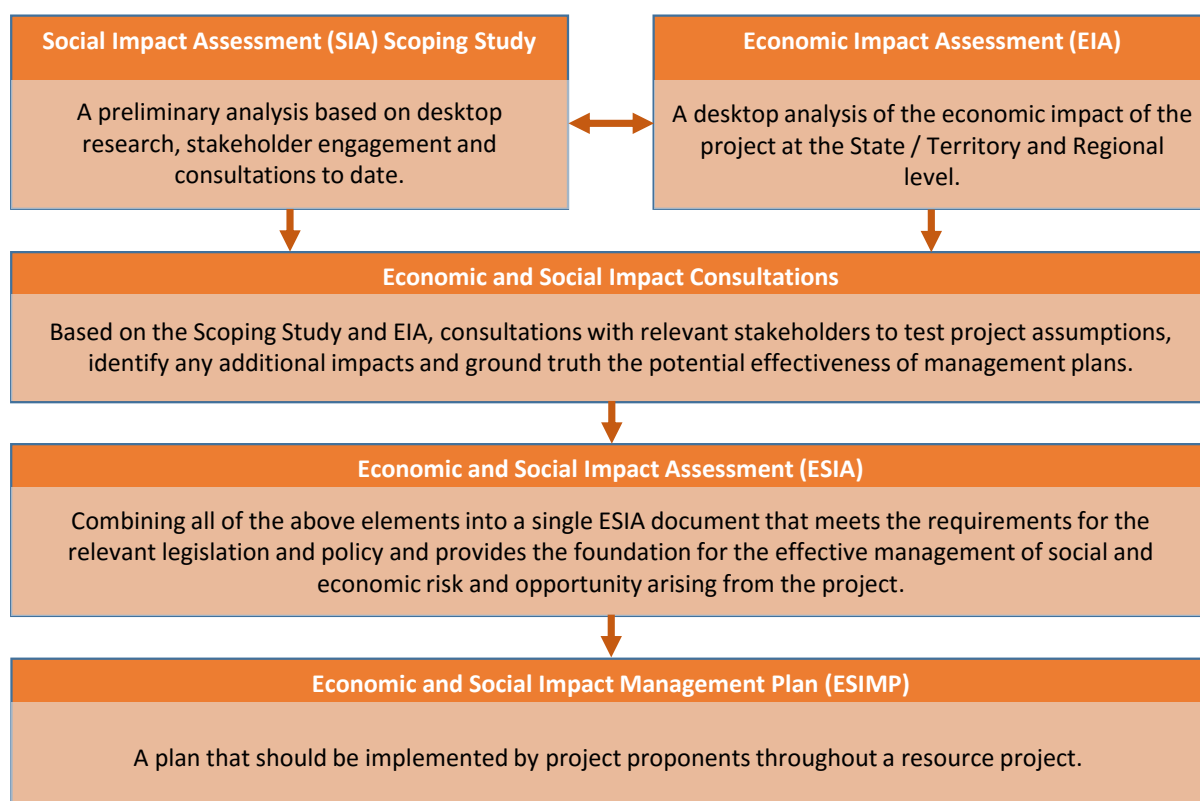
3.2. METHODOLOGY FOR THE NGP

The methodology that is being applied for the NGP Project draws on the range of guidelines and

discussion set out above.

The methodology is designed to address the socio-economic aspects of the NT EPA's EIS Terms of Reference for the Project, the NNT EPA's Guidelines for ESIA and the specific Terms of Reference Jemena prepared for the ESIA based on the Guidelines during the NT Government competitive process for the project. These are included as Appendix A.

The overall approach will follow the ESIA management process identified in Figure 1 repeated below for convenience.



The ESIA will be implemented alongside the EIS process as follows:

ESIA Process	Timing	EIS Process
Preparation of the SIA Scoping Study and EIA and framework ESIMP.	2Q16	Development and submission of preliminary EIS.
Community and stakeholder consultation, finalisation of ESIA and ESIMP.	3Q16	Development and submission of Draft EIS.
		EIS Public Comment Period
		Public responses to Draft EIS
		Submission of Supplementary EIS

ESIA Process	Timing	EIS Process
Incorporation of ESIMP in CEMP and other project plans as required.	4Q16	Environmental Approval of Project and incorporation of conditions into Construction Environment Management Plan (CEMP).
Implementation of ESIMP	2017 and beyond.	Implementation of CEMP / OEMP

Table 1: ESIA implementation timetable

3.3. SOCIAL & ECONOMIC IMPACTS

The identification, assessment and management of social and economic impacts (risks and opportunities) for the NGP project has involved a planned and systematic approach in order to identify, evaluate and manage the range of project risks and opportunities facing the communities and the various other affected stakeholders within the geographical scope.

The approach has been based on the ISO Risk Management standard (AS/NZS ISO 3100:2009) adapted for this purpose and made consistent with Jemena's risk management approach. Previous application of an adapted risk model was undertaken on the Blacktip Gas Project (Kernaghan, 2008) for both risk and opportunity management.

3.3.1. SOCIAL & ECONOMIC RISK

Social and economic risk can arise, broadly, in three ways:

1. Damage to culture, cultural sites, places and objects.
2. Negative impacts on local community social health and well-being.
3. Negative impacts on the local economy and its development.

Consequently, social and economic risk can be conveniently analysed in three corresponding categories:

1. Culture and Heritage
2. Social Health and Well-being
3. Economy and Development

Stakeholder and community concern about a project typically arises from the three risk category areas and is generally managed through good communication and the effective implementation of mitigation plans for each risk identified.

Implementation of the mitigation plans is best done through the incorporation of these plans within the core project plans, e.g. the Construction Management Plan and other subordinate plans, to ensure that they are actual requirements that are passed through to the project's major contractors.

For example, the risks associated with Culture and Heritage should be addressed in the Cultural Heritage Management Plan (CHMP) for the project, local traffic risks in the project Traffic Management Plan (TMP) and so on.

In addition, there can often be overlap between the disciplines involved in the project and the identification and assessment of risks. This is common in the area of community health and safety risks assessed through ESIA practice and the Human Health and Safety risks identified by Health and Safety practitioners.

In this Scoping Study, while all risks are identified, those dealing with Cultural & Heritage are deferred to the Project CHMP.

The social and economic risks in this document deal with the areas of Community Health & Safety and Economy & Development.

The assessment of social and economic risk measures Frequency vs Consequence.

Frequency is ranked on the following basis:

1. Rare: the risk may occur only in exceptional circumstances and is not likely to occur in this location.
2. Unlikely: the risk would be an uncommon occurrence and would occur in remote circumstances and has occasionally occurred on pipeline developments.
3. Possible: the risk occurs on an irregular basis, but has occurred on pipeline developments.
4. Likely: the risk has a history of occurrence for pipeline development or is difficult to control due to external influences of the region.
5. Almost Certain: the risk has occurred recently and is likely to occur again. It is an expected occurrence on a pipeline development project in similar regions.

Consequence is ranked on the following basis:

- A. Minor: there are low level or no negative impacts on Hand on the local economy and its development. The community can easily adapt to or cope with the change and there is little or no stakeholder concern about the project.
- B. Serious: there are minor short term negative impacts on social health and well-being that are easily manageable. There are minor short term negative impacts on the local economy and its development but that can be easily absorbed. The community has the capacity to adapt or cope with the change, but may need some support. Stakeholder concern that can be managed through good communication.
- C. Severe: there are severe medium term negative impacts to social health and well-being that are not easily manageable and there are severe medium term negative impacts to the local economy and its development that are not easily absorbed. The community has some capacity to adapt and cope with changes, but requires a moderate amount of support. Serious stakeholder concern exist that cannot easily be managed even through good communication.
- D. Major: there are major medium to long term negative impacts to social health and well-being that cannot be managed and major medium to long term negative impacts to the local economy and its development that cannot be absorbed. The community has some capacity to adapt to and cope with the changes but requires significant support. There is significant concern from broader stakeholders and the community and prolonged community annoyance.

- E. Catastrophic: there are significant and long term negative impacts to social health and well-being and significant long term impacts to the local economy and its development that cannot be reversed. The community has no capacity to adapt and cope with the changes even with significant support. There is significant and major stakeholder concern and community outrage.

Drawing on the above, the combination of Frequency & Consequence allows for the development of a social and economic risk assessment matrix (see Figure 6: Socio-economic risk matrix below).

The resulting risk assessment provides a guide to the project management as to how the risks should be managed within the context of a given project, e.g. where management focus should be applied.

Initial risk assessment should be further refined through the SIA consultations and any additional and relevant matters considered in the ESIA and EIS process.

The resulting social and economic risk matrix is as follows:

CONSEQUENCES			Minor - A	Serious - B	Severe - C	Major - D	Catastrophic - E
	Social & Economic		Low or no negative impacts on the socio-economic environment	Minor short term negative impacts on the socio-economic environment	Serious medium term negative impacts on the socio-economic environment	Major medium to long term negative impacts on the socio-economic environment	Major and long term, potentially irreversible negative impacts on the socio-economic environment
FREQUENCY	Almost Certain - 5	Event is expected to occur in most circumstances	Moderate	High	Extreme	Extreme	Extreme
	Likely - 4	Event will probably occur in most circumstances	Moderate	Significant	High	Extreme	Extreme
	Possible - 3	Event should occur at some time	Moderate	Moderate	Significant	High	Extreme
	Unlikely - 2	Event could occur at some time	Low	Low	Moderate	Significant	High
	Rare - 1	Event may occur only in exceptional circumstances	Low	Low	Moderate	Moderate	Significant
RISK SEVERITY LEVEL		RISK MANAGEMENT ACTIONS					
EXTREME		Requires immediate action - highest priority to treat risk - senior level monitoring.					
HIGH		Requires immediate attention - must manage with senior level monitoring.					
SIGNIFICANT		Requires management attention with a degree of priority.					
MODERATE		Requires routine to periodic monitoring.					
LOW		"Business as usual" - should not require much attention but should be reviewed at least annually. Managed by routine policies and procedures.					

Figure 6: Socio-economic risk matrix

The preliminary risk assessment is set out in section 6.2 and the initial Risk Register is set out in Appendix B.

3.3.2. SOCIAL & ECONOMIC OPPORTUNITY

In a similar fashion to risk, the assessment of social and economic opportunity arising from the NGP Project is based on a standard risk assessment framework but in this case measures the Likelihood (of achievement of the opportunity within existing community capacity) vs Consequence (the extent of community benefit arising from the opportunity) which can then provide a measure of the level of positive Social and Economic Impact to the community as a whole. This approach draws on the Queensland *Social impact assessment guideline* (Dept. of State Development, 2013) and the Eni Blacktip Project (Kernaghan, 2008).

Social and economic opportunity is also analysed in the three categories of:

1. Culture and Heritage
2. Social Health and Well-being
3. Economy and Development

Likelihood is ranked on the following basis:

1. Highly Unlikely: it is highly unlikely that the local community could achieve the opportunity through its existing capacity.
2. Unlikely: it is unlikely that the local community could pursue and achieve the opportunity through its existing capacity.
3. Possible: it is possible that the local community could pursue and achieve the opportunity through its existing capacity.
4. Likely: it is likely that the local community could readily pursue and achieve the opportunity through its existing capacity.
5. Almost Certain: the local community will achieve the opportunity through existing capacity.

Consequence is ranked on the following basis:

- A. Insignificant: there is limited or no local benefit accrual, the community obtains very few jobs and contracts and there is very little contribution to the local economy.
- B. Small: there is benefit accrual only to those with existing skill and capacity, a small number of jobs and a few small scale contracts are taken up by the community. There is a minor contribution to the local economy.
- C. Medium: there is benefit accrual to all those with existing capacity who choose to participate. Jobs are available to those who want them and there are a number of small to medium sized contracts let locally. There is a solid contribution to the local economy.
- D. Large: there is broad benefit accrual across the community, a significant number of local people are employed and a significant number of local contracts let locally. There is a significant contribution to the local economy.
- E. Major: there is significant scale positive benefit in the community through opportunities directly and indirectly associated with the project. There are many local people employed in the long term and many long term contracts let locally. There is significant legacy benefit.

Drawing on the above, the combination of both Likelihood and Consequence allows for the development of a social and economic opportunity matrix (see Figure 7: Social and economic opportunity matrix below)

The resulting opportunity assessment provides a guide to the project management as to how the opportunity should be managed within the context of a given project, e.g. where management focus on opportunity enhancement should be applied and where social investment might best be directed (see further below).

Initial opportunity assessment should be further refined through the SIA consultations and any additional and relevant matters considered in the ESIA and EIS process.

The resulting social and economic opportunity matrix is as follows:

CONSEQUENCE			Insignificant - A	Small - B	Medium - C	Large - D	Major - E
	Social & Economic		Limited or no local benefit accrual. Very few jobs and very little contracts. Very little economic contribution.	Benefit accrual only to those with existing skill and capacity. Small number of jobs and few small scale contracts. Minor contribution to the local economy.	Benefit accrual to all those with existing capacity who choose to participate. Jobs to most of those who want them. A number of contracts let locally. A solid contribution to the local economy.	Broad benefit accrual across the community. Significant number of local people employed. Significant number of contracts let locally. Significant contribution to the local economy.	Significant scale positive change in the community through opportunities directly and indirectly associated with the project. Many local people employed in the long term. Many long term contracts let locally. Significant legacy benefit.
LIKELIHOOD	Almost Certain - 5	Local community will achieve through existing capacity.	Low	Moderate	Significant	High	Transformational
	Likely - 4	It is likely that the local community can readily pursue and achieve through existing capacity.	Low	Moderate	Significant	High	Transformational
	Possible - 3	It is possible that the local community could pursue and achieve through existing capacity.	Low	Moderate	Significant	High	Transformational
	Unlikely - 2	It is unlikely that the local community can pursue and achieve through existing capacity.	Low	Low	Moderate	Significant	High
	Highly Unlikely - 1	It is highly unlikely that the community could achieve the opportunity through existing capacity.	Low	Low	Moderate	Significant	High

OPPORTUNITY IMPACT LEVEL	OPPORTUNITY MANAGEMENT ACTIONS
TRANSFORMATIONAL	Requires significant commitment and change leadership at the highest levels of the organisation over the life of the project. Suits major, long term projects with a high impact / proximity to local community.
HIGH	Requires a committed, focused and planned approach in a close and cooperative working relationship with the community.
SIGNIFICANT	Requires a committed, focused and planned approach in a close and cooperative working relationship with the community.
MODERATE	Positive social and economic outcomes are likely achievable through a reasonable level of commitment and planning.
LOW	"Business as usual" - should be achievable through implementing existing policies and procedures, would occur within existing market forces, but should be reviewed within regular project schedules.

Figure 7: Social and economic opportunity matrix

The initial opportunity assessment is set out in section 6.3 and the initial Risk Register is set out in Appendix C.

Opportunity Assessment, Enhancement and Social Investment

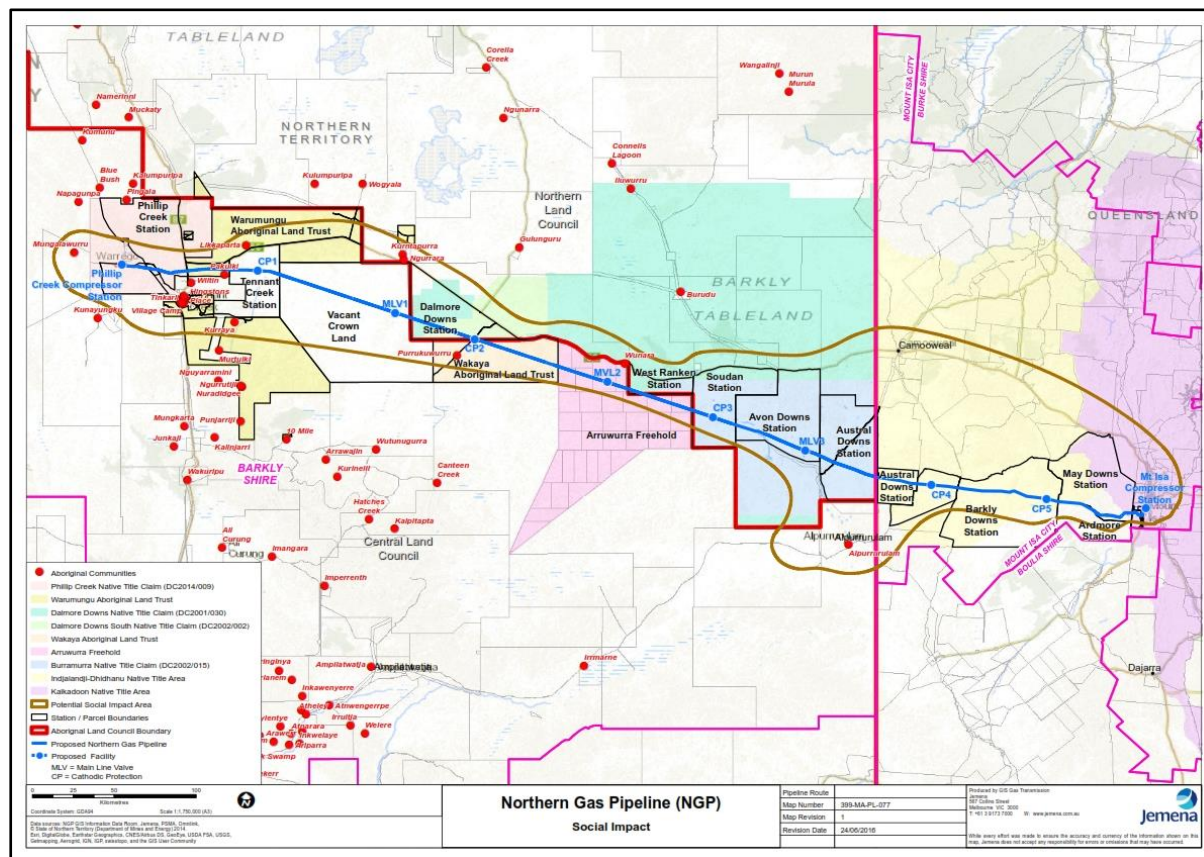
The relationship between the assessment of an opportunity, the level of opportunity enhancement applied and the level of social investment that a project proponent should contemplate is situational. That is, while there is no direct correlation between the nexus of community capacity to respond to an opportunity and the breadth and depth of community benefit, the resulting assessment can give guide to a project proponent as to what they wish to do to enhance opportunities, e.g. through local (and social) employment and procurement initiatives and also how much they wish to invest to realise a higher level of community benefit, given the nature of the project in question.

For example, if a community can almost certainly capture the opportunities on offer within its existing capacity but there are no or few opportunities made available then the outcomes will be low. If, on the other hand if the community is highly unlikely to capture the opportunities on offer but the project proponent elects to put in place robust local employment and procurement initiatives, and a significant level of social investment, then the outcomes may well be high, or even transformational for a community.

The consideration of the above needs to take into account the nature of the project and the practicality of what can be achieved.

3.4. SOCIAL IMPACT CONSULTATION

Consultations regarding social impact will be undertaken in the third quarter 2016 and will be focused on the stakeholders directly associated with the potential geographic scope set out in Figure 4 (repeated below for convenience).



There are also some key stakeholders outside of the region, in particular the relevant government agencies that have responsibility for the providing services in the regions.

The stakeholders to be consulted are set out in section 3.4.3 below.

3.4.1. CONSULTATION METHODOLOGY

The NT EPA Guidelines recommend that consultation about impact assessment be undertaken with the involvement of the community.

This will be achieved through the conduct of interviews, meetings and focus groups with the stakeholders set out below and will take several forms, depending on the stakeholders to be consulted.

In all cases the approach taken to consultations with stakeholders will involve:

1. A project presentation – to provide as much up to date information about the project, including the use of the NGP Community Information Booklet, specifically prepared for the consultations.
2. An explanation of the process for social and economic impact (risk and opportunity)

assessment.

3. Reviewing the risk and opportunity models, including a review of Jemena's assessment of existing risks and opportunities and the identification and collaborative assessment of any new risks and opportunities identified.
4. Short term feedback of the outcomes from the consultations to ensure stakeholders that all of their concerns and aspirations about the project have been recorded and will be considered.
5. Further feedback to the stakeholders about Jemena's response to any concerns and aspirations raised.

The outcomes of the consultations will inform the ESIA and eventual ESIMP.

3.4.2. CONSULTATION PRINCIPLES

The following principles will apply to the consultations.

Public Participation Spectrum

The approach taken to the consultations referred to above will operate at a position which will aim for an approach that spans the range of Consult, Involve and Collaborate parts of the IAP2 Public Participation Spectrum shown in Figure 8 below.

	Inform	Consult	Involve	Collaborate	Empower
Goals	To provide balanced, objective, accurate and consistent information to assist stakeholders to understand the problem, alternatives, opportunities and/or solutions.	To obtain feedback from stakeholders on analysis, alternatives and/or outcomes.	To work directly with stakeholders throughout the process to ensure that their concerns and needs are consistently understood and considered.	To partner with the stakeholder including the development of alternatives, making decisions and the identification of preferred solutions.	To place final decision-making in the hands of the stakeholder. Stakeholders are enabled/equipped to actively contribute to the achievement of outcomes.
Promise to Stakeholders	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how stakeholder input influenced the outcome.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how stakeholder input influenced the outcome.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the outcomes to the maximum extent possible.	We will implement what you decide. We will support and complement your actions.
Methods of Engagement	<ul style="list-style-type: none"> • Quarterly newsletter/Fact sheets • Open houses • Newsletters, bulletins, circulars • Websites, external and educate 	<ul style="list-style-type: none"> • Public comment • Focus groups • Surveys • Public meetings • Ultranet • Web 2.0 tools 	<ul style="list-style-type: none"> • Workshops • Deliberative polling • Web 2.0 tools • Forums 	<ul style="list-style-type: none"> • Web 2.0 tools • Reference groups • Facilitated consensus building forums for deliberation and decision-making • Experimental projects 	<ul style="list-style-type: none"> • Dialogue with Government • Local governance • Joint planning • Provision of data • Shared projects • Capacity building

Figure 8: IAP2 Public participation spectrum

This means that the discussions will be facilitated in a manner that allows the stakeholders to identify, without advice or instruction from Circle, what the potential social impacts and opportunities might be from their particular perspective.

The approach to consultation will vary with each stakeholder group as set out in Appendix D.

Appropriate Methods of Communication

Appropriate methods of communication will be designed to allow for the various levels of education, English language capacity and understanding of the concepts and ideas around risk and opportunity management. Where necessary and considered appropriate, interpreters may be used, particularly in remote Aboriginal communities.

Gender Equity Considerations

The Circle Associates undertaking the consultations will comprise both male and female consultants in order for separate gender based consultations to occur.

Vulnerable Groups

Specific identification of vulnerable groups in communities, e.g. women, youth (male and female) will be made and specific consultations will be undertaken with them, as required and in consultation with community leaders.

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The consultations will be based on this Scoping Study and the EIA and are designed to test project assumptions, identify any additional impacts (risks and opportunities) and the potential effectiveness of management plans. The results from the activities in the consultations together with the Scoping Study and EIA will inform the ESIA document which will provide the foundation for the ESIMP that will be implemented by Jemena.

3.4.3. STAKEHOLDERS

General project consultations to date and for the future are undertaken by Jemena directly, noting that Circle Advisory has had and will continue to have a role in coordinating and supporting Jemena in this effort.

From a social and economic perspective, the following describes the key potentially affected stakeholders who will be consulted specifically regarding the social and economic impact of the project.

The key stakeholders for the project span the typical sectors of society, i.e. public (government), community (non-government) and private (business and industry).

While these sectors are useful in the identification of and engagement with stakeholders it is noted that there are often significant overlaps between them, typically where different sectoral actors come together in cross sectoral committees for the management of the social and economic development of a particular region or community, often established and supported by government initiatives. An example of this is where government and community representatives serve on community committees, such as the Barkly Regional Economic Development Committee (REDC).

In addition, there are a range of Aboriginal communities and people living in remote areas that will be consulted.

Public Sector Stakeholders

These include the relevant Australian, NT and Queensland Government agencies that have responsibilities for and interests in education and training, business and industry development and the development of northern Australia, health and emergency services.

The local government entities, the Barkly Regional Council and the Mount Isa City Council who provide

a wide variety of services in the towns and communities are also key stakeholders from a social and economic development perspective.

Community Sector Stakeholders

In the community sector, key stakeholders include those Aboriginal organisations who have responsibilities for Aboriginal Land and Native Title or who hold land directly. They include the NT Land Councils, the Arruwurra Aboriginal Corporation and the two Native Title Body Corporates in QLD.

Education and training organisations and institutions such as the relevant universities, secondary and primary schools and those organisations responsible for the Remote Jobs and Communities Program.

There are a variety of other community organisations that are relevant in social and economic impact assessment and they include local arts and language centres, social enterprises, volunteering groups, sporting organisations and groups and other community organisations.

Private Sector Stakeholders

There are a variety of private sector stakeholder organisations that are important and these include the industry bodies for the oil, gas, pipeline and mining industries, the pastoral industry and the relevant chambers of commerce, including the Indigenous business organisations.

Cross Sectoral Stakeholder Organisations

Cross sectoral organisations exist in the regions and communities and relate to regional economic development, community advice and information, social health and well-being and community development.

People Living in Remote Communities

In addition to the above, consultation is planned to be held with Major Aboriginal Communities, Minor Aboriginal Communities, Aboriginal Family Outstations, those people living on pastoral stations and at the various roadhouses and other remote residences.

A full list of the stakeholders to be consulted is contained in Appendix D.

4. SOCIAL AND ECONOMIC PROFILE

The following sections set out the economic and social profile of NT and the Barkly and Mount Isa regions.

The purpose is to set the context in which the SIA is being undertaken and to identify any further research that is required to be undertaken.

Baseline or secondary data has been sourced from the 2011 Census and available Australian Bureau of Statistics (ABS) updates since. Qualitative feedback has been sourced from a variety of sources, including existing literature about the regions and consultations with key stakeholders.

The Mount Isa City Council contains the vast majority of the population, making up approximately 85% of the total, Tennant Creek with 13% and the remainder in outlying communities and outstations, e.g. Alpururulam.

Consistently, the results show a clear difference between the Barkly Region (including Tennant Creek and Alpururulam) and the Mount Isa City Council area (including Camooweal) in that the key social and economic indicators suggest that the Barkly faces significantly greater social and economic challenges than Mount Isa.

This however, does not necessarily hold true when consideration is given to the Aboriginal and Torres Strait Islander population in the Mount Isa region, approximately 15%, as they may likely face as much disadvantage as the Aboriginal population in the Barkly region and that the socio-economic status of the overall Mount Isa population, overshadowed as it is by non-Aboriginal people, masks the Aboriginal situation in Mount Isa. This is a matter for further research and confirmation.

The indicators do paint a picture of an Aboriginal population in the regions and particularly in Tennant Creek and also Alpururulam that is very disadvantaged and so likely more sensitive to the social changes that might occur as a result of the project.

These differences translate directly into the assessment and management of the potential social and economic impacts of the NGP Project.

The social and economic indicators that have been gathered in order to describe the existing socio-economic environment include:

- Population provides data on the size of the communities which also provides an insight into the level of services and infrastructure that can be expected to exist in those communities.
- Age profile to illustrate the relative size of age groups within each community which assists with understanding how many people of working age there are.
- Life Expectancy, fertility and mortality supports building an understanding of the health and wellbeing of the communities.
- Economic structure assists in understanding the nature of the businesses, employers and economic activity in the communities and contribution to the regions and the Gross State Product.
- Education and training illustrates how well educated and trained people are, to build an understanding of how many residents may have the skills and knowledge to work on the NGP Project.

- Employment and labour force participation indicates the number of people that are either working, may be available to work on the Project, or conversely are not engaged in the labour market.
- Income levels provides an insight into what residents of the communities earn and wealth levels. This can inform how willing people may be to shift jobs to potentially higher paying employment.
- Crime statistics are illustrative of the level of safety and security within a community.
- Child burden and economic burden gives an insight into how dependent a family or community is on its income earning residents, and further may indicate what pressure is placed on those income earning residents.
- Community services and infrastructure assists in understanding what is available to the community in terms of forms of social support.
- Housing and accommodation to develop a picture of the type and quantity of both residential and short-term accommodation to understand what effect the Project may have on the supply and demand.
- The provision of other human services (e.g. job seeker support, family support, and recreation activities) can inform can contribute understanding the overall liveability or amenity of a community.
- Understanding community cohesion and community resilience can provide an insight into how well a community functions together and its ability to be able to adapt to change.

4.1. NORTHERN TERRITORY

The NT occupies much of central and northern Australia covering a large area of over 1,349,129 square kilometres. It shares borders with the States of Western Australia, South Australia and Queensland. To the north, the Territory is bordered by the Timor Sea, the Arafura Sea and the Gulf of Carpentaria. The NT's economy is largely driven by mining, which is concentrated on energy producing minerals and petroleum. Tourism also contributes significantly to the economy, especially Kakadu National Park in the Top End and the Uluru Kata-Tjuta National Park (Ayers Rock) in central Australia. The capital city is Darwin, including other major settlements of Alice Springs, Katherine, Nhulunbuy, and Tennant Creek.

4.1.1. KEY STATISTICS: NORTHERN TERRITORY

The statistics in this section are all taken from ABS Census 2011 results, except where otherwise indicated.

Population

NT has the smallest population in Australia and has the third largest land mass of the States and Territories, making it the most sparsely populated region in Australia with a population density of 0.2 persons/km. The resident population of the NT is 244,000 as at the end of 2015 (ABS, 2016). A key feature of the Territory is its relatively large Indigenous population. According to the 2011 Census, the proportion of Aboriginal and Torres Strait islanders was 30% and was the largest in Australia,

compared to the 3% national average.

Age Profile

The NT's population is the youngest in Australia with 22.6% of the population being under 15 years of age (18.8% being the national figure), and the smallest proportion aged 65 and over of all Australian states and territories. The median age in the territory is 31.4 years old, lower than the national median age of 36.9.

Life Expectancy, Fertility and Mortality

The fertility rate (average number of births per woman through her reproductive lifetime) of the NT is 2.15 compared to the national average of 1.84. The NT life expectancy was 77.5 years. The median age at death in the NT was 61.9 years, compared to the national median age of 81.5 years.

Economy

The structure of the Territory's economy is markedly different to other Australian jurisdictions. This reflects the Territory's unique population characteristics and its large land mass, with an abundance of natural endowments. Key industries in the Territory in terms of contribution to gross state product (GSP) are construction, mining and government and community services, which together contributed \$4.7 billion.

These industries account for half the Territory's GSP compared with about one third of Australia's gross domestic product (GDP). In 2014-15, the Territory's GSP increased by 10.5 per cent, to \$22.5 billion. This was the highest rate of all jurisdictions. Economic growth in the Territory is forecast to slow in 2015-16 and 2016-17 as major projects are completed and the economy returns to growing at long-term trend levels. As major projects are completed, the export sector is forecasted to underpin economic growth in the outer years (Department of Treasury and Finance, 2014).

Employment, Labour Force Participation and Income

It is estimated that 98,916 people work in NT. The Territory's labour market is characterised by low unemployment, high labour force participation and a young mobile workforce. This reflects the tendency of many people, particularly those in younger age groups, to come to the Territory for employment opportunities.

Current labour market conditions in the Territory are strong, as highlighted by robust employment growth, and it has one of the lowest unemployment rates in Australia with an unemployment rate of 5.3%, with a 63.9% labour force participation rate. The median household income in the NT is \$1,674.

Crime

Crime rates can be indicative of social amenity and community cohesion in a community and can point to a range of underlying issues. Crime statistics are measured by the rate of offending per 100,000 of the population. Crime is reported in two forms: crime against the person and crime against property. For the 12 months 1 May 2015 to 30 April 2016 the NT recorded a total of 3,281 crimes per 100,000 for crimes against the person and 7,742 per 100,000 for crimes against property.

Crime statistics are reported on a rolling monthly basis and in the period referred to above, the NT in general had a decrease in crime from the previous year of -2.8% and -5.3% respectively. The most notable drops in crime occurred in crimes against property, with house break-ins dropping 14.8% and motor vehicle theft dropping 16.7% (Northern Territory Police, 2016).

4.2. BARKLY REGION

The Barkly Region covers a large area of the central eastern NT with the Barkly Regional Council being the second largest Local Government Area in Australia. The largest town in the region is Tennant Creek, approximately 1000km south of Darwin and 500km north of Alice Springs. These are Tennant Creek and Alpururulam.

As illustrated in the map below, Tennant Creek is located on the Stuart Highway, just south of the juncture of the Stuart and Barkly Highways and Alpururulam.

Alpururulam is located 550km from Tennant Creek and 35km south west of where the pipeline is to cross the NT and Queensland border.

The map below covers the Barkly Region Local Government Area, with the NGP route shown by the blue and white line.

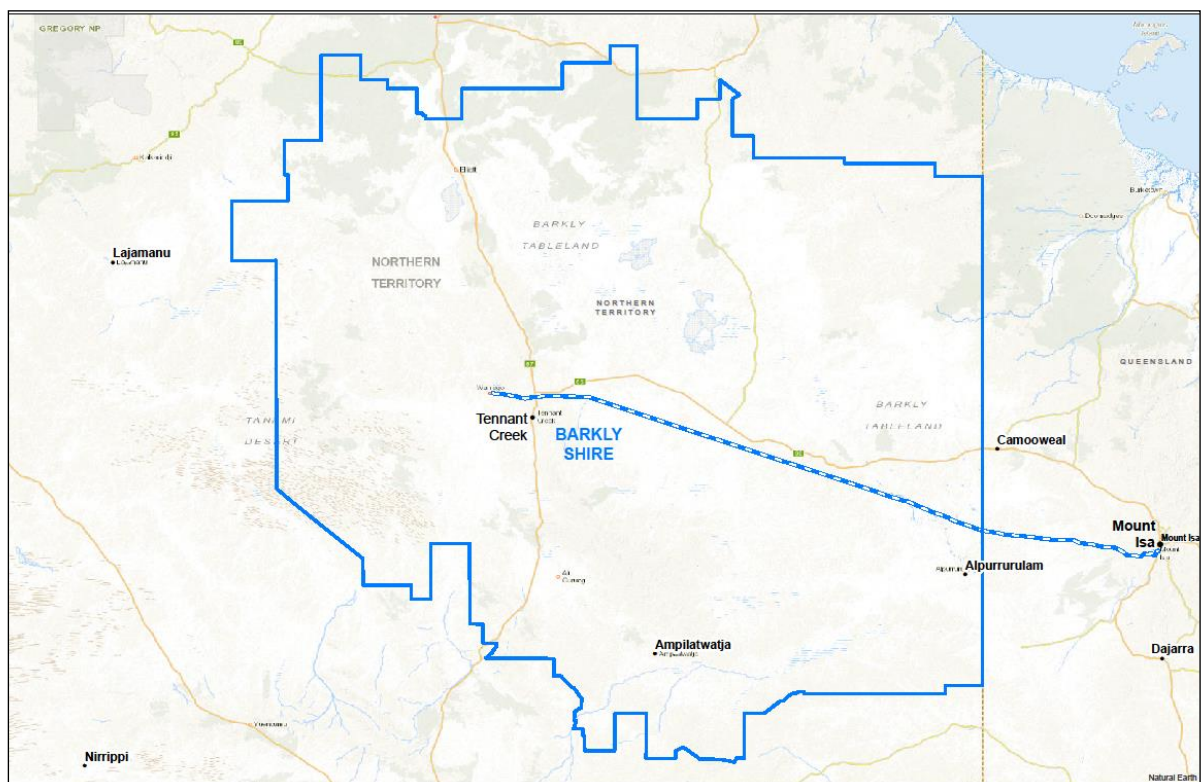


Figure 9: Map of Barkly Shire, NT

The statistics in this section are all taken from the ABS Census 2011 results, except where otherwise indicated.

4.2.1. TOWNS AND COMMUNITIES

Tennant Creek

Tennant Creek is the Northern Territory's fifth largest town with a population of 3,634 (ABS, 2014) and is located on the Stuart Highway, just south of the juncture of the Stuart and Barkly Highways.

European arrival in the area began in the 1860's with the passage through of John McDouall Stuart in an attempt to cross Australia from south to north. Stuart named the "Tennant's Creek" after John Tennant, friend and financial benefactor of his exploration voyages. In 1872 a telegraph station was

constructed at Tennant Creek as a part of the Overland Telegraph Line.

After that time and through the establishment of the NT, firstly as a territory of South Australia and then later prior to and after transfer to the Commonwealth post Federation, the land began to be taken up by the pastoral industry with the earliest activities extending from the east across the Barkly Tablelands, overlanding stock (originally sheep) from Queensland.

Gold was discovered in the area in 1895 and early 1900's and from then through the 1920's and early 1930's the gold mining industry became the primary industry upon which the town was founded (Barkly Regional Council, 2016).

The land in the immediate Tennant Creek area is the traditional land of the Warumungu people and while more than half of the people living in Tennant Creek are Aboriginal, many are from outlying areas in the Barkly and beyond.

Mining and the pastoral industry remain a part of contemporary Tennant Creek, while tourism industry based around the natural environment and Aboriginal and European history contributes to diversifying the local economy.

According to the 2011 Census, the Aboriginal population of Tennant Creek is about 52% (ABS, 2011) while the Aboriginal population of the Barkly Region as a whole is about 64% (ABS, 2011). In addition to the major towns and major populations, the region also consists of approximately eight minor communities, 70 family outstations, 49 pastoral stations, mining operations and commercial properties (NT EPA, 2013).

Alpurrurulam

Established in 1984 and with a population today of about 423, Alpurrurulam is located about 35km south west of where the pipeline is to cross the NT and Queensland border. It is the second largest community closest to the project footprint.

Alpurrurulam is the name given to the community today. It is a derivation of the name Ilperrelhelame, given to the nearby freshwater lake on the Georgina River and was called thus by the Alyawarre people. According to Memmott, the original traditional owners of the area were the Bularnu people and the old name for the area is lost and the Bularnu people no longer inhabit the area. The Alyawarre, being pushed off their traditional lands to the south west, sought refuge at Ilperrelhelame and eventually were given the responsibility and right to look after that country. In late 1988, early 1989 and after a long struggle, the Alyawarre were granted title to land upon which they could live near Ilperrelhelame, at Alpurrurulam (Lyon, 1989).

Alpurrurulam is serviced by the Barkly Regional Council and has a church, school, police station, community shop, aged care centre and clinic.

Alpurrurulam is accessible from the Barkly Highway via the Austral Downs road, the Camooweal – Lake Urandangi Road or the Sandover Highway, however, the community is often cut off for several months during the wet season.

4.2.2. ABORIGINAL COMMUNITIES, PASTORAL STATIONS AND REMOTE RESIDENCES

Aboriginal Communities

The NT Government classifies Aboriginal Communities into four types (Northern Territory Government, 2015).

- Major Community – A large community of mostly Aboriginal people (usually over 500) which has facilities generally expected in a town of a similar size (e.g. school, health centre, store etc.) and provides resources to nearby smaller communities and homeland centres / outstations.
- Minor Community – A community of mostly Aboriginal people (usually over 100) which may have a school, health centre, store etc. and provides resources to nearby outstations.
- Family Outstation – A small community of mostly Aboriginal people, usually less than 100, in permanent or semi-permanent residence with a water supply and permanent accommodation.
- Town Camp – A community of mostly Aboriginal people situated within or adjacent to an urban area.

There are some 18 Aboriginal Communities within the Barkly Region that may be either directly or indirectly impacted by the NGP. These are shown in Figure 4 above.

For example, those communities directly associated with the project, e.g. on Warumungu and Wakaya Aboriginal Land Trust lands (Pakulki and Purrukuwurra) and the Arruwurra Freehold land (Wunara) will be directly affected by project construction, whereas communities such as Likkaparta, Kurntapurra and Ngurrara may impacted indirectly, e.g. through increased traffic on the Barkly Highway. Other communities in and around Tennant Creek may be generally affected by the project and its effects on the town.

While Jemena is negotiating land agreements with the traditional Aboriginal owners of Pakulki and Purrukuwurra there remains a need to consult with these communities regarding social impacts (risks and opportunities), unrelated to matters that would be dealt with in land agreement negotiations (see also section 5.1 below).

Pastoral Stations

There are a number of pastoral stations that are proposed to be traversed by the NGP Project, from Phillip Creek and Tennant Creek Stations, close to Tennant Creek, through the Barkly tableland (Dalmore, West Ranken, Soudan, Avon Downs and Austral Stations) and then into Queensland (Austral, Barkly Downs, May Downs and Glencoe Stations).

While Jemena is negotiating compensation packages with each of the owners of the pastoral leases, the people that live on the stations, e.g. station managers, their families and workers may be affected by the Project. While these are likely to be short-term in nature due to the short pipeline construction program, less than 12 months, social risk and opportunities still need to be considered.

Remote Residences

Other remote residences not included in the above include for example, the Barkly Homestead Roadhouse, residents at the Avon Downs Police Station and other remote residences close to the project activities' footprint.

4.2.3. KEY STATISTICS: BARKLY REGION

Population

The Barkly region is sparsely populated with a population of 8,124 in 2014 (ABS, 2016). In 2011 69%

of the population was Aboriginal (ABS, 2016). As the NT's fifth largest town and the Barkly region's concentration of residents and major service centre, Tennant Creek had a population of 3,634 in 2014 (ABS, 2014) with Aboriginal residents making up 52% of the population in 2011. Alpururulam had a population of about 423 in 2011, and the Aboriginal residents make up 92% of the population. In most years the growth rates for the Barkly region as a whole of 11%, was below the Territory average of 21%.

Age Profile

The median age in Tennant Creek and Alpururulam is 32 years and 25 years respectively, which is significantly lower than the national average of 37 years. The median age in the NT is 32 years (ABS, 2014).

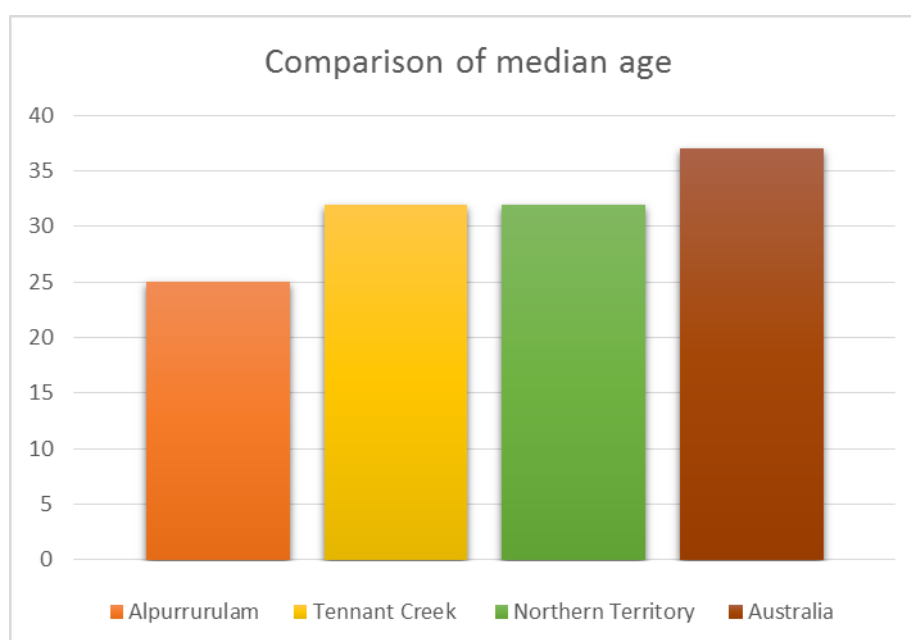


Chart 1: Comparison of median age - NT / Barkly

Tennant Creek contains a higher portion of working age residents (20-64) years than Alpururulam, with 63% (1,929) and almost 59% (250) respectively. In Alpururulam 241 out of the 268 working age residents are Aboriginal (ABS, 2011).

Life Expectancy, Fertility and Mortality

The mortality ratio, i.e. the number of deaths per 1000 people over a given period, for the Barkly Region is approximately 13.3, against the NT ratio of 7.6. The fertility rate is also higher than the Territory average of 2.5 compared to 2.15 respectively (ABS, 2014).

Education and Training

Education and training indicators provide useful information about the ability of a population to support a construction workforce. Approximately 20% of persons aged 15 years and over in the Barkly region reported completing year 8 or below as their highest level of education, compared to the NT which was 8%.

Furthermore, approximately 20% of persons aged 15 years and over in the Barkly region reported completing year 12 or equivalent as their highest level of education.

This is approximately half the rate of the NT and Mount Isa. Overall education attainment in the Barkly region is much lower than national, State or Territory figures.

Education and training data concerning the Aboriginal population in the Barkly region is also an important consideration for Jemena given the company's commitments to Aboriginal employment participation on the Project. There are 234 Aboriginal people compared to 750 non-Aboriginal people who completed year 12 or equivalent as their highest level of schooling (28%) in the Barkly region. No Aboriginal people in the Barkly region have reportedly attained a post graduate level university level qualification as their highest level of education. And only 8 Aboriginal people compared to 78 non-Aboriginal people in the Barkly region had attained a post-secondary school certificate (Australian Bureau of Statistics, 2011).

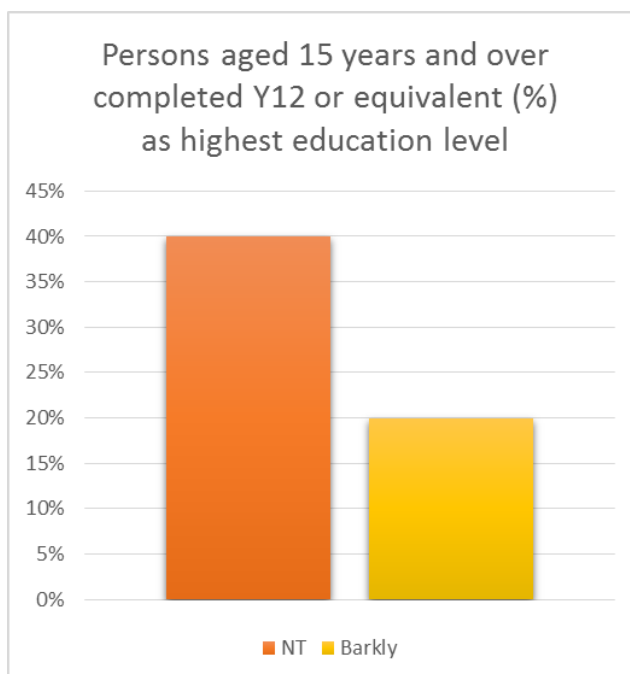


Chart 2: Persons aged 15 years and over completed Y12 or equivalent (%) as highest education – NT/Barkly.

Employment and Labour Force Participation

The unemployment rate in the Barkly region as a whole is 10.9%, compared to the Territory average of 5.3%. The labour force participation rate, i.e. the proportion of the population aged 15 years and over who are employed or who are actively looking for work in the Barkly is 44.7%, against 63.9% for the NT as a whole, as illustrated below in Chart 3.

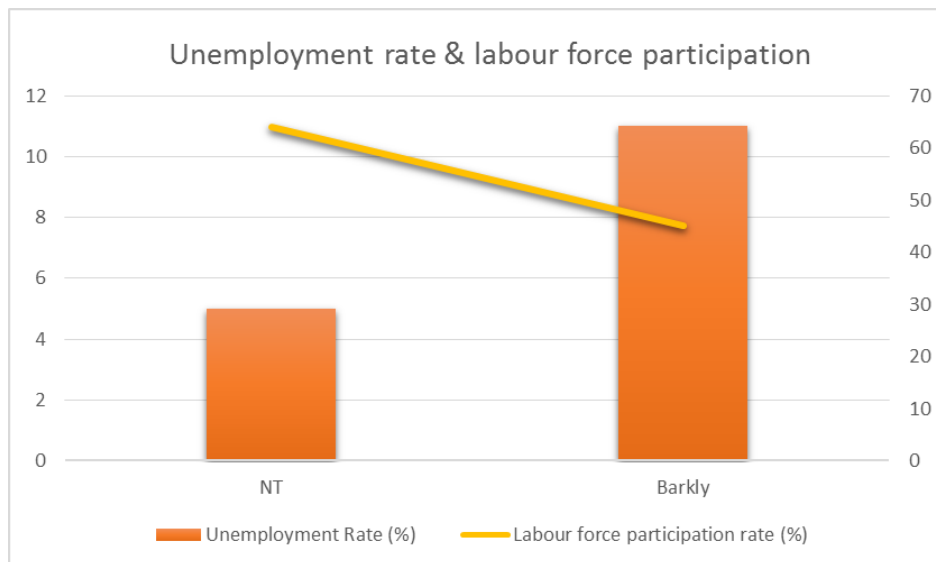


Chart 3: Unemployment rate & Labour force participation – NT/Barkly

Within the Barkly region, the unemployment rate of Aboriginal people is 23.1% compared to the unemployment rate of non-Aboriginal people of 1.6% (ABS, 2016).

Analysis of primary data, through contact with employment service providers indicates a much higher unemployment rate. For example, that there are some 1,200 people seeking work in the region of which the vast majority are Aboriginal (over 95%), unskilled and not work ready. Service providers estimate that approximately 50 job seekers would be work ready. These figures suggest that without implementing training initiatives to support building the skills of working age residents from the Barkly region, particularly Aboriginal people, then the likelihood of them gaining employment in the project is low

Income

The median total weekly household income in the Barkly is \$1152, compared to the NT median household income of \$1674 as illustrated in Chart 4.

The relatively lower level of income is due to the dominance of government and social services sectors as key employers (e.g. public administration, education and training, health care and social assistance), which account for over 50% of all jobs (ABS, 2016) as well as high rates of people on government transfer payments.

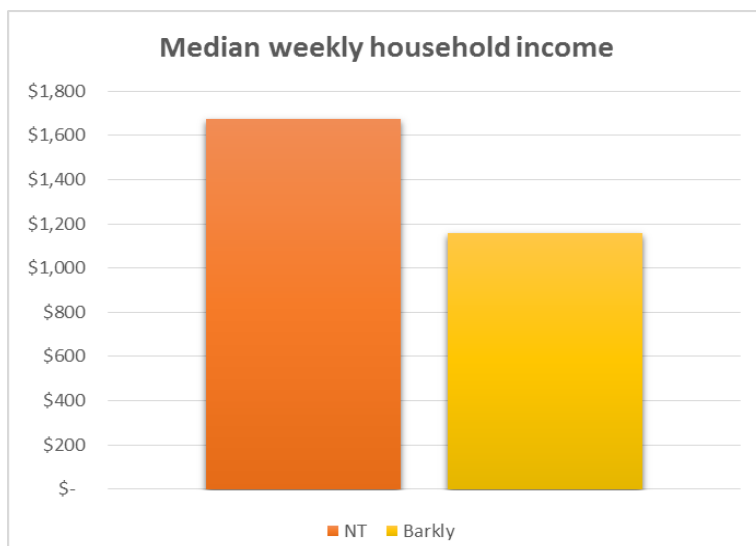


Chart 4: Median Weekly Household Income - Barkly/NT

Crime

In general, the rates of offending in Tennant Creek are close to double the Territory as a whole as shown in table 2 below.

Crime	Tennant Creek	Northern Territory
Crime against the person	7,859	3,281
Crime against property	13,905	7,742

Table 2: Comparison of crime rates in Tennant Creek and NT

Tennant Creek recorded a total of 7,859 crimes per 100,000 for crimes against the person, and 13,905 per 100,000 for crimes against property between 1 May 2016 and 30 April 2016. During this period, Tennant Creek showed an increase of 1.2% and 56.6% for both crimes respectively, showing a significant jump in property crime from the previous year. The majority of the increase in property crime came from house break-ins (156% increase), commercial break-ins (90.2% increase), and property damage (64.8% increase) from the previous year. In terms of crimes against the person, there was a notable drop in sexual assault crimes of 84.8% from the previous year (Northern Territory Police, 2016).

Child Burden and Economic Burden

Child burden ratio measures the ratio of children (measured as between the ages of 0 and 14) to employed adults to provide an insight into the number of dependent children there are for each economically active adult. In the Barkly Region, the child burden ratio is 1.3 children for every employed person. When compared to the NT ratio of 0.75, the Barkly region has more children per employed adult indicating a greater reliance on those employed adults to provide for a larger number of children.

The economic burden ratio measures the ratio of employed people in relation to the unemployed. In the Barkly region, the economic burden is 6, indicating that for every 6 employed people, one person is unemployed. When compared to the NT ratio of 19.7, the Barkly region has a higher density of unemployed people per employed adult, with the effect being there is a greater reliance (or burden) on a smaller number of employed people in the Barkly to provide for a higher number of unemployed residents.

Economy

The Barkly region produces an estimated 2.2% (\$400 million) of the NT GSP in 2012. Of this, the largest industry sector is mining, which contributes \$127 million, agriculture, forestry and fisheries contributed around \$45 million and construction \$35 million (NT Department of the Chief Minister, 2016).

In 2014-15 there were approximately 100,000 visitors to the region, spending around \$52 million (Tourism Research Australia, 2016).

Consequently, while mining and the pastoral industry remain a core part of the contemporary Barkly Region economy, the growing tourism industry based around the natural environment and Aboriginal and European history is contributing to diversifying the local economy.

Community Services and Infrastructure

The health and emergency services within the Barkly region are centred in Tennant Creek but provide services across the Barkly.

The current services available at Tennant Creek include:

- Tennant Creek Hospital: a 20-bed hospital providing accident and emergency and outpatient facilities, with other visiting medical services (NT Department of Health, 2016).
- Aero Medical Services provides medical evacuation services including inter-hospital transfers, evacuations, and retrievals (NT PFES, 2016).
- St John Ambulance has a centre co-located with the Tennant Creek hospital and provides a single ambulance crew available 24/7 within a 150km radius of Tennant Creek (St John Ambulance, 2016).
- From a medical evacuation perspective Avon Downs and Alpururulam are serviced by the RFDS and the Mount Isa Community Rescue Helicopter.
- Anyinginyi Health Aboriginal Corporation provides primary health care services to Aboriginal people in Tennant Creek and the surrounding region (Australian Indigenous Health Information Net, 2016).
- Alpururulam has a Community Health Clinic staffed by two nurses (NT Police, Fire and Emergency Services, 2016).
- Tennant Creek Police Station provides the police services in the immediate Tennant Creek area and there are police stations at Avon Downs and Alpururulam.
- The Tennant Creek Fire Station is staffed by career, auxiliary and volunteer fire fighters, and operates under the Northern Territory Fire & Rescue Service Southern Command. It has one fully equipped fire and emergency response truck, two light vehicles for fire-fighting and access to aerial support as required. It services Tennant Creek and the Barkly region of the NT and works closely with Bushfires NT and pastoral stations (NT Police, Fire and Emergency Services, 2016).
- Tennant Creek also has 10 trained members in its Emergency Service Volunteer Unit (NT Police, Fire and Emergency Services, 2016).

Accommodation and Housing

Undertaking an assessment of existing housing and accommodation is important in understanding how a project workforce might be able to be accommodated during both the construction and operations phases.

There are generally two forms of existing housing and accommodation that can be considered:

- Private housing stock: individually owned houses, apartments, flats etc.
- Short-term commercial accommodation: hotel and motel accommodation.

Private stock would generally be the best option for the operations phase of a project such as the NGP and existing commercial accommodation for the construction phase, although there can often be several forms of overlap, e.g. construction workers seeking privately rented accommodation as a more

economic means and to avoid the institutionalised strictures of a company run workers camp.

Depending on the form of arrangements with contractor employees, caravan park accommodation, unless it is fully supported by messing facilities would generally not be considered suitable; however, this also depends upon the standard of onsite accommodation and access to meals, ablutions, laundry and other facilities.

Typically, hostel room type accommodation is not considered primarily due to health, safety and industrial relations reasons.

From a *construction* perspective then, understanding the range of short term, commercial accommodation available in Tennant Creek and Mount Isa, including the various classes of accommodation and the annual supply / demand curve, will be important in determining both the capacity for the accommodation stock to support the project and also the potential economic impact on the local economies that this would have.

From an *operations* perspective, the types and numbers of housing stock, median house price and rents, vacancy rates and other local real estate market factors of privately owned houses in a community are also important in understanding the impact an operations workforce being established in a town might have on the local economy.

For the NGP Project, the accommodation requirements that could impact on housing and accommodation will be related to that associated with the compressor station construction activities in both Tennant Creek and Mount Isa and the operations workforce for the compressor stations once completed.

The pipeline installation crews will be housed in temporary workers accommodation camps along the pipeline construction ROW and so will have little direct impact on either town.

Tennant Creek Housing and Accommodation Stock

Residential Housing Stock

In Tennant Creek the existing housing stock comprises houses and semi-detached dwellings, flats and apartments.

There were 1,061 private dwellings as of the 2011 census. Of these 148 were being rented through public housing authorities, 54 rented through housing cooperatives. This is likely reflective of the high Aboriginal population and the majority of the employment in the region associated with Public Administration, particularly in Tennant Creek which is the focal point for government services for the regions. 215 were classified as unoccupied private dwellings (unknown type), leaving a stock of 644.

Of this 644, only 33 were rented through real estate agents indicating a very small pool of accessible private rentals.

The breakdown of housing stock in Tennant Creek is illustrated in chart 5 below:

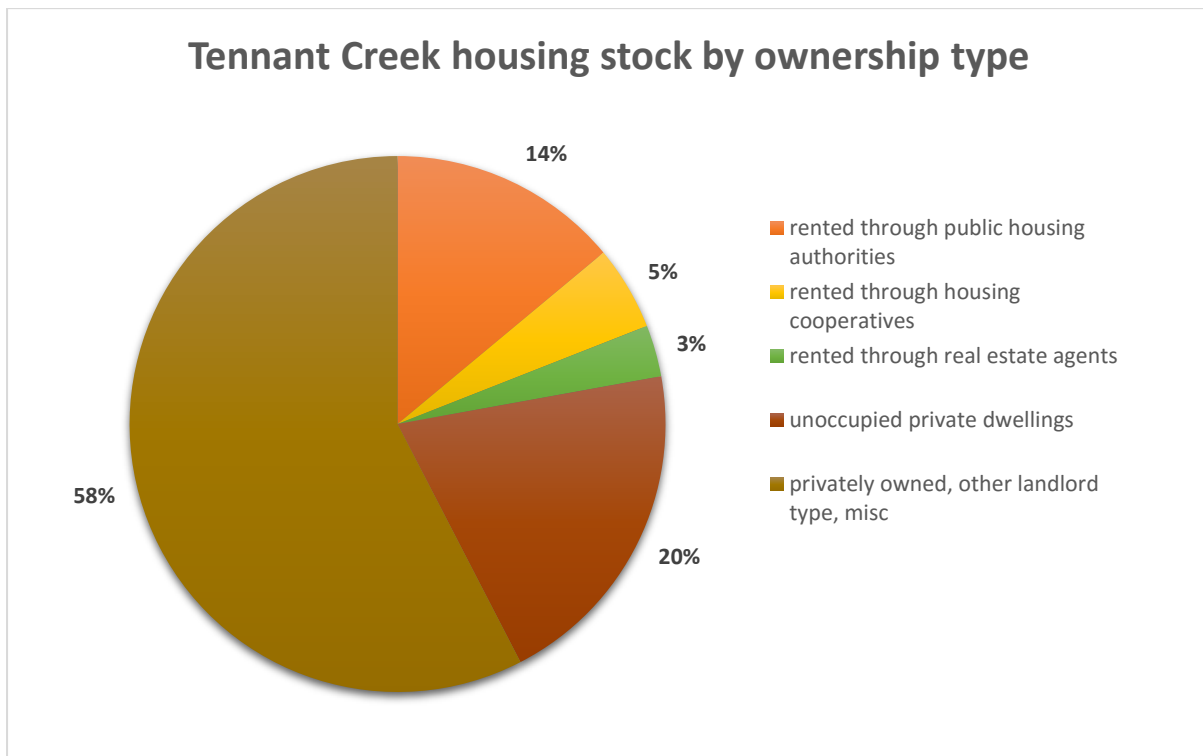


Chart 5: Tennant Creek housing stock by ownership type

Excluding housing rented through public housing or cooperatives, the stock of the 644 dwellings comprises of:

- 482 houses.
- 36 semi-detached/townhouse style.
- 78 flats, units, apartments.
- 48 other dwellings.

Other dwellings include caravans, cabins, improvised homes, or house/flat attached to a shop.

Housing in Tennant Creek is relatively affordable in terms of mortgage repayments and rental costs.

The average house sale price between April 2015 and March 2016 was \$222,725 (REINT, 2015 and 2016). Over a longer-term timeframe between mid-2011 to the end of 2015 the median house sale price of houses in Tennant Creek remained within a band of between \$200,000 and \$300,000. In the March quarter of 2016 a house was sold for \$365,000, however given this was a single sale it is not necessarily representative of a broader trend (REINT, 2016).

Discussions held with local real estate agents indicates a very tight residential rental market (which aligns with the secondary ABS data discussed above) while there is ample supply of residential houses for sale.

Commercial Accommodation

In Tennant Creek the existing short term, commercial accommodation comprises:

- hotel/motel beds: 182
- caravan park cabins: 69

- hostel type rooms: 9

The caravan park and hostel type rooms are considered unsuitable without full messing facilities and so the total of 182 rooms reflects the current capacity of Tennant Creek to cater for the construction workforce, noting that these rooms will be of varying standards and further analysis is required to assess suitability.

NGP Construction

As mentioned previously, the pipeline construction crews will be accommodated in camps along the pipeline route and so will have no impact on the towns.

The current project accommodation demand curve for the Phillip Creek Compressor Station (PCCS) construction crew has work commencing in Tennant Creek around April 2017 and working through to July 2018. Figure 10 below shows the expected demand and where they will be accommodated.

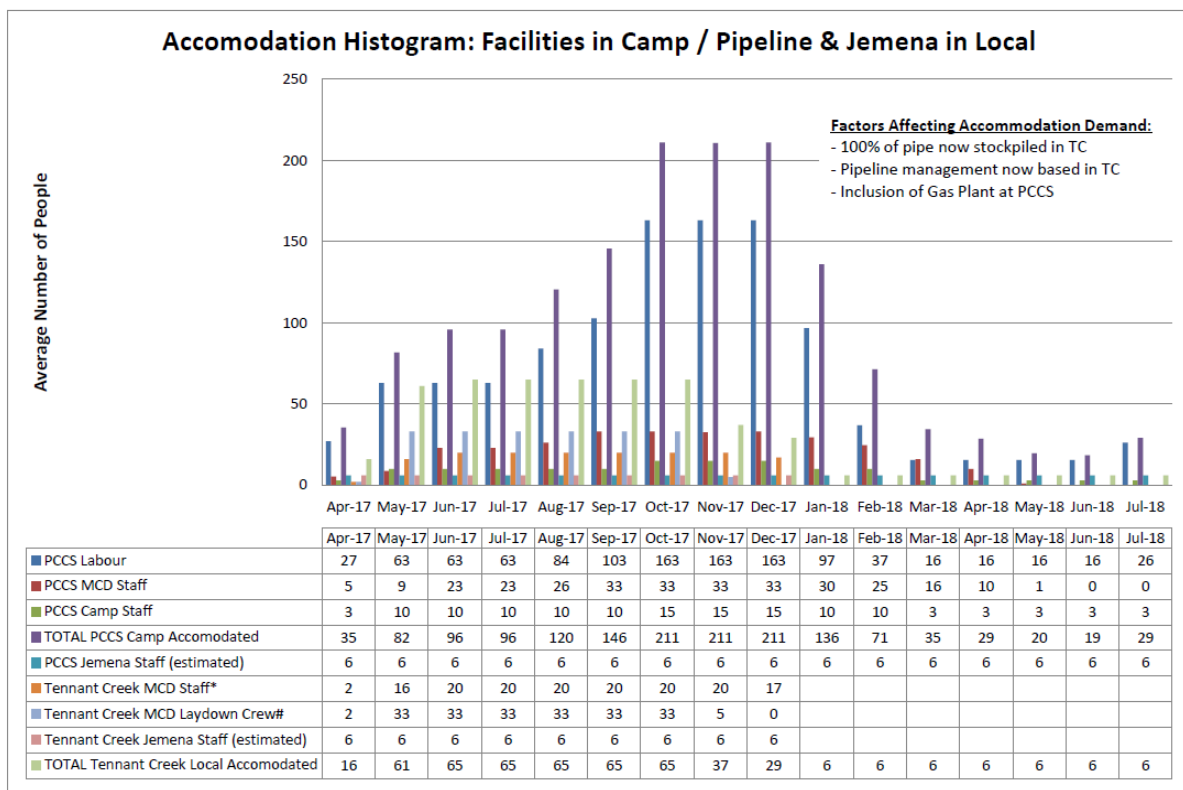


Figure 10: Accommodation histogram (Source: McConnell Dowell)

It is clear from the above that if all of the above accommodation demand were to be sourced in Tennant Creek that would effectively saturate the existing short term, commercial accommodation stock and have a significant impact on the town, other industries, e.g. tourism and hospitality and also the provision of government services to the town.

Consequently, a construction camp is to be established at the PCCS to house the majority of workforce while it is expected that for the period May – December 2017 there will be a constant demand for between 30 and 65 rooms per night in commercial accommodation in Tennant Creek.

NGP Operations

From an operations perspective it is expected that there will be 6 people domiciled in Tennant Creek

for the operations phase of the project.

Assuming that operations staff rent or purchase of existing homes, either houses, semi-detached dwellings and / or flats or apartments, it is clear that the operations phase accommodation impact would be able to be readily absorbed into the town.

A proportion of operations staff are likely to be drawn from the existing population and so this will lessen an already small but positive and long term impact.

Other Human Services

Other human services can include services provided by government (either at the commonwealth, state, or local level) and the private and not-for-profit sectors for such things as:

- support for housing
- support for job seekers
- child support services
- provision of sports and recreation services and infrastructure
- community outreach

The provision of these services and importantly the ability of the community to access them can contribute to the overall liveability or amenity of a community. They can also support a community in times of stress or change.

For Tennant Creek this includes organisations such as the Australian Red Cross, volunteer service organisations such as the Lions Club, the Buffaloes Club, Rotary, the Country Women's Association and the Returned Services League (RSL) and a range of various sports and recreation clubs – e.g. football, golf, lawn bowls. In addition, the broader range of services provided by Government, through community organisations including, employment support services, children and family services support, domestic violence, drug and alcohol counselling services and so on can be included in the scope of "other human services".

While Tennant Creek does have access to all of these services the social and economic indicators referred to above conveys the picture of a community that is potentially very sensitive to social change.

The remote towns along the pipeline route – Alpururulam and Camooweal and the various Indigenous communities and pastoral stations do not have immediate and direct access to many of these kinds of services and so would rely on larger centres such as Tennant Creek and Mount Isa.

4.3. MOUNT ISA REGION

The Mount Isa Region (Mount Isa City Council) covers an area of 43,310 km² and has an approximate population of 22,717 people (ABS, 2014). The City Council area includes the city of Mount Isa and the town of Camooweal and extends from the NT border to just east of Mount Isa. The map in figure 10 below illustrates the boundaries of the Mount Isa Region, with the NGP route shown by the blue and white line.

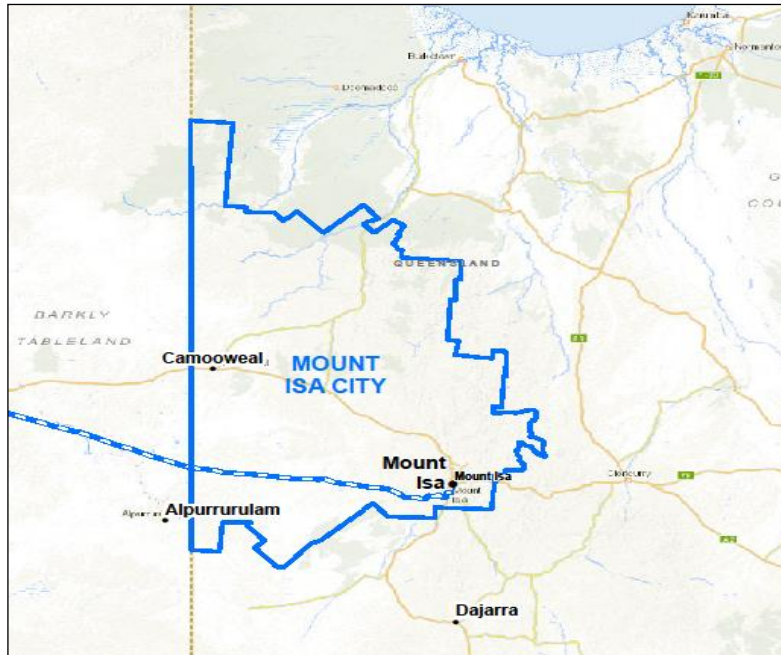


Figure 11: Map of Mount Isa Region, Queensland

The primary economic activities in the Mount Isa City Council area are mining and health care along with public administration.

There are also small number of pastoral station homesteads in the vicinity of the project, between the NT / Queensland border and the point where the pipeline route crosses the Selwyn Ranges and on the eastern side of the ranges, in the last sections of the pipeline before it reaches the MICS.

The statistics in this section are all taken from the Australian Bureau of Statistics (ABS) Census 2011 results, except where otherwise indicated.

4.3.1. TOWNS AND COMMUNITIES

Mount Isa

Located on the Barkly Highway approximately 120kms west of Cloncurry and 900kms west of Townsville, Mount Isa is the administrative, commercial and industrial centre for Queensland's northwest region, with a population of 22,717 people (ABS, 2014).

European history of Mount Isa commenced around 1923 when a prospector, John Campbell Miles, identified rock samples on the banks of the Leichhardt River that were heavily mineralised. Following this discovery and an influx of settlers a post office was opened in 1924 and a hospital in 1930.

Mount Isa was proclaimed a city in 1968. Today the mines surrounding the city are significant operations, producing copper, lead, silver and zinc.

The Kalkadoon people are the original habitants of the land around Mount Isa and according to the 2011 Census the Aboriginal population of Mount Isa is about 15%.

Camooweal

Camooweal is a small town on the Barkly Highway 12kms east of the Queensland and NT border and 191kms from Mount Isa. The 2011 Census recorded a population of 187 people.

Camooweal has a long history of European settlement. The explorer William Landsborough was the

first European to pass through the area while searching for the explorers Burke and Wills in 1862. Following his reports of agricultural potential, pastoralists subsequently settled in the area.

The town was gazetted in 1864 and grew as a service centre for the surrounding farming properties, in addition to the establishment of a post office, other milestones during that time were the addition of a police station in 1886, opening of a provisional school in 1893, drilling of the town bore in 1897. Electricity was connected to the town in 1952 (Mount Isa City, 2016).

Camooweal is a service centre for the local pastoral stations and provides a base for tourists to visit the surrounding region.

The Indjalandji people are the original inhabitants of the land surrounding Camooweal. Today's Aboriginal population of Camooweal is about 56%.

4.3.2. KEY STATISTICS: MOUNT ISA REGION

In 2014 the Mount Isa Region had a population of 22,717 (ABS, 2014).

Age Profile

Median age in Mount Isa and Camooweal is 30 and 31 respectively, which is significantly lower than the Queensland and national average of 37 years (ABS, 2014).

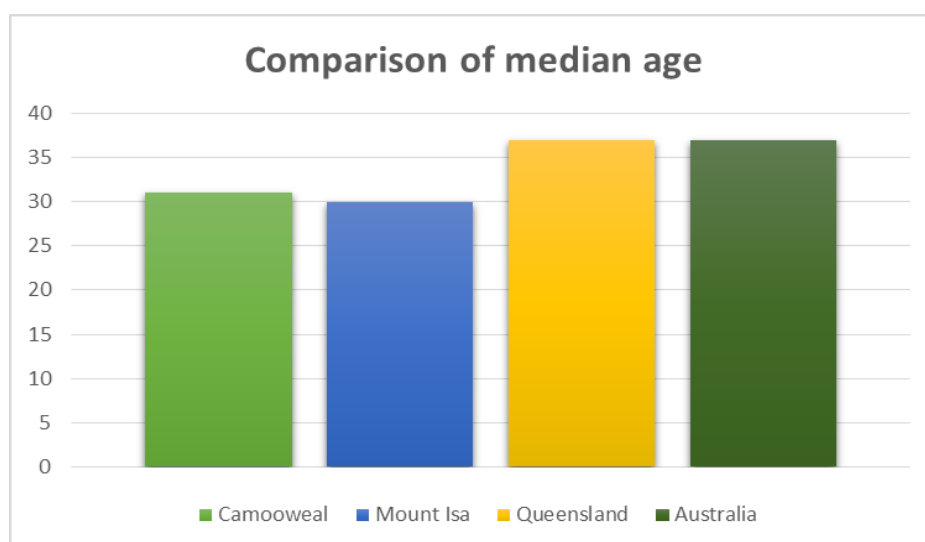


Chart 6: Comparison of median age - Queensland/Mount Isa

Mount Isa contains a higher portion of working age residents (20-64) years than Camooweal, with 63% (13,000) and almost 48% (90) respectively.

In Camooweal 50 out of the 90 working age residents are Aboriginal.

Life Expectancy, Fertility and Mortality

Life expectancy in Mount Isa is 76.5 years (ABS, 2006) compared to the national average of Queensland which is 81.5 years (Queensland Health, 2009). In Mount Isa the mortality ratio is 10 per 1000, against a whole of Queensland ratio of 4.6. These figures can be contrasted against the national standardised death rate of 5.7.

Education and Training

Education and training indicators provide useful information about the ability of a population to

support a construction workforce.

Approximately 5.4% of persons aged 15 years and over in the Mount Isa region reported completing year 8 or below as their highest level of education, compared to Queensland which was 6.1%. Also, approximately 40% of persons aged 15 years and over in the Mount Isa region reported completing year 12 or equivalent as their highest level of education, compared to 48% for the whole of Queensland as illustrated in Chart 6.

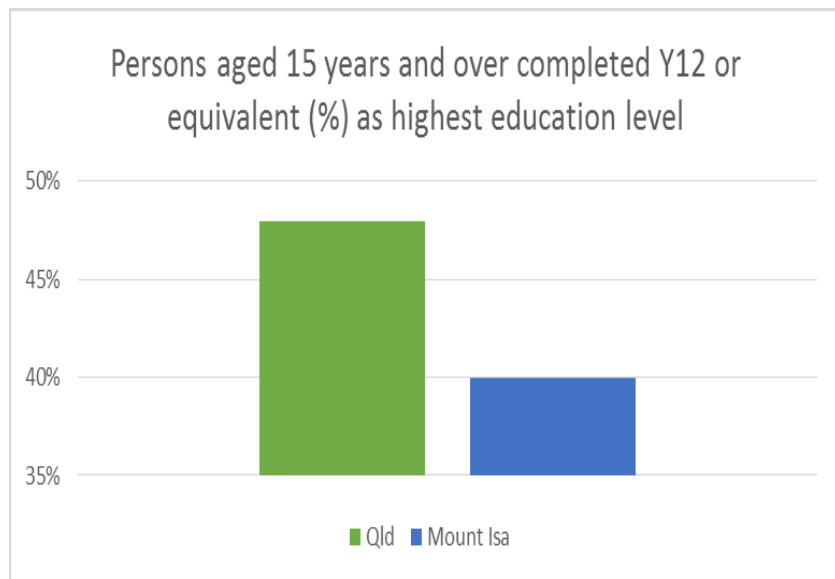


Chart 7: Persons aged 15 years and over completed Y12 or equivalent (%) as highest level - Queensland/Mount Isa

Of those over the age of 15, 22.9% reported to have a post-secondary school certificate, compared to 19.9% for Queensland.

Overall the education attainment in the Mount Isa region is on par with the Queensland average, indicating the ability of the population to support and participate in the construction workforce (ABS, 2008).

Employment, Labour Force Participation and Income

The labour force participation rate, i.e. the proportion of the population aged 15 years and over who are employed or who are actively looking for work in Mount Isa is 67%, compared to 63% for Queensland.

The unemployment rate of 4.3% in Mount Isa is lower than the Queensland rate of 6.1% and indicates a situation that is close to full employment for the population as a whole. This however, is likely to mask the unemployment rate of Aboriginal people (see section 5 below).

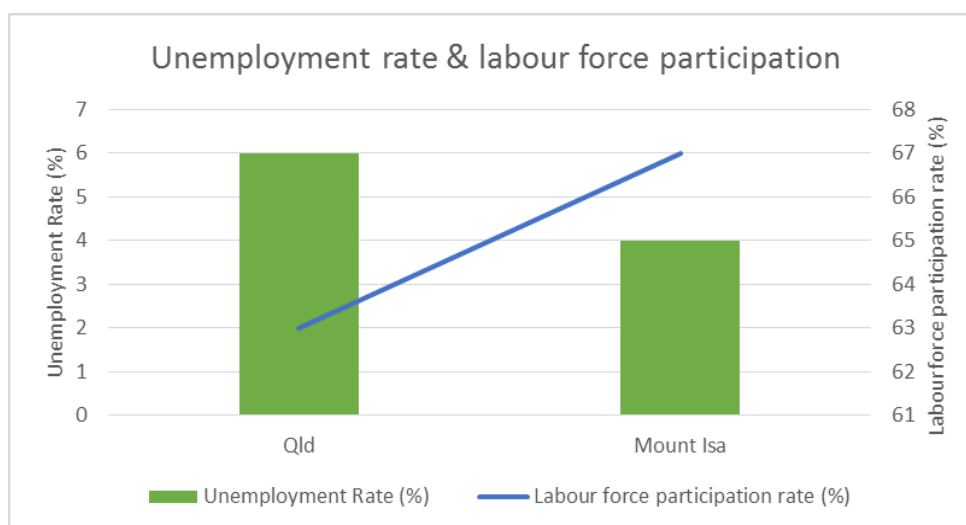


Chart 8: Unemployment rate & Labour force participation - Queensland/Mount Isa

While the unemployment rate in Mount Isa is low, it contains 13,000 working age residents (20-64 years) and Camooweal has 90.

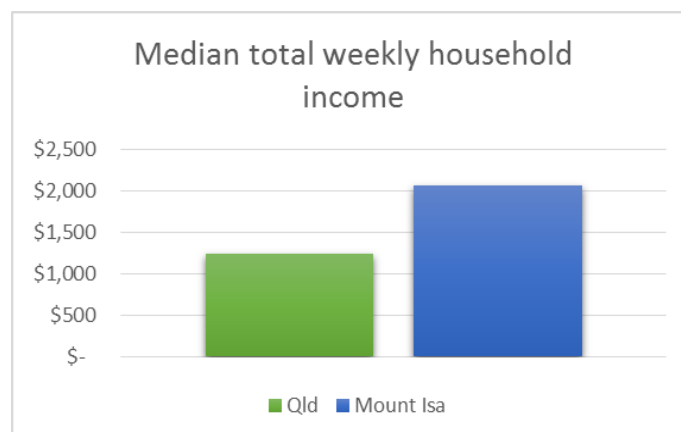


Chart 9: Median total weekly household income – Queensland/Mount Isa

The median total weekly household income in Mount Isa is \$2064, compared to the Queensland median household income of \$1235. This high level of income is likely due to high rates of pay in the resources industry as it is the dominant employer in the region, accounting for over 30% of jobs.

Child Burden and Economic Burden

The child burden ratio (the ratio of children to employed adults), in the Mount Isa Region is 0.48 children per employed person, compared to 0.43 for Queensland as a whole indicating that Mount Isa has a similar number of employed adults providing for children.

The economic burden (the ratio of employed people in relation to the unemployed) in the Mount Isa region is nearly 23 employed people per unemployed person, against Queensland as a whole with about 15 employed people per unemployed person. This illustrates that relative to Queensland, Mount Isa has a smaller burden on the employed people.

Economy

Mount Isa possesses a long standing mining heritage which still shapes its current economy. Industry in the city is based around Glencore's Mount Isa Mines operations which produces lead, copper, silver and zinc and also operates a copper smelting facility.

Cattle grazing and tourism are other major parts of the economy.

The mining industry is the main employer, followed by healthcare and social assistance, retail trade, education and training, and construction (ABS, 2011).

Community Services and Infrastructure

The Mount Isa Region is serviced by a full range of health and emergency services in proportion to the size of its population.

The services available in the Mount Isa Region include:

- Mount Isa Base Hospital has 24 hour emergency response and a broad range of medical services including surgery, intensive care, paediatric, allied health, mental health and visiting specialists (Queensland Department of Health, 2012).

- A number of GP services including the Barkly Medical Centre.
- Camooweal Primary Health Care Clinic. Nurse led facilities and 24/7 emergency support with hospital based ambulance coverage, telehealth services, visiting medical, community and allied health professionals (Queensland Department of Health, 2012).
- North Queensland Helicopter Rescue Service operates from a base at the Mount Isa airport.
- There is a permanently manned and operational urban fire service in Mount Isa with two firefighting trucks that can operate concurrently. A rural fire service volunteer brigade is also present in Mount Isa with a dedicated fire truck and large number of volunteers (Pers.com, 2016).
- The rural fire service in Camooweal maintains a dedicated fire truck and has around 12 volunteers with approximately 3 or 4 that could be available at any one time. There is also firefighting capability called primary producer brigades on some of the pastoral stations surrounding Camooweal and Mount Isa (Pers.com, 2016).
- Mount Isa Royal Flying Doctors Base provides remote medical consultation, aeromedical retrievals and primary health care clinics incorporating general practice, child and family health, Aboriginal health, mental health and health promotion services (Service, 2016).

Accommodation and Housing

Residential Housing Stock

In Mount Isa the existing private housing stock comprises a broad range of houses, semi-detached dwellings, and flats and apartments. Relative to the whole of Queensland current house sales prices are lower in Mount Isa, renting a unit is cheaper, while renting a house is slightly more expensive.

In Mount Isa there were 6,960 private dwellings recorded during the 2011 census.

Of these 553 were public housing rentals, 29 rented through housing cooperatives, and 674 were classified as unoccupied private dwellings, leaving a private stock of 5,704 (ABS, 2013).

Of this 5,704, 931 were rented through real estate agents indicating a ready supply of private rentals.

The annual median sale price in Mount Isa was \$325,000 (Queensland, 2016) and over the ten-year period to December 2015 the median house price in the Mount Isa Local Government Area has risen from slightly above \$150,000 to approximately \$320,000 (Queensland Government Statistician's Office, 2016).

From conversations with local real estate agents in Mount Isa information provided indicated the rental market is adequately supplied and sales of residential houses and units is slowing with prices softening.

Commercial Accommodation

In Mount Isa the existing short-term commercial accommodation comprises approximately:

- Hotel/motel rooms – 561
- Budget – 189

- Caravan parks/cabins – five operations in total, unknown number of cabins (Mount Isa City Council, 2016)

The budget category listed above includes one accommodation provider that provides rooms and messing that is used by resources sector workforces. Similarly, the caravan parks / cabins noted above includes providers that maintain workforce type accommodation and services.

This is reflective of the resource industry nature of the town.

Construction

The construction accommodation demand for Mount Isa is significantly less than Tennant Creek (almost half) due to the differing designs of the two compressor stations and so the Mount Isa demand will be less. At peak the construction crew demand at Mount Isa is expected to be 110.

The existing commercial accommodation in Mount Isa will be more than sufficient to absorb the demand.

Operations

From an operations perspective it is expected that there will be four people domiciled in Mount Isa for the operations phase of the project.

Assuming that operations staff require rental / purchase of existing homes, either houses, semi-detached dwellings or flats / apartments it is clear that the operations phase accommodation impact would be able to be readily absorbed into Mount Isa.

A proportion of operations staff are likely to be drawn from the existing population and so this will lessen an already small but positive and long term impact.

Other Human Services

As noted in section 4.2.3 above other human services can include services provided by government (either at the commonwealth, state, or local level) and the private and not-for-profit sectors for such things as support for housing, job seekers, sports and recreation facilities, community outreach.

Given its size, Mount Isa appears to have a fairly broad range of these kinds of services to support the community.

4.4. SOCIAL & ECONOMIC COMPARISON SUMMARY

Indicator	Barkly	NT	Aboriginal (Barkly)	Mount Isa	QLD	Aboriginal (Mount Isa)
Population	8,124 (2014)	244,000 (end 2015)	Approx. 5,614	21,717	4,808,000 (end 2015)	Approx. 3,280
Life expectancy	N/A	77.5	N/A	76.5	81.5	N/A
Fertility rate	2.5	2.15	N/A	2.7	2.0	N/A
Median age	27	31.4	23	30	37	21

Unemployment rate	10.9%	5.3%	23.1%	4.3%	6.1%	17.7%
Labour force participation	44.7%	63.9%	29.5%	67%	63%	52.4%
Education (persons aged 15 years & over who have completed Y12 or equivalent as highest education level)	20%	40%	N/A	22.9%	19.9%	N/A
Child burden ratio	1.3	0.75	N/A	0.48	0.43	N/A
Economic burden ratio	6	19.7	N/A	23	15	N/A
Median income	\$1152	\$1,674	\$802	\$2064	\$1235	\$1363
Crime rates (crimes against the person per 100,000 of population)	7,859 (Tennant Creek)	3,281	N/A	3,162	629	N/A

Table 2: Social & Economic Comparison Summary

4.5. COMMUNITY COHESION AND COMMUNITY RESILIENCE

The term ‘community’ has a wide range of meanings, and warrants clarity in understanding the boundaries of community resilience and cohesion within this Scoping Study. It can range from a broad group with which one shares a common interest or sense of identity to a small group where everyone is known to each other (Australian Bureau of Statistics, 2004). For the purpose of this Scoping Study and the NGP project, the focus will be community groups who share common location as well as shared interest and shared identity (such as culture). Community will be referred to as a place designated by geographical or administrative boundaries that functions under the jurisdiction of a governance structure, such as a town, city, or state. It will also describe people who have affiliations which have grown as a result of shared interest and have a shared identity based on culture, location, history, population, employment, et cetera. Successful communities provide their members with the means to meet essential needs and to pursue their interests and aspirations.

The stakeholder consultations will assess the social institutions and structures such as community service, cultural, government, education, economic, as well as built environment, focusing on their role and importance in community cohesion and resilience. The assessment on community cohesion and community resilience takes into account the economic and social goals and aspirations of the communities.

There is no universally accepted definition or concept of social cohesion, however there has been a certain amount of convergence in the definitions. Berger-Schmitt and Noll (2000) summarise a number of different ways of mapping social cohesion and conclude:

“The concept of social cohesion incorporates mainly two dimensions of societal development which may be related to each other but can be analytically distinguished. The first dimension concerns the reduction of disparities, inequalities, breaks and cleavages ... The second dimension embraces all aspects which aim at strengthening social connections, ties and commitments to a community.”

Stated simply, community cohesion is a state of harmony and shared sense of belonging and shared vision between people living in a defined community based on the strength of networks and relationships. Jemena wants to ensure that the project does not negatively impact on community cohesion. This will depend to some extent on the community's resilience and by managing activities that could undermine both cohesion and resilience.

The framework for social cohesion uses the social cohesion model developed by the Scanlon Foundation and Monash University for the Mapping Social Cohesion longitudinal study. The social cohesion model includes five domains:

- **Sense of Belonging:** Shared values, identification with Australia, trust.
- **Social justice and equity:** equality of opportunity and trust in institutions.
- **Participation:** Voluntary work, political and co-operative involvement.
- **Acceptance and rejection, legitimacy:** Experience of discrimination, attitudes towards minorities and newcomers.
- **Sense of worth:** Life satisfaction and happiness, future expectations.

(Markus, 2015)

The above domains have been incorporated in the Scanlon-Monash Index (SMI) of Social Cohesion, which will be used as indicators when measuring community social cohesion in the stakeholder engagements and help draw further conclusions about the levels of cohesion.

Analysis of community resilience for this assessment spans activities ranging from risk mitigation, opportunity maximisation and post-project recovery. The term resilience also has many definitions stemming from the fields of psychology and ecology. For purposes of the Project, resilience is defined as the ability to persist (i.e., to absorb shocks and stresses and still maintain the functioning of society and the integrity of ecological systems) and the ability to adapt to change in the face of unforeseen circumstances and risks (Adgar, 2003). Given that the impacts deriving from the Project will be both negative and positive in nature, the definition of resilience must reflect not only the community's ability to resist and withstand negative impacts, but it must reflect the community's ability to adapt to positive change and emerge in a better state as a result. Therefore, in the context of the Project, Circle defines community resilience as:

The community's level of adaptability to unforeseen and foreseen change, both positive and negative; and as a result not only have the ability to bounce back rapidly, but evolve and grow in the face of change in a way that meets the aspirations of the community.

Failing to prepare communities, will make them more likely to be overwhelmed by immediate and residual impacts of the Project, and less likely to adapt and capitalise on opportunities. Given the short length of the project, the ESIA and ESIMP will aim to align priorities and resources with community goals to boost and/or enhance the community cohesion and resilience towards realising their aspirations and leaving a long lasting legacy.

The data gathered in the stakeholder consultations with regards to the economic and social risks and opportunities identified for the project will be analysed against the indicators in order to draw substantive conclusions regarding the level of community cohesion and resilience in responding to the impacts. Within the Barkly and Mount Isa regions, the consultations will focus on material risks and

opportunities identified in the risk and opportunity registers in Appendix B and C. Analysis will focus on risks that remain moderate and above after mitigation measures have been put in place, as well opportunities that remain moderate and above after enhancement measures have been put in place.

This includes impacts pertaining to things such as, but limited to: crime, conflict, alcohol and drug related conflict, diverse cultures of the various Aboriginal communities and language groups, the influx of workers, influx of single workers with no ties to the community, higher disposable incomes, employment opportunities, displacement of other economic sectors, economic growth leading to increased business activity, economic and employment benefits not being realised, road safety, demand on government and local services, reduced capacity to provide local government services, pressure on rental accommodation and pressure on police and emergency services.

Through the stakeholder consultations further information will be gathered that allows for an assessment of the social cohesion in Tennant Creek, Alpururulam, Mount Isa and Camooweal, based on the SMI Social Cohesion model. Assessment of community resilience will be based on a content analysis of the SIA consultation interview outcomes.

5. ABORIGINAL CONTEXT

Aboriginal people comprise a comparatively significant portion of the population in both the Barkly and Mount Isa regions representing approximately 64% of the population in the Barkly Region (compared to 30% in the NT) and approximately 15% in Mount Isa (compared to approximately 3.5% in Queensland). The Indigenous population of Australia is approximately 3% (ABS, 2011).

5.1. ABORIGINAL LAND INTERESTS

The land across the whole project footprint is the traditional lands of one group of Aboriginal people or another, whether held under the *Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)* or where Native Title exists, is claimed or has been determined under the *Native Title Act 1993 (Cth)*.

For this Scoping Study, the term 'Aboriginal group' is used in a general sense, noting that no distinction has been made between language groups on the one hand, and land owning (estate) groups on the other.

The Project will intersect the land interests of several Aboriginal groups including, in order from Warrego (the site of the Phillip Creek Compressor Station) and Tennant Creek through to Mount Isa: the Walmanpa, the Warumungu, the Wakaya, the Arruwurra, the people associated with the Dalmore Downs, Dalmore Downs South and Burramurra native title claims, the Indjalandji-Dhidhanu and the Kalkadoon people.

The map below shows the Aboriginal land interests across the project.

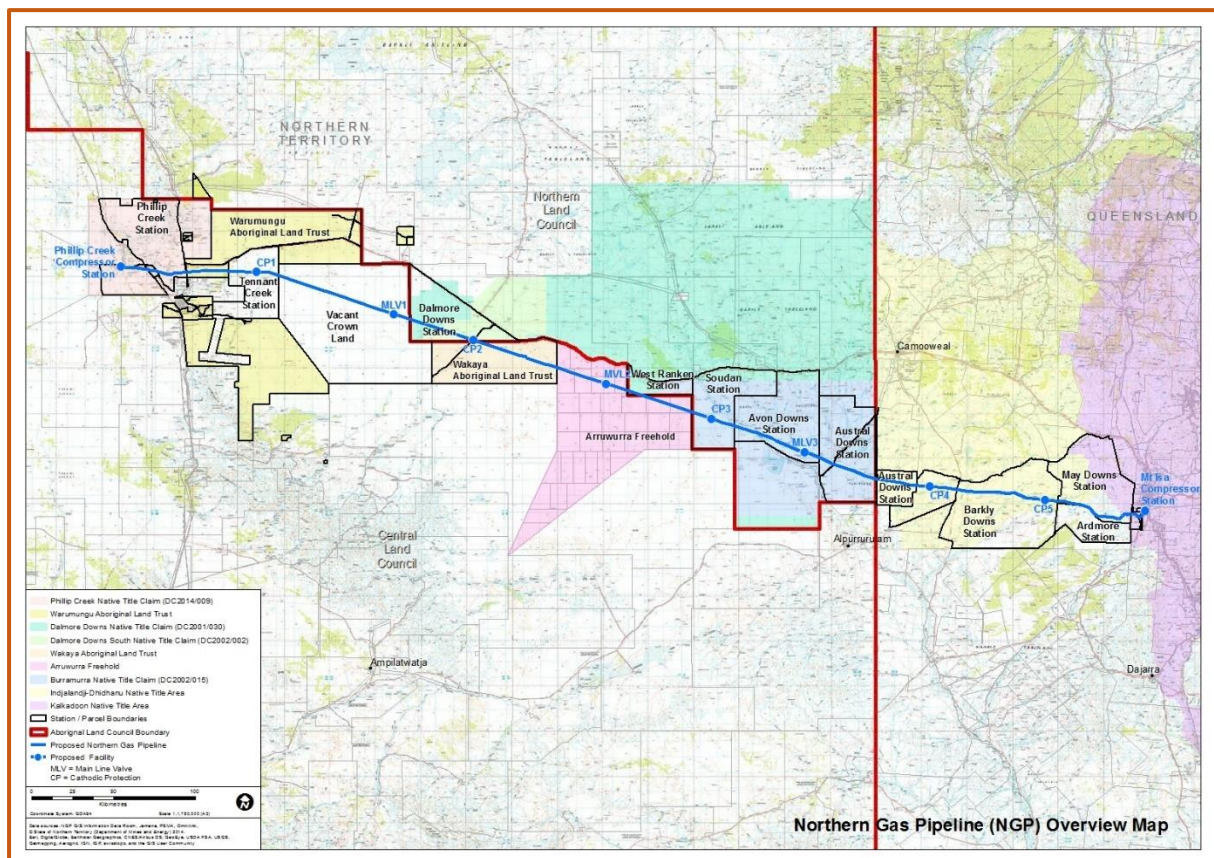


Figure 12: Location of Aboriginal Land and Native Title areas

The relevant Land Councils, Native Title Representative Bodies, Aboriginal Corporations and Native Title Prescribed Bodies Corporate that Jemena has been engaged with in relation to the above are the Central Land Council, the Northern Land Council, the Arruwurra Aboriginal Corporation, the Indjalandji-Dhidhanu Aboriginal Corporation, the Kalkadoon Native Title Aboriginal Corporation and the Queensland South Native Title Services.

Jemena is in the process of negotiating land agreements with each of the Aboriginal Parties, through their respective representative organisations for easements across the land for the NGP Project. These agreements will take the form of section 19 agreements under the ALRA, Indigenous Land Use Agreements (PBC and Area) under the NTA and Option Agreements under the *Lands Administration Act (NT)*. All of these agreements will contain consideration for impacts in the form of benefits.

5.2. ABORIGINAL SOCIAL & ECONOMIC CONTEXT

It is noted above that Aboriginal people comprise a significant proportion of the population in the Barkly and Mount Isa regions.

The Aboriginal community in the regions face significant disadvantage relative to the broader community.

For example in the Barkly Region, the Northern Territory Medicare Local Health Atlas of 2014 (NTML, 2014) reported that:

- The socio economic index for the Barkly region is amongst the worst in Australia. This index is “the relative social and economic advantage and disadvantage of a region, by measuring a community’s access to material and social resources and their ability to participate in society.”
- The Barkly region (northern Barkly) was the only area with a significant decline in the Australian Early Development Index (AEDI) in the NT between 2009 and 2012. The AEDI is a measure of how children have developed by the time they start school in terms of physical health and wellbeing, social competence, emotional maturity, language and cognitive skills, communication skills and general knowledge.

Further social and economic indicators include:

- The unemployment rate for Aboriginal people is 23.1% in the Barkly region. This is almost four times the NT unemployment rate, five times the Mount Isa unemployment rate and approximately three and a half times the unemployment rate of Queensland (ABS, 2011).
- Aboriginal people in the Barkly region have a median total household income (\$/weekly) of \$811 which is approximately 30% less than the median total household income (\$/weekly) in the Barkly region, 50% less than in the NT, 60% less than in the Mount Isa region and 35% less than in Queensland (ABS, 2011).
- 42 Aboriginal people compared to 149 non-Aboriginal people completed year 12 or equivalent as their highest level of schooling (28%) in the Barkly region (ABS, 2011)
- When considering the high population of Aboriginal people in the Barkly region post-secondary education levels of attainment are similarly low. For example, 69 Aboriginal people compared to 229 non-Aboriginal people have a certificate level III and IV, 7

Aboriginal people compared to 67 non-Aboriginal have a diploma or advanced diploma qualification, and 11 Aboriginal people compared to 92 non-Aboriginal people have a bachelor's degree (ABS, 2011).

- No Aboriginal people in the Barkly region have reportedly attained a post graduate level university qualification (ABS, 2011).

These statistics are particularly relevant to the project when considering recent research conducted by the Australian Government Department of Employment that found:

- The highest reason given by employers in the NT Outback (that includes the Barkly region) for not interviewing job seekers for an employment vacancy was that job seekers lacked experience relevant to the job vacancy. The second highest reason given was that job seekers had insufficient qualifications or training.
- Completing year 12 increases labour market outcomes with more people in this cohort being employed as opposed to people finishing school at a lower year level (Department of Education, 2015).

DOE's research indicates that Aboriginal people, especially in the Barkly region, may find securing employment on the project very difficult because of their low labour market participation and similarly low educational attainment levels.

5.3. LAWS, CUSTOMS AND CULTURE

Pre-colonial times, Aboriginal people in the project area lived a hunter gatherer lifestyle within their traditional lands and with customs and culture characterised by a belief system directly related to the land. Aboriginal peoples' world views and lives were shaped by stories of the dreamtime when the world was formed by mythological beings, passed down through from generation to generation. Peoples' existence was controlled by the availability of foods and other resources directly appropriated from the natural environment but also governed by laws relating to land ownership, trade, travel and relations between language groups, clans and land estate owning groups. Social relations were governed by complex kinship and social behavioural systems between and among the sexes and generations that allowed for the continued existence of the people on the land. Spiritual life arose from the land and the stories of the dreamtime, carried within a framework of ceremonial and song cycles that mapped out the land and the peoples' relationship with it.

As in other parts of Australia, the arrival of Europeans in the project area caused significantly negative impacts on Aboriginal society, initially through the dispossession of their land and the dislocation of people from their land, particularly through the spread of the pastoral industry. Other major impacts from these times were the associated frontier violence and the spread of exotic diseases. Over and above this, Aboriginal people have been subject to the impacts of various public policies that have been implemented over the years.

5.3.1. GOVERNMENT POLICIES

Early government policy toward Aboriginal people since Australia's establishment and to contemporary times can be characterised as having several phases as set out in the following passages adapted from the Australian Law Reform Commission website (ALRC, 2016), except where otherwise referenced.

1. Early Years: in the early years of Australia's settlement by Europeans significant conflict between colonists and settlers and Aboriginal people occurred and with the introduction of exotic diseases and alcohol, reduced the Aboriginal population in south east Australia from an estimated 300,000 to about 60,000. In Queensland it has been estimated that at least 10,000 Aboriginal people died violently between the years 1824 and 1908, around the same time that European settlements in the Mount Isa and Barkly regions were being established.
2. Protection: pre Federation and particularly post Federation to early post second world war... a period where the States had responsibility for Aboriginal policy and in response to the reductions in Aboriginal population arising from the above, a House of Commons Select Committee in 1837 recommended that there should be missionaries for Aboriginal people and protectors for their defence. In some States, including South Australia that included the land area which is now the NT, protectors were appointed and who were supposed to protect Aboriginal people from abuses and provide remnant populations around towns with rations, blankets and medicines. There was very limited success in this policy with practical day to day activities often being unofficially becoming the responsibility of local police. Later in the 19th century under legislative arrangements in Queensland in 1897 and in South Australia and the Northern Territory in 1910-11, the policies became more formal and extensive and were aimed at isolating and segregating 'full blood' Aboriginal people on reserves while removing and attempting to assimilate 'half-caste' Aboriginal people including children, into the broader Australian society, restricting contact (including interbreeding). Civil rights of Aboriginal people were severely curtailed including the right to marry, freedom of movement, the consumption of alcohol and the regulation of employment. There were systematic efforts to take part Aboriginal children away from their parents and to educate them in western ways, a particular and relevant example of which was the *Welfare Ordinance Act 1953 (NT)* which remained in place until the 1960's (National Archives, 2016).

'Full blood' Aboriginal people on the reserves which were often run by missionaries retained some semblance of access to traditional life however, very often these were very unsympathetic to traditional ways.

3. Assimilation: post Second World War, through to late 1960s, early 1970's. Overlapping with the Protection period and continued problems and criticism of the treatment of Aboriginal people, particularly in central and northern Australia resulted in agreements in 1936 between the States and the Commonwealth that greater coordination should occur. The following year it was agreed that the policy objective "... should be the absorption at least of 'the natives of Aboriginal origin but not of the full blood'". In 1961 the policy was adopted by the Commonwealth and all the States and was defined in the following terms:

"The policy of assimilation means that all Aborigines and part-Aborigines are expected to attain the same manner of living as other Australians and to live as members of a single Australian community, enjoying the same rights and privileges, accepting the same customs and influenced by the same beliefs as other Australians."

During this period expenditure on health, housing, education and training programs was increased in the NT and elsewhere and the decline in the Aboriginal population in northern and central Australia was stemmed and reversed in the 1950's. In 1967 a referendum was held and the Australian Constitution amended to enable the counting of Aboriginal people in the national

census to and to allow the Commonwealth Parliament to pass legislation to benefit Aboriginal people.

4. Integration. Assimilation by definition is the process of incorporating or absorbing the customs and cultures of one group of people into another. As outlined above, in the context of Aboriginal Australia this meant Aboriginal people 'accepting the same customs and (being) influenced by the same beliefs as other (non-Aboriginal) Australians' thus implying a loss of their own cultures, languages and identity.

From about the mid 1960's opposition to notions of assimilation emerged across the country, perhaps in part by the successful vote 'Yes' campaign for the 1967 Referendum that raised national awareness of the significant and confronting socio-economic disadvantage facing Aboriginal Australians and the impact of assimilation on Aboriginal languages and cultures.

What ensued was a policy shift, albeit largely unofficial, toward Aboriginal 'integration' into Australian society to celebrate, recognise and support Aboriginal cultures, language, identity and Aboriginal socio-economic development. This shift was complimented by increased government investment into overcoming Aboriginal health, education and socio-economic disadvantage.

5. Self Determination. The Australian national policy of 'self determination' commenced in the early 1970's with then Prime Minister Gough Whitlam effectively dismantling the White Australia Policy in favour of policies supporting self management and self determination. While this relates to broader foreign policy shifts it does provide an important and useful insight into the national psyche and major governmental policy transitions during this period.

For Aboriginal Australia this was an intense period of very strong political protest in response to the continued social and economic disadvantage faced by many Aboriginal people and the lack of government recognition of Aboriginal land rights in Australia. The Aboriginal Tent Embassy was erected outside of Parliament House in Canberra in 1972 that still today embodies Aboriginal Australia's struggle and desire for self-determination, recognition and meaningful real reconciliation. These strong assertions and the desire for Aboriginal self-determination expressed by many in the Aboriginal and non-Aboriginal community was an important and strong influence on Government at the time that resulted in increased investment into Aboriginal affairs across Australia and government support for Aboriginal controlled organisations including the Aboriginal Development Commission.

During this period the legal rights of Aboriginal people to their land started to be recognised through the courts and legislative process. Perhaps the most famous legislative reform was the advent of the *Northern Territory Land Rights Act* in 1976 and the *Racial Discrimination Act* in 1975.

6. Reconciliation. The era of reconciliation between Aboriginal and non-Aboriginal people in Australia started in the late 1980's and was perhaps first marked with the then Prime Minister Bob Hawke committing Australia to a treaty with its first peoples in 1988.

Institutionally the process of reconciliation between Aboriginal and non-Aboriginal people was marked with the establishment of the Australian Council for Aboriginal Reconciliation in 1991 after the passing of the *Council for Aboriginal Reconciliation Act 1991*. The purpose of the Council and of reconciliation was perhaps best summarized by the then Prime Minister Paul Keating in 1992.

In more recent times Prime Minister Kevin Rudd's national apology to the Aboriginal Stolen

Generations in 2008 is widely acknowledged as a profoundly important step toward reconciliation and the current debate concerning Aboriginal constitutional recognition and a treaty between Aboriginal and non-Aboriginal Australia are all symbolic of a strong ongoing commitment in Australia to Aboriginal reconciliation.

Importantly, this institutional and symbolic response has also been complimented by the Australian Government's policy position of 'Closing the Gap' that is underpinned by annual reporting on Australia's progress toward 'closing the gap' between the socio-economic, health and educational disparity that is still prevalent in Australia between Aboriginal and non-Aboriginal people.

5.3.2. EUROPEAN ARRIVAL IN THE BARKLY AND ISA

The area surrounding Tennant Creek is the traditional lands of the Warumungu people and the area more specifically associated with the proposed Phillip Creek Compressor Station at Warrego is the traditional country of the Walpumpa people, bounding as it does with the beginning of the Central Desert Region. To the east of Warumungu country into Tennant Creek station and the large area of Vacant Crown Land (VCL) the language group changes (as do the land owning groups) to Wakaya, including the people associated with the native title claims on the Dalmore Downs Station.

To the south of the pipeline route and skirting the desert region are the traditional lands of the Alyawarre people, whose dislocation through pastoral activities forced many of them to seek refuge around Alpururulam (Pamela Lyon, 1989). To the north of Alyawarre and in the eastern portion of Wakaya country, a Wakaya land owning group, the Arruwurra, hold a significant NT freehold land estate, on behalf of their members.

Further to the east, the traditional owners of the land around West Ranken, Avon Downs, Soudan, Austral Downs and Lake Nash Stations were originally the Bularnu people (Pamela Lyon, 1989), all of whom were dispossessed and dislocated much further to the south and many of whom were murdered or died from introduced diseases. The area today is claimed by the people associated with the Burramurra native title claim.

Very nearby in the east is the traditional country of the Indjalandji-Dhidhanu around the Camooweal area and then in the hills surrounding Mount Isa it is the traditional land of the Kalkadoon people.

In the immediate vicinity of Tennant Creek, European contact began in the mid-19th century with the passage of Stuart from the south, the subsequent establishment of the Overseas Telegraph Line and Station at Tennant Creek. After the discovery of gold near Tennant Creek in the late 19th century and the subsequent development of a significant gold mining industry around the town in the 1920's, moves were made by government to reserve land in the area for the Warumungu Aboriginal people.

Also in the mid-19th century, William Landsborough sparked the movement of pastoralists into the area, after his reports of the area's potential, arising from his search for the ill-fated, Burke and Wills. Initially sheep were grazed at Avon Downs and then eventually cattle were farmed over the whole area as it is today.

In the 1920's after Miles found mineralised rocks on the banks of the Leichhardt River Mount Isa was founded to support the mining industry which still exists today.

Significant areas of traditional Aboriginal country were granted as pastoral leases and were stocked from the 1880's onwards. The pastoral industry was largely incompatible with Aboriginal hunting and

gathering practices and so many people were forced to settle on the pastoral stations or on reserved land near the towns. Many men worked as stockmen, drovers, butchers and gardeners while women carried out domestic work in the station houses. Payment was generally in rations only and conditions were generally very poor (Anyinginyi, 2015).

Commencing in the mid 1960's after the Pastoral Award was enacted and into the 1970's when it began to be implemented, requiring Aboriginal people to be paid equal wages for work on pastoral stations, many Aboriginal people were forced off the stations and into the regional towns.

This period coincided with the Australian Government's Self-Determination policy and in the NT specifically, the enactment of the *Aboriginal Land Rights Act* and later the *Sacred Sites Act*.

So from a European settlement history the Aboriginal people in the project area were subject to the significant impacts of the pastoral industry throughout all of the grassy plains and flatlands and the impacts of the mining industry in the mineralised hilly country, bookended at Tennant Creek and Mount Isa.

5.3.3. ABORIGINAL SOCIETY IN THE REGION TODAY

Consideration of all of the above begins to help paint a picture of Aboriginal society today. Throughout the project area the Aboriginal people and their forebears have gone through significant dispossession of land and culture and the denial of human and civil rights.

Despite the significant social, cultural and economic impact that Aboriginal people have faced in the region over the past 150 years and that are reflected in the social and economic indicators described above, the desire to maintain traditional Aboriginal cultures remains very strong.

Traditional cultural practice is still conducted and Aboriginal languages are still spoken in the region, often as a first language. Many Aboriginal people living in the project area are very involved with the preservation, maintenance and teaching of traditional cultural practice, while at the same time aspiring to participate in the local and regional and in some cases the national and international economy.

In the Barkly region many Aboriginal people speak several different languages with English frequently being a third, or even fourth language. More than half of the Aboriginal population over 15 years speaks a language other than English at home (ABS National Regional Profile 2006).

According to the Papulu Aparr-kari language centre in Tennant Creek, the Aboriginal languages in the Barkly region include Warumungu, Warlpiri, Alyawarr, Kayetye, Warlamanpa, Wakaya, Mudburra, Wambaya, Jingili, Kudanji, Ngarrnga, Binbinga, Garrawa, Yanuwa, Waanyi and Mara (Papulu Aparr-kari, 2016).

This reflects a complex cultural and linguistic landscape across the Barkly. Aboriginal traditional cultural practice remains very strong in this region with cultural and linguistic maintenance and intergenerational cultural dissemination being an important priority for the Aboriginal community.

Economically, Tennant Creek is the regional hub for the Barkly. Again, while significant social and economic disadvantage is prevalent in Tennant Creek and the Barkly region, strong economic capability exists. For example, several Aboriginal organisations together with Aboriginal and non-Aboriginal businesses service Aboriginal communities in the region including housing maintenance and other community infrastructure. Aboriginal organisations also provide training, employment, environmental and catering services along with civil and logistics and media services. New

partnerships are also emerging between Aboriginal and non-Aboriginal business who will no doubt vie for work on the project but are also being established to participate in the broader local and regional economy into the long term.

Confirmation of this economic aspiration and participation can be found in some Aboriginal groups in the vicinity of the project running highly successful businesses and undertaking large scale contracts in a number of sectors valued at several millions of dollars. New joint venture arrangements are also emerging between some Aboriginal communities and existing businesses and numerous small Aboriginal businesses are operating in the vicinity of the project.

In the Camooweal and surrounding areas the Indjalandji-Dhidhanu people and in the broader Mount Isa region, the traditional lands of the Kalkadoon people, since the late 19th century Aboriginal people have predominately worked in the pastoral and mining industries in these regions however these groups are now diversifying into multiple sectors and fast growing their participation in the local and regional economy.

For example the Indjalandji-Dhidhanu people have undertaken large scale contracts in highway construction, maintenance and associated infrastructure such as bridge construction. They also run a highly successful education and training centre near Camooweal and operate a large employment service out of Mount Isa.

Indjalandji-Dhidhanu are also working to commercialise the production of nanocellulose found in spinifex grass that can be used as an additive to strengthen latex. This has the potential to revolutionise the production and application of latex products bringing significant economic stimulus to the Barkly and Mount Isa regions through the cultivation and processing of spinifex grass.

6. PRELIMINARY IMPACT ASSESSMENT

The preliminary social and economic impact assessment that will underpin the SIA consultations, ESIA and subsequent ESIMP are set out below.

6.1. PROJECT COMMUNICATIONS

Many of the risks in both the planning and construction phases relate to communications about the project by Jemena and its construction contractor, McConnell Dowell.

In particular, during the Planning Phase, individual concern and anxiety may arise in the community from uncertainties about the project and a lack of available information, including about opportunities for economic benefits, the impacts on the environment, broader concern about the onshore gas industry and in particular hydraulic fracturing (fracking) of sub-surface gas reservoirs.

Some of these risks can be addressed by good and constructive communication.

Jemena's primary method of ensuring such communication should be through the establishment of Community Reference Groups (CRG) at both Tennant Creek and Mount Isa and should include representatives from the relevant stakeholder organisations in those towns.

It is through these CRGs that a two way flow of information and advice can occur and so should allow for early warning that management and mitigation measures are not achieving the outcomes and benefits desired. The CRGs should meet on a monthly basis throughout the construction phase and for the first three months after commencement of operations.

In addition Jemena should established a free-call number for complaints to be registered and inquiries to be made. Any complaints logged should be directly referred to the responsible person and also logged in internal monthly project reporting to senior management.

Complaints that are lodged and plans for their resolution should be referred back through the CRGs for discussion and advice to be provided. Importantly, the original complainant should be kept informed about what is being done to progress resolution of the concerns that they have raised.

In addition to the above Jemena should provide communications at relevant points of gathering, e.g. roadhouses, for the provision of information to tourists and other travellers.

6.2. RISKS

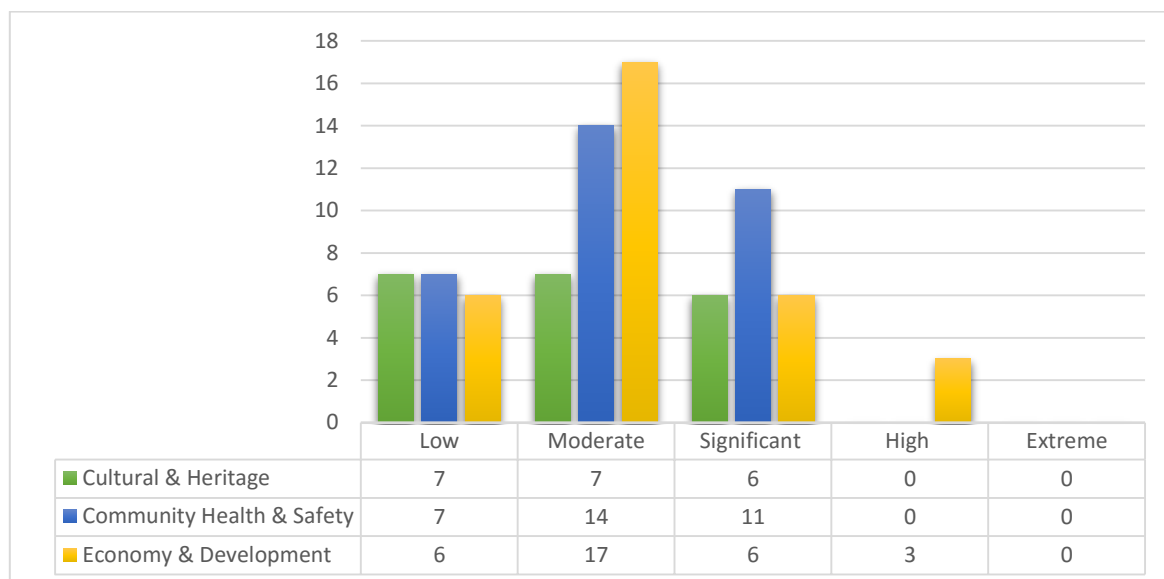


Chart 10: Identified risks before mitigation

There were a total of 84 social and economic risks (including Cultural and Heritage risks) associated with the project, three of these had a High level of inherent risk, i.e. before mitigation. These all related to the potential impact on the Tennant Creek economy and the impacts of the approach to the accommodation of the PCCS workforce. In addition there were a number of risks with a significant inherent risk level, most often associated with social health and well-being impacts associated with workforce management, the risks associated with local people and businesses missing out on economic opportunities with the project and diseconomies.

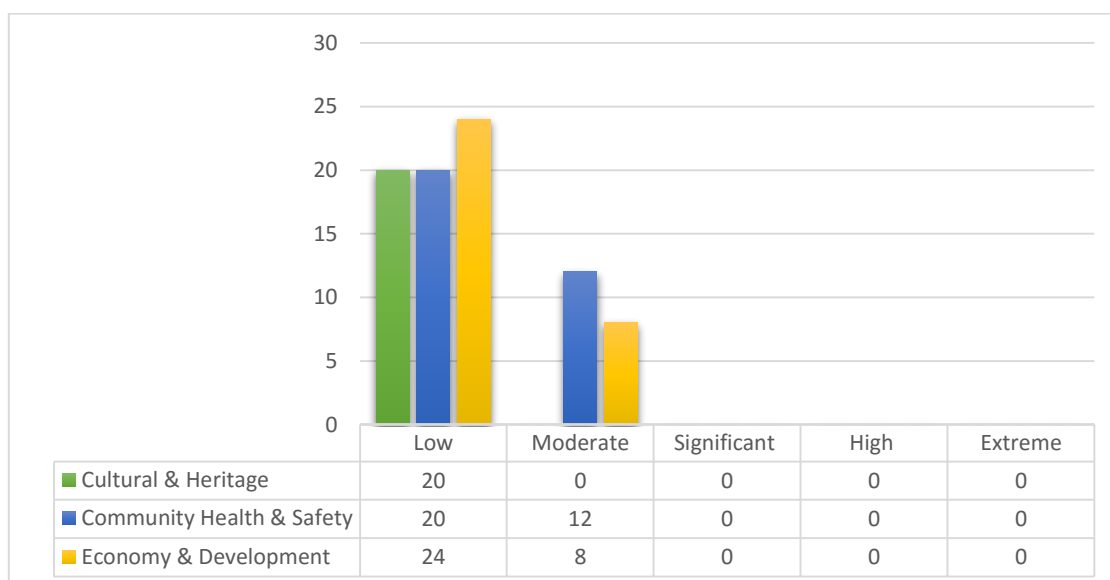


Chart 11: Residual risk after mitigation

Land Agreements

These include the risk that inter and intra family conflict could occur in Aboriginal communities through concerns about the way that land negotiations are being conducted and who with, the way that benefits from land agreements are to be distributed and over people missing out on employment or business opportunities with the project.

In managing these risks, the land negotiations should be undertaken through well established, processes with Land Councils, Native Title Representative Bodies and Prescribed Body Corporates and other relevant Aboriginal Corporations. Similarly, the distribution of direct monetary benefits should be managed by these organisations in accordance with their established practices.

In relation to employment and business opportunities Jemena should continue its business community briefings and to implement its Regional Recruitment strategy (see further below) to ensure that the community is fully apprised of Jemena's approach to employment and contracting.

Community Concerns about the NT Onshore Gas Industry

During the planning and approvals phase a risk that was identified relating to the potential for local community concern, anxiety and division, i.e. a negative impact on local social cohesion, resulting from broader community concerns and division over the onshore gas industry in the NT, about the environmental impact of hydraulic fracturing (fracking) of exploration and production wells.

The issue is a current and controversial Territory wide public affair at present and is subject to intense political debate regarding propositions a moratorium on fracking and further research on the one hand versus, the existing research and regulatory regime on the other. Pro moratorium special interest groups, such as the Central Australian Frack Free Alliance, are seeking a complete ban on fracking and have engaged with Traditional Aboriginal Owners and other Aboriginal people at the local level in opposition to the Project.

In managing the risk Jemena should continue to engage with the broader Tennant Creek community and directly with Traditional Owner groups and other Aboriginal people through direct briefings and meetings about the project to explain the nature of the project. These communications should also occur through the proposed CRG.

Jemena should also engage directly with the special interest groups concerned to understand and respond to their concerns as much as is reasonably practicable.

Increased Incomes

Other risks that have been identified include situations arising from greater levels of incomes circulating in the community cause people employed on the project who are not used to managing money, to engage in increased levels of alcohol and drug consumption that leads to increases in anti-social behaviours, crimes against people and consequent negative interactions with the criminal justice system, greater pressure on health and other community services.

An associated risk is that people from remote communities who are employed on the project gravitate to centres such as Mount Isa and Tennant Creek during rostered work breaks to spend their income, engage in the behaviours mentioned above and end up not returning either to home or to work. In addition to the consequences mentioned above, increased abandonment of employment is likely to occur.

It is noted that this is a significant issue that already exists in the towns and occurs frequently, particularly when there are large community events such as the Tennant Creek and Mount Isa annual

shows, the annual Rodeo Circuits and other events. Consequently, Jemena's ability to influence community behaviour around these events will be limited.

In approaching these risks Jemena should incorporate appropriate modules in its Project Ready Training Programs (PRTTP) (see further below), provide support in the work place and to coordinate with the human service agencies in both Tennant Creek and Mount Isa to develop strategies to address worker behaviour on rostered breaks.

Community Participation

It is possible that people employed on the project are unable to maintain their active participation in local community and volunteering, e.g. at sporting and community events and that this results in a decrease in social amenity and cohesion. While the possible impact of this risk in terms of the length of time that the impact would occur is relatively short given the project time frames, i.e. less than < 2 years. Jemena should seek to address this through consultation with local community organisations to determine whether strategies can be put in place for mitigation.

Traffic and Transport

Through the transport of pipe, equipment, goods and people there is a risk that there will be increased traffic incidents in Tennant Creek and on the Stuart and Barkly Highways, the consequence of which would likely be increases in road trauma. This includes the risk of allowing workers to use private vehicles to travel to and from the project site locations. While Jemena should seek to minimise this through providing transport to and from the project locations it cannot be avoided completely and so should be monitored throughout the project.

This risk should be managed through the implementation of a project Traffic Management Plan (TMP) and also through communications at roadhouses and other relevant points.

Illegal Activities and Unauthorised Access to Project Facilities

The main pipe lay down yard will be established near Tennant Creek and as a result may attract people seeking to undertake illegal activities such as vandalism and theft. An associated risk is that people who engage in petrol sniffing will seek to obtain petrol from this site and other project locations.

Jemena should establish a project Security Plan in consultation with local police to include the secure storage and monitoring of petrol and other aromatic fuels on the project.

There is a moderate risk that the public inadvertently enter the project area into hazardous areas that results in incidents that cause injuries or property damage. Jemena's TMP and a Security Plan should be designed to ensure that this does not occur.

During the operations phase there is a risk that people might use the easement and any temporary and permanent access tracks for improper access. The reasons that people might seek to use the easement for unauthorised access are varied and include personal reasons, hunting, discreet travel, illegal activities etc., which could cause a range of negative impacts on existing land users.

The controls that Jemena might implement to mitigate this risk to a low level could include: not leaving an access track along the easement except in agreement with landowners, not putting signage on permanent access tracks, progressively rehabilitating temporary access tracks and ensuring ongoing communication with landowners. In essence this would result in limiting physical access and involve being a part of the local rural watch.

Impact on Medical and Emergency Services

Risks in this area include an increased demand on existing community services such as GP services, hospital and emergency services which if subject to significant demand from the project, may result in a reduction of the availability of these services for the Tennant Creek community. Similarly, if the project causes an increased demand on other emergency services, e.g. fire and rescue, police services then this would have the same effect.

Jemena should manage the medical services risk initially through its pre-employment fitness for duty assessments, the provision of appropriate first aid facilities and support at the PCCS camp, its project health & safety management systems and will also establish medical support protocols with the relevant agencies in Tennant Creek where required. Similarly, Jemena should work with the NT PFES to ensure alignment of its NGP Emergency Response Plan (ERP) and external response arrangements.

Workforce Accommodation Management in Tennant Creek

Jemena has determined that it will establish a construction camp at the PCCS to cater for the majority of PCCS construction workers. Workers that will be accommodated in Tennant Creek will be those working at the pipe laydown yard and in management and administration.

The establishment of the PCCS construction camp should significantly reduce the risks that would have arisen had Jemena chosen to accommodate in excess of 200 people in either a workers' camp in Tennant Creek or in existing commercial accommodation. These risks included a significantly changed demographic profile impacting negatively on social amenity and cohesion and the potential for anti-social behaviour of a large workforce in the town. These risks could see increased incidence alcohol and drug use, of formal and informal sexual interaction and the attendant consequences, including increases in STIs and other health impacts, crimes against people and property.

An associated risk with the establishment of a workers camp in Tennant Creek would be an increased pressure on municipal services such as sewerage systems, waste management, power and water supply. The establishment of the PCCS facility removes this risk.

Workforce Accommodation Management in Mount Isa

The number of workers associated with the construction of the Mount Isa Compressor Station (MICS) is significantly less than that at Tennant Creek. Consequently, the workforce accommodation demand will be easily absorbed by the existing commercial accommodation.

The remnant risks for workforce management at Mount Isa relate to workforce behaviours and should be managed through the implementation of behavioural codes of conduct for workers consistent with Jemena's project health & safety management systems.

Visual Amenity

Visual amenity is a measure of the visual quality of a site or area experienced by residents, workers or visitors (sensitive receptors).

The land the NGP traverses is sparsely populated and used mainly for beef production and Aboriginal traditional land use. It is remote from residences and other sensitive receptors.

Areas of significance, for example national parks, sites of conservation significance, Aboriginal sacred sites and heritage places, are also considered sensitive receptors for the purpose of assessing visual impacts. There are no national parks or sites of conservation significance located within 20 km of the

Project footprint, Aboriginal Sacred Site custodians have not raised any concerns about the Project potentially impacting on the visual amenity of sacred sites. There are a number of declared heritage places within 20 km of the Project footprint, some of which would receive regular visitation. Given the large separation between the Project activities and areas of declared heritage areas (e.g. the closest being the Tennant Creek Telegraph Station which is 5 km from the route) it is not expected that Project activities will be visible from these sites.

The pipeline crosses some major roads and highways (e.g. Warrego Road, Stuart Highway and Diamantina Developmental Road) and the Adelaide to Darwin railway line. The pipeline also crosses a number of minor unsealed access routes to remote homesteads and communities. These crossing points are the main publicly accessible areas from which Project activities will be visible.

The pipeline route is located south of the Barkly Highway and during construction may be visible from the highway around Threeways and for approximately 20 km to the east. During operation, signs and markers may be visible. After this point the pipeline route is located further away from the highway and therefore activities are not expected to be visible, except for some signage and traffic controls around access tracks.

The main visual impact during the construction phase will be associated with vegetation clearing and earthworks, visibility of people, vehicles, plant and equipment, vehicle movements and stockpiles. Activities will be visible from the road, rail and track crossings, and for a short distance along the Barkly Highway. As the activities will be occurring in a remote area with limited other activity and development, there will be some impact on visual amenity for the occupants of vehicles moving through the areas. This impact is expected to be minor given the short distances over which the works will be visible i.e. people's exposure will be limited. Furthermore, the short duration of the construction phase (<12 months) and progressive reinstatement of the construction ROW will ensure there are minimal long-term impacts. Mitigation measures will focus on communicating with the local community, for example through the Tennant Creek CRG, Project newsletters, etc.

During the operations phase, visual amenity impacts will be limited to the areas around the compressor stations and above-ground facilities. The buried pipeline will not be visible and the ground will be reinstated and allowed to revegetate. However, it is expected the ROW will still be visible due to signage and the absence of larger trees compared to surrounding areas.

Above-ground infrastructure will be visible for the life of the Project. The MLV and CP sites are located within small fenced compounds which will be visible from access tracks; these tracks generally have little to no public access. Therefore, visual amenity impacts will be limited to a small number of people who use the same tracks to access homesteads or communities.

The PCCS is the main facility (in the Northern Territory) which will be visible from publicly accessible areas. The facility is located on Warrego Road, adjacent to an existing gas compressor station and the AGP. The infrastructure at PCCS will be of varying heights, with the height of the flare stack expected to be up to 40 m. The facility will be visible from the Warrego Road, which receives some local traffic, and the pilot flare is expected to be visible over larger distances at night. The facility infrastructure is not expected to be visible from the Stuart Highway, which is located approximately 39 km to the east of site or the Munglawurru Family Outstation which is located approximately 28 north-west of site.

6.2.1. ECONOMY & DEVELOPMENT

One of the primary risks that was identified and sought to be addressed in the EIS ToR was the potential for the project not to realise the social and economic benefits that were originally envisaged. Inherent in that overall risk are a variety of risks associated with economy and development, which are discussed below.

Procurement and Contracting

It was identified early in Jemena's considerations that local businesses may miss out on contract opportunities through either a lack of information about the opportunities available, or a lack of capacity to competitively tender for works. Also, without information about the project and the opportunities available it was thought that some businesses may over invest in expectation of winning contracts on the project but are then unsuccessful.

There is also a risk that people may embark on new business ventures based on project contracts won and then see this businesses fail early as many small businesses do, particularly once any project contracts have been completed.

In addressing these risks Jemena should continue its business community engagement and briefings, and continue this activity through the ICN network, Jemena's own networks and the CRG referred to in section 6.1 above.

In addressing lack of capacity, Jemena's establishment of its SME Business Investment Fund, which allocates up to \$500,000 for this purpose, should assist in mitigating this risk. In addition, Jemena should communicate to any new start-ups that are awarded contracts about the risk of early business failure and the importance of adopting strategies to manage this in their business plans.

In continuing to implement its approach Jemena should ensure that all first and second tier contractors have local content requirements included in their contracts. This should ensure that first and second tier contractors do not fail to maximise the use of local goods and services from the regions and so local businesses do not miss out on opportunities as a result.

Employment

In a similar vein to contracting opportunities it was identified that there were risks associated with local and Aboriginal people missing out on employment opportunities with the project. The baseline mitigation for this risk should be to ensure that all first and second tier contractors have local content requirements included in their contracts. This should ensure that first and second tier contractors do not fail to maximise the use of local and Aboriginal labour from the regions and so local and Aboriginal people do not miss out on opportunities as a result.

In addition to this, in the implementation of its Regional Employment Plan, the Jemena initiatives to support the successful employment of local and Aboriginal people, including the establishment of its NGP Jobs Portal, the PRTP, the Tennant Creek Social Enterprise Opportunity and the proposed Gas Operator Training Programs (see further below), should effectively mitigate these risks.

Inflationary Pressures, Reduction in Community Supply

Discussions with stakeholders so far has revealed a concern that inflationary pressures might occur that would result in increased prices and economic hardship for locals not involved in the Project. Similarly, that the project demand might result in a reduced level of goods and services to support

existing community requirements.

Through the proposed CRGs Jemena should communicate understanding of project demand impact in order to lessen the possibility of false demand signals and unnecessary price increases and so that local suppliers can appropriately manage inventory levels.

An associated risk is that the project fly in, fly out workforce component might take up available spaces on regional flights resulting in the displacement of other travellers, e.g. tourists, government service workers and other industry workers, i.e. particularly in Tennant Creek. Jemena should obviate this risk to the extent reasonably practicable by ensuring that the bulk of workers are flown in and out on chartered aircraft.

Labour Displacement and Local Wage Pressures

A very typical risk that arises with projects being implemented near small populations is that local government, the pastoral industry, the tourism and hospitality industry, businesses and community organisations lose workers to the Project. A related risk is that there might be increased costs to the above sectors through a need to pay increased wages and conditions to existing staff in order to retain them.

Jemena should seek to mitigate this risk through the transparent implementation of its Regional Employment Plan, including selection processes for its P RTP and transparent communication of employment recruitment processes by contractors through the NGP Jobs online portal. Local government, businesses, pastoral industry and community organisations should also be briefed regarding the timing and extent of Project labour demand.

Mount Isa Labour Market vs Tennant Creek Labour Market

The socio-economic indicators, particularly in relation to the labour market indicate that the Mount Isa labour market, due to its size and depth, will over shadow the Tennant Creek labour market. The possible result of this is that there could be limited employment outcomes for people from the Barkly, particularly from Tennant Creek and Alpururulam.

Jemena should address this risk through the implementation of its Regional Employment Plan, including:

- the Project Ready Training Program;
- the NGP Jobs Portal; and
- the Tennant Creek Social Enterprise opportunity.

The PRTG should be run in both the east and the west and Jemena should seek to ensure that people from Alpururulam are engaged in the eastern program and that people from Tennant Creek and surrounds are engaged in the western program.

In addition, the contractual provisions for subcontractors should require the maximisation of the use of labour from both the Barkly and Mount Isa, to ensure that that all suppliers, including those from Mount Isa, be required to demonstrate how they intend to achieve this.

The NGP Jobs Portal should also be able to track the residential location of those individuals who nominate for employment and the local content contractual provisions should be able to track actual employment outcomes.

Workforce Accommodation Management in Tennant Creek

Jemena has determined that it will establish a construction camp at the PCCS to cater for the majority of PCCS construction workers. Workers that will be accommodated in Tennant Creek will be those working at the pipe laydown yard and in management and administration. This is likely to create an accommodation demand of between 30 and 65 beds continuously during the period April to December 2017, with a reduction after that to about 6 during the first half of 2018. The histogram below shows the predicted workforce accommodated at Tennant Creek and the proposed PCCS workers accommodation camp.

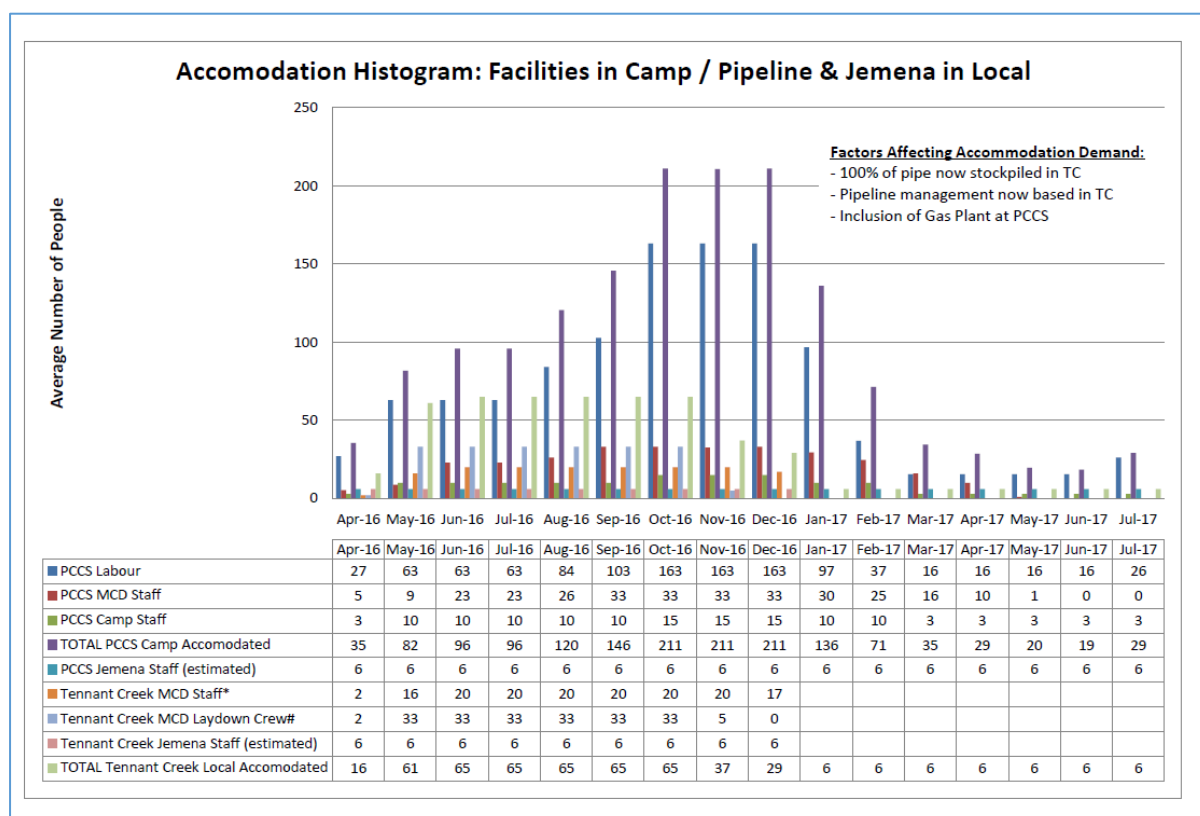


Chart 12: PCCS Accommodation demand histogram (source: McConnell Dowell)

Jemena has adopted this approach to strike the right balance between ensuring commercial benefits to the Tennant Creek local economy while also ensuring that any negative social impact on the health and safety of the community is avoided.

In adopting this approach Jemena should be able to positively manage the following economic risks:

- The risk of existing commercial accommodation providers missing out completely in the event that Jemena established and operated its own workers camp in Tennant Creek or had all of the workers staying at the PCCS Construction Camp.
- The risk of the project significantly affecting the local economy through the displacement of other accommodation demand, resulting in a negative impact on other industries and services in the town, e.g. tourism, government services, other industry, particularly at time of significant annual events that bring revenue to the town, e.g. the Tennant Creek Annual Show.

- The risk of the project causing a spike in demand for local utilities occurs outside of existing capacity resulting in requirement for short term utilities infrastructure investment, in the event that Jemena established and operated its own workers camp in Tennant Creek.
- The risk of the project causing unnecessary increases in the price and availability of private accommodation and increases in the cost of living in Tennant Creek in the situation where workers seek private accommodation in Tennant Creek.

Workforce Accommodation Management in Mount Isa

The number of workers associated with the construction of the Mount Isa Compressor Station (MICS) is significantly less than that at Tennant Creek. Consequently, the workforce accommodation demand should be easily absorbed by the existing commercial accommodation.

In adopting this approach Jemena should be able to positively manage the following economic risks:

- The risk of existing commercial accommodation providers missing out completely in the event that Jemena established and operated its own workers camp in Mount Isa.
- The risk that accommodation demand from the Project displaces other accommodation demand and results in a negative impact on other industries and services in the town, e.g. tourism, government services, other industry.

Agricultural Productivity and Existing Land Use

In discussions with the pastoral industry Jemena identified that there was a potential risk to agricultural productivity, through the costs associated with pasture reduction from weed spread and the associated cost of remediation.

An associated risk identified was the potential for interruptions / disruptions to mustering and other station activities during construction activities, e.g. use of station roads, pipeline installation etc.

Jemena should seek to mitigate these risks through its Weed Management Plan and through close liaison regarding station operational activities in the agreements that it makes with individual pastoral station owners.

A further potential risk identified was that in times of dry conditions there might be limited water available for project construction and that the project water demand might drain existing sources causes water shortages for existing land users.

In managing this risk Jemena should consider undertaking a water demand and supply study to ensure that the project demand does not allow this risk to occur.

Gas Supply to Remote Communities

Often when high pressure gas pipelines are proposed to be installed in proximity to remote communities there is an expectation that is created which gives the impression that gas could be supplied to small remote communities for either power generation or for domestic use. The practical and economic feasibility of gas supply to such communities is not often considered, particularly the cost providing the associated infrastructure required, e.g. the pressure reduction equipment required, the pipeline from the mainline and in the case of domestic use, the processing required to treat (e.g.

mercaptan treatment) and distribute domestic household gas.

People rightly see the advantages and convenience of having “town gas” reticulated in their communities given the cost and inconvenience of managing bottled LPG, but often fail to understand the costs associated.

In the NT, the responsibility for the provision of power to remote communities rests with the NT Power and Water Corporation (PWC) and so in any event, it would be a capital investment decision to be made by PWC.

Jemena should seek to address this perception, after consultation with PWC, during the introduction to the SIA consultations.

From the information above, it is important to note that the majority of moderate and above residual risks that will occur, even after mitigation measures are put in place may still occur during the construction phase of the project. The planning phase revealed no moderate and above residual risks, and the operational phase assessment showed significantly less risk than the construction phase.

This indicates that Jemena will need to implement an impact management plan that is consistent with these findings to manage risk.

The full initial Risk Register is included in Appendix B.

6.3. OPPORTUNITIES

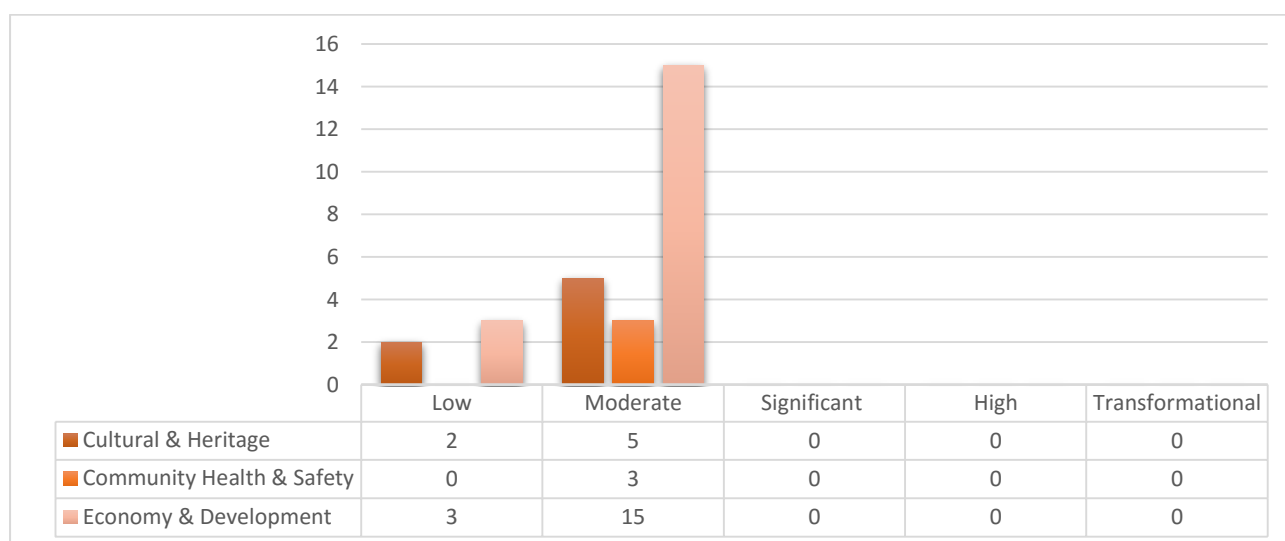


Chart 13: Opportunities before proposed enhancement measures

Similar to the risk assessment, the assessment of social and economic opportunity arising from the NGP Project was based on a standard risk assessment framework but in this case measures the Likelihood (of achievement of the opportunity within existing community capacity) vs Consequence (the extent of community benefit arising from the opportunity) which can then provide a measure of the level of positive Social and Economic Impact to the community as a whole.

The opportunities identified and analysed should provide a guide to Jemena as to how the opportunities should be managed within the context of the NGP project. It also gives guidance as to where management focus should be applied and where social investment should be maximised.

Opportunity assessment, enhancement and social investment

The relationship between the assessment of an opportunity, the level of opportunity enhancement applied and the level of social investment that a project proponent should contemplate is situational.

That is, while there is no direct correlation between the nexus of community capacity to respond to an opportunity and the breadth and depth of community benefit, the resulting assessment can give guide to a project proponent as to what they wish to do to enhance opportunities, e.g. through local (and social) employment and procurement initiatives and also how much they wish to invest to realise a higher level of community benefit, given the nature of the project in question.

For example, if a community can almost certainly capture the opportunities on offer within its existing capacity but there are no or few opportunities made available then the outcomes will be low. If, on the other hand if the community is highly unlikely to capture the opportunities on offer but the project proponent elects to put in place robust local employment and procurement initiatives, and a significant level of social investment, then the outcomes may well be high, or even transformational for a community.

The consideration of the above needs to take into account the nature of the project and the practicality of what can be achieved

The opportunities identified are set out in Appendix C, including a suite of enhancement measures, are capacity building initiatives that Jemena has developed.

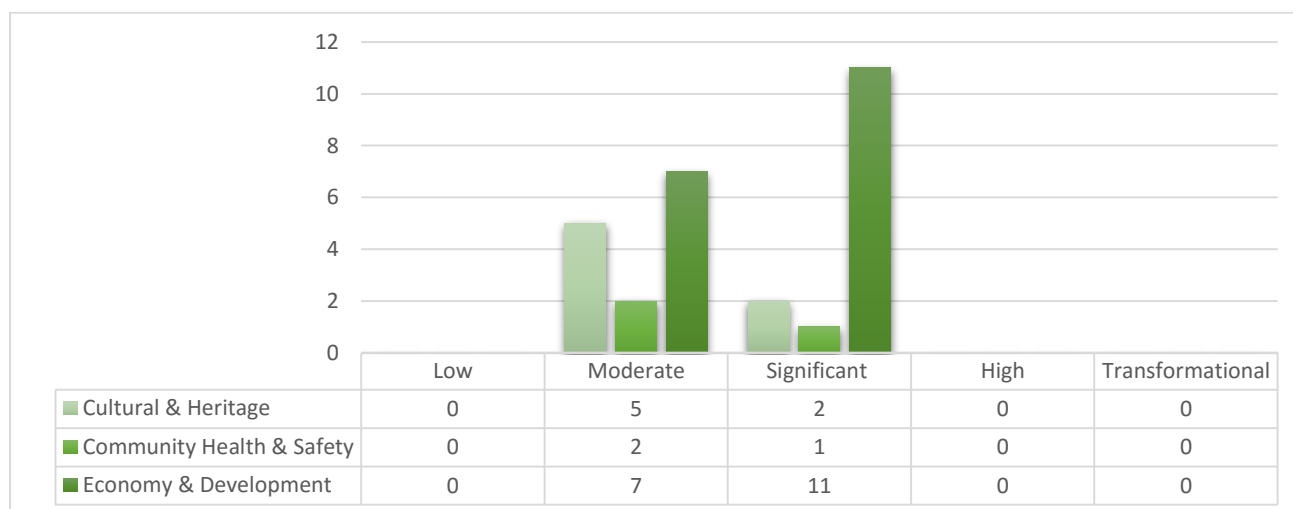


Chart 14: Opportunities after proposed enhancement measures

Jemena's total direct investment in Capacity Building Programs during the Planning, Construction and Commissioning Phases is expected to be approximately \$2,300,000. In implementing these capacity building programs, Jemena will seek to partner and collaborate with other organisations working to further the social and economic development of the region, including relevant Territory, Queensland and Commonwealth Government agencies.

These are set out in the framework Social and Economic Impact Management Plan (ESIMP) in the following section.

6.4. ECONOMIC & SOCIAL CAPACITY BUILDING INITIATIVES

The framework Economic and Social Impact Management Plan (ESIMP) is set out in Appendix E.

Jemena has commenced implementation of the following capacity building initiatives that will be incorporated into the ESIMP.

6.4.1. EMPLOYMENT & TRAINING

Regional Employment Plan

There are employment and training opportunities throughout all phases of the project for local and Indigenous people from the Barkly and Mount Isa regions, the Territory more broadly and western Queensland.

The approach that Jemena has taken is to adopt a model that provides for employment and training opportunities at several levels.

Those people who would like to work on the project and who:

1. would be able to be employed directly from the existing labour market as they would be competitive based on their existing skill set;
2. who would not quite be able to be employed directly from the existing labour market as their skill set is lacking in one or more areas, but that with an intensive period of pre-employment training, i.e. through a PRTG (see further below), could be competitive employment candidates; and,
3. would be unlikely to be able to be employed directly from the existing labour market as they would not be competitive based on their existing skill set, as they face significant barriers to employment generally. They may be able to be employed in a less demanding environment such as the proposed Tennant Creek Social Enterprise Opportunity.

The employment and training model that caters for each of the above is shown as follows:

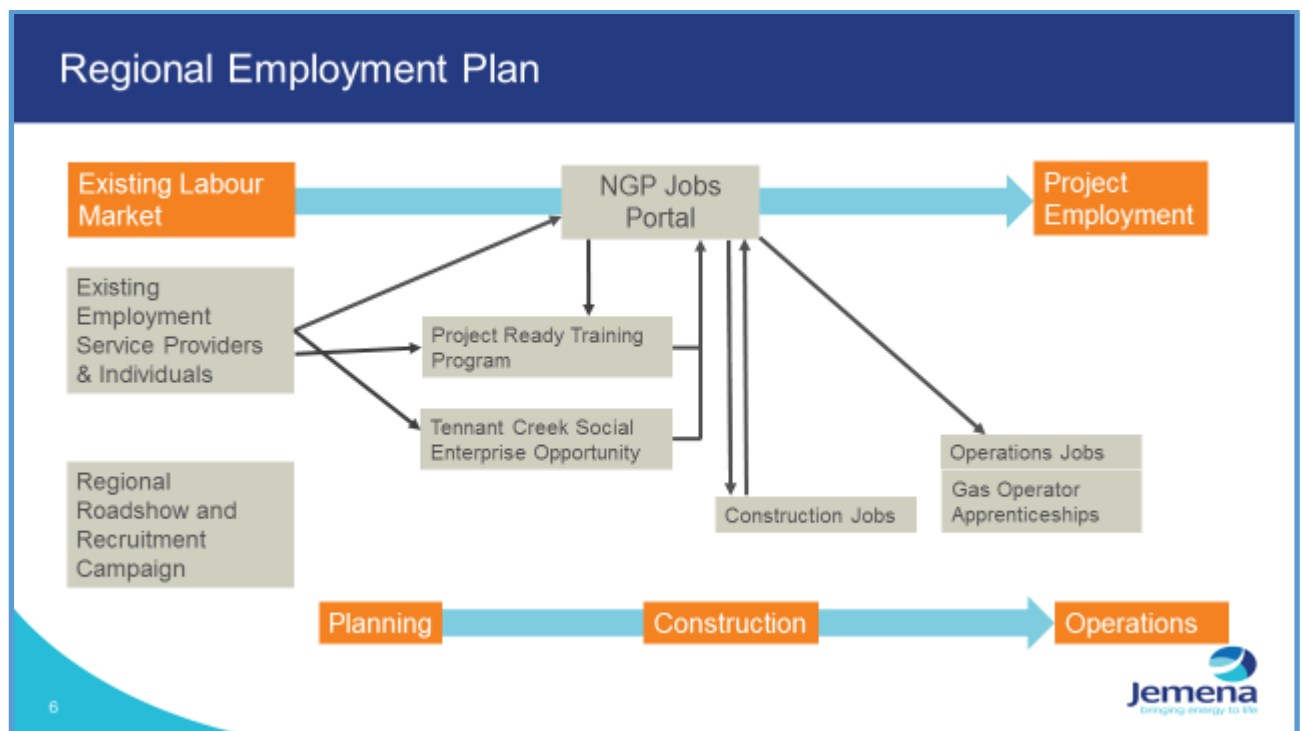


Figure 13: Jemena's Regional Employment Plan

The model above shows how each of the above levels of employment candidates can access

employment and / or training opportunities on the project.

1. Direct employment through existing service providers and through individuals registering on the NGP Jobs Portal is targeted to those would be competitive based on their existing skill set, both Aboriginal and non-Aboriginal from the Barkly and Mount Isa regions, the Territory more broadly and western Queensland.
2. Access to the PRTG is targeted toward local Aboriginal people from the Barkly and Mount Isa regions who would not quite be able to be employed directly from the existing labour market as their skill set is lacking in one or more areas, but could become competitive employment candidates.
3. The Tennant Creek Social Enterprise Opportunity is targeted specifically toward Aboriginal people in Tennant Creek who would be unlikely to be able to secure employment on the project as they face significant barriers to employment generally.

The following sections describe these initiatives in more detail as does the framework ESIMP.

Regional Recruitment Strategy

The primary mechanism for people from the Barkly and Mount Isa regions, the Territory more broadly and western Queensland to seek employment on the project will be the NGP Jobs Portal.

The NGP Jobs Portal will be the central place where people can register for employment on the project. It will be a web based portal that all vacancies for employment will be posted by Jemena, McConnell Dowell and other contractors.

The NGP Jobs portal will be established in the third quarter of 2016.

Communications about the NGP Jobs Portal will be place in Territory and regional newspapers in the third and fourth quarters of 2016 and included in information provided through the CRGs.

Also during the third and fourth quarters of 2016 Jemena and McConnell Dowell will hold briefing sessions in Tennant Creek and Mount Isa, in conjunction with relevant community organisations to explain to prospective employees what job opportunities will be available on the project and how to go about applying for them.

NGP Jobs Portal

The NGP Jobs Portal will be a web based portal that all vacancies for employment will be posted by Jemena, McConnell Dowell and other contractors.

The NGP Jobs Portal will bring together labour market supply and demand through the following functionalities.

Labour market supply:

- The registration of job seekers, information required will include contact details (including place of residence), skills, work experience, qualifications, licenses, resume (upload), Aboriginality and associated language group, referees and, if applicable the employment service provider representing the job seeker.
- Automatic notification from the NGP Jobs Portal to Jemena and NGP Project contractors of job seeker registration on the portal

Labour market demand:

- The posting of NGP Project employment vacancies on the NGP Jobs Portal by Jemena and project contractors.
- Automatic notification from the NGP Jobs Portal of employment vacancies to nominated employment service providers and labour hire companies in Tennant Creek, Mount Isa and the regions in which the NGP will be constructed and operate.
- Automatic notification from the NGP Jobs Portal of employment vacancies to job seekers registered on the portal and particularly to those job seekers with the skills and experience required for the advertised vacancy.

The NGP Jobs Portal will also interface with existing NGP Project employer online recruitment portals, e.g. McConnell Dowell pipeline jobs portal (www.mcconnelldowell.com) and will also provide links to external websites that can provide both job seekers and employers with information about employment subsidies, government support programs and other useful information.

Project Ready Training Program

The Project Ready Training Program (P RTP) is will be designed to prepare local and Aboriginal people living in the Barkly and Mount Isa regions who are strongly motivated to work on the project for unskilled and semi-skilled construction jobs, particularly those who are long term unemployed.

The P RTP contemplates the implementation of four P RTPs, each program catering for 15 trainees, so a total of 60 people across the two regions. The programs will be run in each region in the fourth quarter of 2016 and the first quarter of 2017.

The P RTP will proved the essential and desirable skills that graduates will be required to hold for consideration for employment and will include modules such as the Construction Industry White Card (CPCCOHS1001A) or Queensland equivalent (Blue Card), following WHS policies and procedures, basic first aid, workplace communications, literacy and numeracy, income management, drivers licences, using power tools and dogging and rigging skills.

In the second quarter of 2016 Jemena sought expressions of interest from the market for the provision of the P RTP.

Graduates from the P RTP will be automatically entered into the NGP Jobs Portal as highly recommended candidates.

Gas Operator Apprenticeships

In the second half of 2018 Jemena will select a group of the best local and Aboriginal employees that have worked on the project, who have performed well and have demonstrated the capability, aptitude and attitude, to be able to undertake the Jemena Gas Operator Apprenticeship Program.

The program will be undertaken in two phases:

Phase I

The group selected will undertake a Certificate II in Gas Operations which will occur over a 5-6 week period and will include a mix of classroom and field work, based on the availability of suitable practice areas. The program will also include a period at Jemena's gas learning and operations centre at Greystanes in Sydney or at another suitable facility. The program will include further vocational based

literacy and numeracy training and life skills coaching. Successful participants will receive a Certificate II in Gas Operations.

Phase II

Following Phase I Jemena will select two candidates for employment in the operations phase who will undertake a Certificate III in Gas Operations. Graduates from this phase will acquire the skills to operate and maintain a pipeline. While the operations requirements for the NGP will require few staff, those graduates from Phase I of the program will make very strong graduates for further training and employment opportunities in the industry.

Tennant Creek Social Enterprise Opportunity

During the initial development of its approach to local content Jemena proposed the establishment of a social enterprise in Tennant Creek that would see the production and supply of wooden pipe skids and sand or saw dust bags in Tennant Creek.

The purpose of the enterprise was to ensure that there were employment opportunities for people in Tennant Creek who would otherwise not likely be able to obtain work directly on the project. It is often the case that people face a variety of significant barriers to employment, e.g. through long term unemployment, cultural and family responsibilities and other social and health issues.

Post the competitive process and after further consultation with key stakeholders in the community Jemena determined that the establishment of a new entity in Tennant Creek would not be an optimal solution. This is because the Tennant Creek community has within its existing business and community capacity, the ability to provide the products required and at the same time achieve the original social outcomes intended.

The project construction contractor, McConnell Dowell has confirmed that there will be a requirement for 50,000 timber pipe skids and 80,000 sand or sawdust bags.

In the second quarter 2016 Jemena sought expressions of interest from the Tennant Creek business and broader community with the intention that once these are received then requests for tender will be issued and assessed in the third quarter 2016. Tenderers will be required to specifically demonstrate how they intend to achieve significant social outcomes for Tennant Creek Aboriginal people.

The contract for the manufacture and supply of the pipe skids and sand or sawdust bags in Tennant Creek is expected to be awarded in the third quarter of 2016. Supply will need to commence by 31 January 2017.

6.4.2. BUSINESS OPPORTUNITIES

There are business opportunities throughout all phases of the Project for local and Indigenous people from the Barkly and Mount Isa regions, the Territory more broadly and western Queensland. The ESIMP for the Project seeks to maximise these opportunities through a number of strategies and initiatives that are described below.

Local Content Implementation

Implementation of strategies and initiatives to maximise local business contracting opportunities from the Project commenced shortly after project award in late 2015.

Jemena and McConnell Dowell have incorporated local content contractual provisions in contracts (where applicable) to ensure that sub-contractors maximise opportunities for local business and people. These conditions include requirements for sub-contractors to implement and report on Local Content Plans which detail employment, sub-contracting and training commitments focusing on the Barkly and Mount Isa regions, and the Territory more broadly and western Queensland, including Indigenous business and employment opportunities.

Both Jemena and McConnell Dowell have engaged the Industry Capability Network to support local vendor screening, communicate tendering opportunities and other relevant Project information. This includes posting specific tender opportunities on the ICN Gateway system and providing information such as a summary of the scope of work, expectations for delivery, pre-qualification requirements and other relevant information. Jemena will also post selected opportunities to the Tenderlink system.

The dedicated Jemena ICN Gateway page is at:

- <https://gateway.icn.org.au/project/3680/northern-gas-pipeline-ngp-previously-negi>

The Jemena Tenderlink page is at:

- <https://www.tenderlink.com/jemena/>

The dedicated McConnell Dowell ICN Gateway page is at:

- <https://gateway.icn.org.au/project/3767/northern-gas-pipeline-construction>

Jemena is also actively pursuing opportunities to break work packages into smaller components to facilitate generating local content outcomes. Known as ‘package splitting’ this can result in separate scopes of work suitable for local suppliers being created from a larger ‘package’.

Through these initiatives and those described below and by engaging with key stakeholders Jemena is working to ensure that local business, particularly those in the Barkly and Mount Isa region can be competitive in tendering for work on the project and thus provide opportunities for businesses to expand or new businesses to develop through the working on the project.

To deliver the initiatives described above Jemena has appointed staff dedicated to implementing the ESIMP and has established a project office in Darwin to support stakeholder engagement and ESIMP implementation.

SME Business Growth Program

The SME Business Growth Program has been established specifically to support Small to Medium Enterprises (SMEs) to maximise potential opportunities from the Project.

The program consists of:

(1) SME Business Briefings

Since Jemena was awarded the project it has engaged over 400 businesses in Darwin, Katherine, Tennant Creek, Alice Springs and Mount Isa to communicate information about the project.

These briefings have provided opportunities for local businesses to engage with project personnel to better understand contracting and procurement timelines and processes, pre-qualification requirements as well as engage officers from the ICN, and State / Territory and Commonwealth Governments.

Further direct and indirect engagement with SME businesses in and around the project area will continue with the goal of supporting local business and employment outcomes.

Importantly, this ongoing engagement program will also facilitate communications to business people and the broader community in the event of forced or unpredicted project delays.

(2) SME Business Investment Fund

This initiative which has commenced operation is available to facilitate eligible SME's in accessing government business development programs relevant to their individual needs through Jemena providing co-contribution funding.

A MoU was signed with the NT Government in June 2016 for the NT funded business programs and arrangements and collaboration are in progress with the Commonwealth and Queensland Governments.

Through Jemena's co-contribution it is envisaged that this will support not only capability to competitively tender for work on the project but also longer term business capacity for local SMEs particularly in the Barkly and Mount Isa regions.

Jemena is working with key business and government stakeholders to implement this initiative.

Jemena is reporting regularly to the NTG on the implementation of these employment and business initiatives.

6.4.1. REMOTE COMMUNITY SOCIAL INVESTMENT PROGRAM

Social Investment Program

During the fourth quarter of 2016 and the first quarter of 2017 Jemena will develop a Remote Community Social Investment Program.

The program will be designed after the SIA consultations have been completed and the project approvals are in place and will be the subject of further consultations with the relevant community organisations. Opportunities exist for social investments to include appropriate forms of technology that would support a community's development on a broad basis, for example, the support of local clinics through telehealth technology, or local schools.

Jemena's Remote Community Social Investment Program will commence in the construction phase and continue throughout the operations phase.

Economic Development

During the fourth quarter of 2016 and the first quarter of 2017 Jemena intends to undertake a high level study on economic opportunities for remote communities, outside of the project.

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APPENDICES

Appendix A: ESIA Terms of Reference

Overview

Jemena Northern Gas Pipeline Pty Ltd (the Proponent) is a wholly owned subsidiary of SGSP (Australia) Assets Pty Ltd, an energy infrastructure company that builds, owns and operates a large portfolio of major gas, electricity and water assets across Australia.

The Proponent participated in the North East Gas Interconnector (NEGI) competitive bid process, which was proposed by the Northern Territory Government as a strategy to stimulate exploration and production of the Territory's gas fields, promote economic and infrastructure development in Northern Australia, and provide employment opportunities in regional and remote areas of Northern Australia. The NT EPA decided that the Project requires assessment under the Environmental Assessment NT (EA Act) at the level of an Environmental Impact Statement (EIS). The Jemena Northern Gas Pipeline (the Project) has been granted Major Project status.

This document sets out the preliminary Terms of Reference for the Economic and Social Impact Assessment (ESIA) of the Northern Gas Pipeline (NGP) Project. As a part of the NEGI Project Planning Phase Jemena will undertake an Economic and Social Impact Assessment (ESIA) for the purposes of:

1. Documenting the economic and social impacts of the project on the region
2. Mitigating negative economic and social impacts on the locality and the region arising from NEGI Project activities;
3. Encouraging the development of new business and the expansion of existing businesses in the locality and the region, and,
4. Fostering sustainable development and community wellbeing.

The ESIA will be used to support the approval for the NEGI Project under the *Environmental Assessment Act (NT)* (EA Act), the *Environmental Protection Act 1994 (Qld)* (EP Act) and the *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act). The ESIA and ESIMP will be prepared in accordance with the Northern Territory Environment Protection Authority (NTEPA) Guidelines for Economic and Social Impact Assessment (the Guidelines). The NT EPA has prepared Guidelines to assist in the preparation of EIS documents. The guidelines relating to the ESIA are the Guidelines for the Preparation of an Economic and Social Impact Assessment.

Economic and Social Impact Management

The EIS should include a balanced summary of the social and economic value (positive and negative) of the Project on a regional, state, national and international scale. The objective of ESIA within the EIS is to monitor and manage the intended and unintended social and economic consequences, both positive and negative, of the Project.

Assessment of Risks

The ESIA should:

- Document the economic and social impacts of the Project on the region and more broadly
- Assess the risks of the Project not realising its projected economic and social benefits

- Encourage development of new and/or expansion of existing businesses in the locality
- Foster sustainable development and community health and wellbeing
- Provide for appropriate contingencies to protect the community, local business owners and residents in the event of forced or unpredicted delays
- Discuss the risks of the Project, related infrastructure and associated workforce negatively impacting on identified economic and social issues in the region. Further information on the development of an ESIA is available in the NT EPA's Guidelines for the Preparation of an Economic and Social Impact Assessment

In terms of mitigation and monitoring, the EIS should include an Economic and Social Impact Management Plan that addresses any risks identified in the ESIA and should:

- Describe how the Proponent proposes to manage any identified economic, social, or relevant cultural risks
- Describe how potential local and regional business and employment opportunities related to the Project will be identified and managed
- Include a mechanism for monitoring and reporting any identified potential socio-economic and cultural impacts
- Include measures to mitigate negative economic and social impacts
- Provide outcome and assessment criteria that will give early warning that management and mitigation measures are not achieving the outcomes and benefits expected and identified
- Provide a stakeholder communications strategy including identification of, and ongoing consultation and negotiations with, all relevant stakeholders, ensuring the full range of community viewpoints are sought and included in the EIS. Proposed mitigation and monitoring measures must be incorporated in relevant sections of the EMP (Section 5).

The NT EPA recommends the use of processes for risk management that are formalised in Standards Australia / Standards New Zealand (e.g. AS/NZS ISO 31000:2009; HB 436:2004; HB 203:2006; HB 158:2010).

Economic and Social Impact Assessment

The ESIA should:

- Document the economic and social impacts of the Project on the region and more broadly, where relevant
- Assess the risks of the Project not realising its projected economic and social benefits
- Encourage development of new and/or expansion of existing businesses in the locality
- Foster sustainable development and community health and wellbeing
- Provide for appropriate contingencies to protect the community, local business owners and residents in the event of forced or unpredicted delays

- Discuss the risks of the Project, related infrastructure and associated workforce negatively impacting on identified economic and social issues in the region.

Economic and Social Impact Management Plan

With the benefit of the results of both the EIA and SIA analyses Jemena will prepare an Economic and Social Impact Management Plan (ESIMP) that will be implemented throughout the NEGI Project.

The Economic and Social Impact Management Plan (ESIMP) will establish the roles and responsibilities of Jemena, the NT and Queensland Governments, the Barkly Regional Council and the Mount Isa City Council, other stakeholders and the community in mitigating and managing economic and social impacts, and making the best of opportunities throughout the life of the NEGI Project.

A framework ESIMP will be lodged with the EIS. The framework will address the specific requirements of the EIS ToR section 5.8.3 and will include:

1. An overall summary of the ESIMP;
2. The stakeholder engagement that has occurred and that will continue throughout the life of the NEGI Project;
3. The partners in the ESIMP implementation;
4. The prioritisation of potential economic and social impacts predicted in the ESIA
5. The mitigation and management strategies for the identified risks including a register
6. Monitoring, reporting and review mechanisms;
7. Mechanisms to resolve issues, including grievance and complaints mechanisms; and,
8. The communications strategy for the ESIMP including reporting.

APPENDIX B: RISK REGISTER

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
PLANNING PHASE											
Culture & Heritage											
1	Early survey works.	Field access for non-ground disturbing works.	Unauthorised entry onto and / or damage to sacred sites that results in anxiety or distress to Traditional Owners / site custodians.	4	B	Significant	Sacred Site surveys undertaken by Land Councils and reports received setting out Restricted Work Areas and Exclusion Zones. Cultural heritage survey agreements in place with all other Aboriginal Parties, to identify Restricted Work Areas and Exclusion Zones.	Complete control of access and establishment of Restricted Work Areas and Exclusion Zones.	1	B	Low
2			Unauthorised entry onto Aboriginal land, causes breach of the Aboriginal Land Act (ALA) and offence to Traditional Owners.	4	B	Significant	Compliance with the ALA and issue of individual permits through the CLC permit system.	Complete control of access to Aboriginal land by CLC.	1	B	Low
3		Field access for low impact ground disturbing works.	Unauthorised entry onto and / or damage to sacred sites that results in anxiety or distress to Traditional Owners / site custodians.	4	B	Significant	No low impact ground disturbing works to be undertaken without Sacred Site clearance by Aboriginal Parties.	Complete control of access and establishment of Restricted Work Areas and Exclusion Zones.	1	B	Low
4			Damage to cultural heritage sites, places or objects in breach of the Heritage Act and that results in anxiety or distress to Traditional Owners.	3	B	Moderate	No low impact ground disturbing works to be undertaken without cultural heritage sites survey by archaeologist.	Low impact activities are undertaken in areas where no cultural heritage sites exist.	1	B	Low
5			Uninvited entry into Aboriginal living areas, e.g. family outstations and so causes anxiety and concern among residents.	3	A	Low	Identification of family outstations and inclusion of access restrictions in Project land access line list.	All early works personnel comply with land access rules.	1	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
Community Health & Safety											
6	Mobilisation of Planning Phase workforce.	Communications and level of available information about the Project.	Community and individual concern and anxiety arising from uncertainties about the Project.	4	B	Significant	Implementation of communications strategy and plan, including regular updates through a community reference group, established in 2016 and implemented throughout the Project Construction Phase.	Community understands how the Project will be implemented and feels assured of a channel of communication with Jemena.	2	B	Low
7	Land negotiations.	Concern among Aboriginal and other land interests about benefits being paid or perceived to have been paid.	Inter/intra family conflict and reduced community cohesion, consequent increases in interaction with the criminal justice system and health and other community services.	3	C	Significant	Land negotiations held through well established and proponent funded Land Council and Aboriginal representative body processes. Land negotiations with other landowners held through established and transparent, proponent funded processes.	Aboriginal and other landowners understand and accept the land negotiation processes as being fair and reasonable.	2	B	Low
8		Proponent does not negotiate land agreements in good faith, or avoids responsibilities under ALRA and NTA.	Traditional owners and native title holders are not able to exercise Free, Prior and Informed Consent and so are not appropriately protected or afforded appropriate compensation for land use.	1	B	Low	Land negotiations held through well established and proponent funded Land Council and Aboriginal representative body processes and in accordance with the ALRA and NTA.	Land agreements with Aboriginal interests successfully negotiated and registered through the relevant legislation with the support of Aboriginal Parties.	1	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
82	Land negotiations and community engagement and consultation.	Broader community and special interest group concerns regarding hydraulic fracturing (fracking) in the onshore gas industry cause concern, anxiety and division in the community (loss of social cohesion) about the enabling impact of the NGP for the onshore gas industry and consequent increase in fracking in NT sedimentary basins.	It is assumed that the risk is likely to occur given the broader debate in the NT regarding the onshore gas industry, recent activities in Tennant Creek by special interest groups and the political debate about the industry associated with the NT election. It is assumed that without mitigation that the consequence could be that there is serious stakeholder concern that is not easily manageable through good communication.	3	C	Significant	<p>In managing the risk Jemena will continue to engage with the broader Tennant Creek community and directly with Traditional Owner groups and other Aboriginal people through direct briefings and meetings about the project to explain the nature of the project, i.e. sources of foundation and future gas, that the NGP is a transporter of gas and not a producer.</p> <p>Also that approval decisions regarding any onshore gas projects would be made separately to any approval decisions about the NGP. These communications would also occur through the proposed CRG.</p> <p>Jemena will also engage directly with the special interest groups concerned to understand and respond to their concerns as much as is reasonably practicable.</p>	The expected effectiveness of the above communications program would result in a far greater understanding of the nature and purpose of the NGP and how it relates to the onshore (conventional and unconventional) gas industry. While community concern about the issue may not be completely addressed it would certainly be alleviated.	3	B	Moderate
Economy & Development											
9	Early survey works.	Field survey employment opportunities.	Local people miss out on employment opportunities.	3	B	Moderate	Proponent actively pursues local employment.	Local people are employed on field survey work.	1	A	Low
10	Project does not proceed.	Approvals not obtained or market changes cause proponent to withdraw from commitments.	<p>No economic development arising from the Project.</p> <p>Local businesses and individuals incur financial loss or loss in goodwill.</p>	2	B	Low	<p>Proponent uses best endeavours to obtain all approvals within the current market conditions.</p> <p>Keep local business and community regularly briefed on Project progress.</p>	Local stakeholders remain fully informed and make business and personal choices in accordance with the best information available to them.	1	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
11	Project is delayed.	Approvals delayed.	Local businesses and individuals incur financial loss or loss in goodwill.	3	C	Significant	Proponent uses best endeavours to obtain all approvals within the current market conditions. Keep local business and community regularly briefed on Project progress.	Local stakeholders remain fully informed and make business and personal choices in accordance with the best information available to them.	1	A	Low
CONSTRUCTION PHASE											
Culture & Heritage											
12	Mobilisation of construction workforce.	Increased traffic on remote roads.	Unauthorised entry onto and / or damage to sacred sites that results in anxiety or distress to Traditional Owners / site custodians.	3	D	High	Inclusion of access restrictions for workers in Project area in accordance with Sacred Site Authority Certificate.	Complete control of access and establishment of Restricted Work Areas and Exclusion Zones	1	B	Low
13			Uninvited entry into Aboriginal living areas, e.g. family outstations.	3	A	Low	Identification of family outstations and inclusion of access restrictions in Project land access line list.	Complete control of access and establishment of Restricted Work Areas and Exclusion Zones	1	A	Low
14	Clearance and disturbance activities along the alignment, access roads, camps and other areas.	Ground disturbance within approved areas.	Unauthorised entry onto and / or damage to sacred sites that results in anxiety or distress to Traditional Owners / site custodians.	3	C	Significant	All clearance activities undertaken in accordance with Authority Certificates from Aboriginal Areas Protection Authority (AAPA). Authority Certificate conditions incorporated into Project Construction Management Plans and incorporated into all subcontracts. Specific conditions set out in Project Cultural Heritage Management Plan (CHMP), including all clearance areas defined by line of site pegs prior to clearance activities. Traditional Owner participation in clear and grade team ahead of construction in Restricted Work Areas.	All clear and grade activities carried out in accordance with approvals and CHMP. Sacred sites avoided and protected.	1	B	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
15			Unauthorised entry onto Aboriginal Land.	2	B	Low	Agreement with the Central Land Council regarding the issue of Project permits to access the Warumungu and Wakaya Aboriginal Land Trust lands.	Project workforce access controlled.	1	B	Low
16			Damage to known cultural heritage sites, places or objects.	3	C	Significant	Implement Construction Phase CHMP including: - Incorporating site management conditions in Work Approvals under the Heritage Act. - Archaeological Heritage Field hands working alongside Traditional Owners during clear and grade in Restricted Work Areas. - Archaeological Field hands working during clear and grade in areas of high archaeological potential. - Marking out and fencing off of heritage site areas in close proximity to construction activities.	All known cultural heritage sites avoided or managed in accordance with relevant approvals. Control of all risk elements in CHMP through incorporation of controls in project management plans and contractual provisions.	1	B	Low
17			Discovery and disturbance of previously undiscovered cultural heritage sites, places or objects.	3	B	Moderate	Inclusion of procedures in CHMP for management of further site discovery during clear and grade activities.	Procedures for site mitigation approved under legislation and agreements with Aboriginal Parties.	1	B	Low
18			Skeletal remains discovery and disturbance.	2	B	Low	Monitoring of initial clearance of treed areas through Traditional Owner participation in clear and grade team ahead of construction. Inclusion of procedures in CHMP for skeletal remains discovery and management.	Procedures in place for the management of skeletal remains in accordance with legal requirements, approved under legislation and agreements with Aboriginal Parties.	1	B	Low
19	Transportation of personnel, machinery and materials during construction and installation of the pipeline.		Unauthorised entry onto sacred sites.	2	C	Moderate	Inclusion of access restrictions for workers in Project area in accordance with Sacred Site Authority Certificate implementation.	Complete control of access and establishment of Restricted Work Areas and Exclusion Zones.	1	B	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
20			Uninvited entry into Aboriginal living areas, e.g. family outstations.	3	A	Low	Identification of family outstations and inclusion of access restrictions in Project land access line list.	All construction personnel to comply with land access rules.	1	A	Low
21	Trenching activities and installation of the pipeline.		Discovery and disturbance of previously undiscovered cultural heritage sites, places or objects.	3	B	Moderate	Inclusion of procedures in CHMP for management of further site discovery during trenching activities.	Procedures for site mitigation approved under legislation and agreements with Aboriginal Parties.	1	B	Low
22			Skeletal remains discovery and disturbance.	2	B	Low	Inclusion of procedures in CHMP for skeletal remains discovery and management.	Procedures in place for the management of skeletal remains in accordance with legal requirements, approved under legislation and agreements with Aboriginal Parties.	1	B	Low
Community Health & Safety											
23	Land Agreement Implementation.	Distribution of Land Agreement benefits.	Inter/intra family conflict and reduced community cohesion, consequent increases in interaction with the criminal justice system and health and other community services.	4	B	Significant	Land agreement benefits are managed through well-established Land Council and Aboriginal representative body processes.	Land agreement beneficiaries understand and accept the land negotiation benefit distributions and processes as being fair and reasonable.	2	B	Low
24	Mobilisation of construction workforce.	Increased wages and benefits circulating in the community.	Members of the workforce unskilled in money management engage in increased alcohol and drug consumption, resulting in increased anti-social behaviours including inter / intra family violence causing consequent increases in negative interaction with the criminal justice system and health and other community services.	4	B	Significant	Money management and associated education of local workforce through Jemena's Project Ready Training Program and liaison with community support agencies.	Local workforce manages increased incomes in ways that avoid negative impact in the community.	3	B	Moderate

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
25			Remote community members working on the project gravitate to centres such as Tennant Creek and Mount Isa during rostered break and engage in increased alcohol and drug consumption, resulting in increased anti-social behaviours including inter / intra family violence causing consequent increases in negative interaction with the criminal justice system and health and other community services. Also, results in high incidence of employment abandonment.	4	B	Significant	Develop strategies in consultation with remote community workers and community organisations that support and coordinate workers during rostered breaks including town based support for workers returning to the project.	Remote community workers don't engage in significant alcohol and drug consumption on roster breaks and return to work on time.	3	B	Moderate
26		Recruitment in the local labour market.	Community conflict over perceptions of unfair employment processes results in reduced community cohesion, possible inter / intra family violence and conflict and consequent negative increases in interaction with the criminal justice system and health and other community services.	4	B	Significant	Transparent implementation of Jemena's Regional Employment Plan, including selection processes for the Project Ready Training Program and transparency communication of employment recruitment processes by contractors through the NGP Jobs online portal.	Local workforce fully understands the training and employment recruitment practices and accepts these as fair and reasonable.	2	B	Low
27		Local workforce employment.	Local people employed on the Project are unable to maintain active participation in local community (volunteering) and sporting organisations, results in reduced community amenity and cohesion.	3	B	Moderate	Jemena to discuss potential impacts with community organisations to assess level of impact and possible mitigation strategies, e.g. potential participation of workforce existing community events.	Strategies put in place to minimise any impacts that are accepted by the local community.	3	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
28	Transportation of personnel, machinery and materials during construction and installation of the pipeline.	Pipe transport from Tennant Creek railway siding, south of Tennant Creek to pipe laydown yard and transport to construction ROW.	Traffic incidents in Tennant Creek, on the Stuart Highway and the Barkly Highway results in increased road trauma, particularly in higher speed zones.	2	C	Moderate	Risk managed through the Project Traffic Management Plan including Project communications at key points, e.g. roadhouses in Tennant Creek and along the Barkly Highway.	No increase in traffic incidents as a result of the Project.	1	C	Moderate
29		Establishment and operations of pipe laydown yard at Tennant Creek.	Trespass into laydown yard with possible illegal activities, theft, vandalism or injury increasing interaction with the criminal justice system, health and other community services.	3	C	Significant	Security plan established for the pipe laydown yard in consultation with local police.	No or low level of incidences of security events and subsequent negative impacts.	2	B	Low
30		Storage and use of petrol in project locations.	People who engage in petrol sniffing seek to access project areas to gain access to petrol.	3	C	Significant	Any petrol used is to be stored in securely locked storage areas and specifically monitored through security plan.	Access to petrol not obtained.	1	B	Low
31		Increased industrial traffic (non-pipe haulage) on the Stuart and Barkly Highway.	Increased road trauma caused by traffic incidents.	2	C	Moderate	Risk managed through the Project Traffic Management Plan including Project communications at key points, e.g. roadhouses in Tennant Creek and along the Barkly Highway.	No traffic incidents and resultant road trauma arising.	2	C	Moderate
32		Drive in and Drive Out Workers	Increased risk of road trauma caused by workers using own vehicles traveling between towns and Project site.	3	C	Significant	Project provides transport for the large majority of workers and restricts and minimises use of private vehicles traveling to and from site.	No traffic incidents and resultant road trauma arising.	2	C	Moderate

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
33	Clearance and disturbance activities along the alignment, access roads, camps and other areas.	Local residents and/or tourists' inadvertently enter the Project footprint in hazardous areas.	Injuries to local people and property damage.	2	C	Moderate	Security plan established for the Project activities including and Project communications about risks.	Local residents and tourists aware of Project and avoid Project areas.	1	B	Low
34	Establishment and operation of construction workers camps.	Phillip Creek Compressor Station (PCCS) workforce based in Tennant Creek Town - in either established and operated workers' camp or existing commercial accommodation.	Increased demand on existing community services and infrastructure, e.g. GP, hospital and emergency services, leading to loss of service for Tennant Creek community.	3	B	Moderate	Levels of demand for use of local medical and emergency facilities controlled through: - pre-employment fitness-for-duty drug/alcohol/medical assessments. - appropriate medical facilities and support at PCCS camp - Safety Management Systems minimise workplace injury; - established medical and evacuation protocols in consultation with Tennant Creek Hospital and other emergency services. Refer Project Human Health & Safety Plan.	Community service levels maintained emergency medical responses agreed with local services. Ability to plan ahead for eventualities.	2	B	Low
35			Increased demand on emergency / medical services and insufficient resources to adequately cover local response to remote locations: bushfire, vehicle incidents, emergency evacuation, police incident.	3	B	Moderate	Develop Emergency Response Plan in consultation with NT PFES including integrating emergency communications procedures. Ensure ER capacity at temporary camps and with crews. Established medical and evacuation protocols. Pre-employment fitness-for-duty drug/alcohol/medical assessments.	Agreed ERP in place with NT PFES and so plans in place for potential eventualities.	2	C	Moderate
36			Construction workforce (>200 people) resident in Tennant Creek for 12 months results in a changed demographic profile and impacts on Tennant Creek sense of place, community amenity, safety etc.	4	B	Significant	Undertake further consultation with the Tennant Creek community stakeholders about the safe number of workers able to be accommodated in Tennant Creek either in a workers camp situation or in existing commercial accommodation. Establish a Workers Accommodation Plan for the Project that protects community amenity.	Workers Accommodation Plan established and little or no negative impact occurs to community amenity, safety etc.	3	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
37			Anti-social behaviour of PCCS construction workers in Tennant Creek causes community disruption and increased pressure on local health and emergency services.	4	C	High	Controls include Project Drug and Alcohol Policy, Codes of Conduct, FIFO workers directly transported to and from landing point to construction accommodation. Establishment of a Workers Accommodation Plan for the project that protects community amenity.	Workers Accommodation Plan established and little or no negative impact occurs to community amenity.	3	B	Moderate
38			Increased formal / informal sexual interaction between construction workers and community causes negative health and community consequences in Tennant Creek (e.g. increased prevalence of STIs).	3	B	Moderate	Establish a Workers' Accommodation Plan for Tennant Creek that manages the interaction between the community and the workforce in a way that minimises the potential for these risks to occur.	Workers Accommodation Plan established and results in no negative impact of this nature.	2	A	Low
39			Increased pressure on Tennant Creek municipal services (e.g. sewerage systems, waste management capacity to cater for additional waste generated by a construction workers camp). Results in breakdown of local services.	2	C	Moderate	Determine impact quantities and municipal system capacity in consultation with the Barkly Regional Council. Develop a Workers' Accommodation Plan that minimises impact on municipal services.	Workers Accommodation Plan established and results in no negative impact of this nature.	1	B	Low
40		Mount Isa Compressor Station (MICS) workforce based in City of Mount Isa - in either established and operated workers' camp or existing commercial accommodation.	Increased demand on existing community services and infrastructure, e.g. GP, hospital and emergency services, leading to loss of service for Mount Isa community.	2	A	Low	Jemena provides for medical services to an appropriate level for MICS construction workforce and makes arrangements for emergency medical scenarios with Mount Isa Hospital and other local emergency services.	Community service levels maintained emergency medical responses agreed with local services. Ability to plan ahead for eventualities.	2	B	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
41			Increased demand on emergency / medical services and insufficient resources to adequately cover local response to remote locations: bushfire, vehicle incidents, emergency evacuation, police incident.	2	A	Low	Develop Emergency Response Plan in consultation with Mount Isa emergency services including integrating emergency communications procedures. Ensure Emergency Response capacity at temporary camps and with crews.	Agreed ERP in place with Mount Isa emergency services and so plans in place for potential eventualities.	1	B	Low
42			Construction workforce (>100 people) resident in Mount Isa over a 12 month period results in a changed demographic profile and impacts on Mount Isa sense of place, community amenity, safety etc.	2	B	Low	Establish a Workers' Accommodation Plan for Mount Isa that manages the interaction between the community and the workforce in a way that minimises the potential for these risks to occur.	Workers Accommodation Plan established and results in no negative impact of this nature.	1	B	Low
43			Anti-social behaviour of MICS construction workers in Mount Isa including increased drug and alcohol abuse and potential associated increased violence and crime.	3	B	Moderate	Establish a Workers' Accommodation Plan for Mount Isa that manages the interaction between the community and the workforce in a way that minimises the potential for these risks to occur.	Workers Accommodation Plan established and results in no negative impact of this nature.	2	C	Moderate
44			Increased formal / informal sexual interaction between construction workers and community causes negative health and community consequences in Mount Isa (e.g. increased prevalence of STIs).	3	B	Moderate	Establish a Workers' Accommodation Plan for Mount Isa that manages the interaction between the community and the workforce in a way that minimises the potential for these risks to occur.	Workers Accommodation Plan established and results in no negative impact of this nature.	2	C	Moderate
45			Increased pressure on Mount Isa municipal services (e.g. sewerage systems, waste management capacity to cater for additional waste generated by a construction workers	2	A	Low	Determine impact quantities and municipal system capacity in consultation with the Mount Isa City Council. Develop a Workers' Accommodation Plan that minimises impact on municipal services.	Workers Accommodation Plan established and results in no negative impact of this nature.	2	B	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
			camp). Results in breakdown of local services.								
46	Trenching activities and installation of the pipeline.	Local residents and / or tourists inadvertently enter the Project footprint in hazardous areas.	Injuries to local people and property damage.	1	B	Low	A combination of Project signage and gates will be used to control unauthorised access to the construction site. Security plan established for the pipeline and compressor station construction activities.	No or low level of incidences of security events and subsequent negative impacts.	2	B	Low
47		Community concern due to lack of knowledge of environmental management procedures.	Community anxiety / negative perceptions regarding environmental management of the NGP Project.	3	B	Moderate	Implementation of Communications Strategy & Plan, including regular updates through specified Community Stakeholder Communications Network, established in 2016 and implemented throughout the Project Construction Phase.	Community understands how the Project will be implemented and feels assured of a channel of communication with Jemena.	2	B	Low
83		Project activities will be visible to other users in the area where they are occurring, e.g. vegetation clearing and earthworks, pipeline stockpiles, equipment, visibility of people, vehicles and other equipment.	Negative impact on visual amenity for people driving through the area(s).	4	A	Low	Communications with the local community through the Tennant Creek CRG, newsletters and project updates and to other stakeholders, through other communication points, e.g. roadhouses, about the Project.	Local stakeholders and travellers understand the Project and the short term nature of the disturbance to visual amenity.	2	A	Low
Economy & Development											
48	Project procurement and contracting.	Award of contracts.	Local businesses miss out on contract opportunities with the Project through a lack of capacity to competitively tender and supply.	4	B	Significant	Implementation of Jemena's Industry Participation Plan (IPP) including the SME Business Growth Program.	Local suppliers' best positioned to successfully complete for business contracts with the Project.	3	B	Moderate

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
49			Jemena's 1st tier (major) and Tier 2 contractors fail to maximise use of local goods and services from the regions and local businesses miss out on opportunities as a result.	4	B	Significant	Implementation of Jemena's Industry Participation Plan (IPP) including the SME Business Growth Program, including inclusion of local content requirements in all Tier 1 and Tier 2 contracts, continued assessment and scrutiny of contractor local content plans.	Local suppliers' best positioned to successfully complete for business contracts with the Project.	3	B	Moderate
50			Local businesses over invest in expectation of winning contracts but are unsuccessful.	3	B	Moderate	Continued communication with the local business community about opportunities with the Project, including timing and scope.	Local suppliers clearly understand the breadth of opportunities and make clear business decisions that do not result in over investment.	2	B	Low
51			New small businesses may accelerate in initial development based on the project and then fail once the project opportunities pass.	3	B	Moderate	Communicate support opportunities to all businesses, particularly new small businesses, including the risk of early failure and the importance of adopting strategies to manage this in their business plans.	Less new small businesses fail.	2	B	Low
52		Increased local demand for goods and services to support Project construction activities.	Inflationary pressures occur resulting in increased prices and economic hardship for locals not involved in the Project.	3	B	Moderate	Implementation of Communications Strategy & Plan, including regular updates through a Community Reference Group, established in 2016 and implemented throughout the Project Construction Phase. Understanding of Project demand impact lessens possibility of false demand signals and unnecessary price increases.	Community well informed about Project demand and false demand expectations minimised.	2	B	Low
53			Reduced level of goods and services to support existing community requirements.	2	B	Low	Implementation of Communications Strategy & Plan, including regular updates through a Community Reference Group, established in 2016 and implemented throughout the Project Construction Phase. Understanding of Project demand impact lessens possibility of false demand signals and unnecessary price increases.	Community well informed about Project demand and false demand expectations minimised.	1	B	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
54	Mobilisation of construction workforce.	Construction phase recruitment	People miss out on jobs and expectations of the provision of local jobs are not met.	4	B	Significant	Transparent implementation of Jemena's Regional Employment Plan, including selection processes for the Project Ready Training Program and transparent communication of employment recruitment processes by contractors through the NGP Jobs online portal.	Local workforce optimises participation in the Project to the extent reasonably possible.	2	C	Moderate
55		Regional flight congestion.	Fly in, fly out component of the workforce takes up available spaces on regional flights resulting in displacement of other travellers, e.g. tourists, government service workers and other industry workers, i.e. particularly in Tennant Creek.	4	B	Significant	Construction contractor to organise charter flights to and from Tennant Creek.	No, or low impact on flight seat availability.	2	B	Low
56		Workforce mobility to the Project.	Local government, pastoral industry, tourism and hospitality industry, businesses and community organisations lose workers to the Project.	4	B	Significant	Transparent implementation of Jemena's Regional Employment Plan, including selection processes for the Project Ready Training Program and transparent communication of employment recruitment processes by contractors through the NGP Jobs online portal. Briefing of local government, businesses, pastoral industry and community organisations regarding the timing and extent of Project labour demand.	Local government, businesses, the pastoral industry and community organisations are able to plan well ahead to manage any staff changes as a result of the Project.	4	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
57		Wage pressures.	Increased costs to local government, pastoral industry and community organisations through increased wages and conditions required to retain staff.	4	B	Significant	Transparent implementation of Jemena's Regional Employment Plan, including selection processes for the Project Ready Training Program and transparent communication of employment recruitment processes by contractors through the NGP Jobs online portal. Briefing of local government, businesses, pastoral industry and community organisations regarding the timing and extent of Project labour demand.	Local government, businesses, the pastoral industry and community organisations are able to plan well ahead to manage any staff changes as a result of the Project.	4	A	Low
58		Mount Isa labour market stronger than Barkly.	Mount Isa labour market overshadows Barkly labour market and results in limited employment outcomes for people from the Barkly, particularly Tennant Creek and Alpururulam.	4	B	Significant	Implementation of Jemena's Regional Employment Plan, including: - the Project Ready Training Program - the NGP Jobs Portal - the Tennant Creek Social Enterprise opportunity - contractual provisions for subcontractors to maximise the use of labour from the Barkly and Mount Isa.	Employment of people from the Barkly maximised to the extent possible.	3	B	Moderate
59	Establishment and operation of construction workers camps.	Phillip Creek Compressor Station workforce based in Tennant Creek Town in a Jemena established and operated workers' camp.	Existing accommodation providers miss out on commercial benefits from the Project.	5	B	High	Establish a Workers' Accommodation Plan for Tennant Creek that provides the broadest possible benefits for local accommodation providers.	Tennant Creek accommodation providers benefit to the broadest extent.	2	A	Low
60			Significant spike in demand for local utilities occurs outside of existing capacity resulting in requirement for short term utilities infrastructure investment.	3	B	Moderate	Establish a Workers' Accommodation Plan for Tennant Creek that does not result in utilities demand outside of existing capacity.	No additional short term investment required and utilities demand kept within existing capacity.	2	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
61		Phillip Creek Compressor Station workforce based in Tennant Creek Town in existing commercial accommodation.	Accommodation demand from the Project displaces other accommodation demand and results in a negative impact on other industries and services in the town, e.g. tourism, government services, other industry, particularly at time of significant annual events that bring revenue to the town, e.g. the Tennant Creek Annual Show.	5	B	High	Establish a Workers' Accommodation Plan for Tennant Creek that provides the broadest possible benefits for local accommodation providers but does not have a negative impact on other industries and services.	The right balance is struck between providing economic benefits to Tennant Creek without negatively impacting on other industries and services.	2	A	Low
62		Phillip Creek Compressor Station workforce based at Warrego in a Jemena established and operating workers' camp.	Existing accommodation providers miss out on commercial benefits from the Project.	5	B	High	Establish a Workers' Accommodation Plan for Tennant Creek that provides the broadest possible benefits for local accommodation providers but does not have a negative impact on other industries and services.	The right balance is struck between providing economic benefits to Tennant Creek without negatively impacting on other industries and services.	2	A	Low
63		Workers seek private accommodation in Tennant Creek.	Price and availability of private accommodation pressures increase cost of living in Tennant Creek.	3	B	Moderate	Establish a Workers' Accommodation Plan for Tennant Creek that does not have an overly negative impact on the price and availability of private accommodation.	The right balance is struck between providing economic benefits to Tennant Creek without negatively impacting on the price and availability of private accommodation.	2	A	Low
64		Mount Isa Compressor Station workforce based in Mount Isa in a Jemena established and operated workers' camp.	Existing accommodation providers miss out on commercial benefits from the Project.	5	A	Moderate	Establish a Workers' Accommodation Plan for Mount Isa that provides the broadest possible benefits for local accommodation providers.	Mount Isa accommodation providers benefit to the broadest extent.	2	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
65			Significant spike in demand for local utilities occurs outside of existing capacity resulting in requirement for short term utilities infrastructure investment capacity.	2	A	Low	Establish a Workers' Accommodation Plan for Mount Isa that does not result in utilities demand outside of existing capacity.	No additional short term investment required and utilities demand kept within existing capacity.	2	A	Low
66		Mount Isa Compressor Station workforce based in Mount Isa in existing commercial accommodation.	Accommodation demand from the Project displaces other accommodation demand and results in a negative impact on other industries and services in the town, e.g. tourism, government services, other industry.	3	B	Moderate	Establish a Workers' Accommodation Plan for Mount Isa that provides the broadest possible benefits for local accommodation providers but does not have a negative impact on other industries and services.	The right balance is struck between providing economic benefits to Mount Isa without negatively impacting on other industries and services.	2	A	Low
67		Workers seek private accommodation in Mount Isa.	Price and availability of private accommodation pressures increase cost of living in Mount Isa.	1	A	Low	Establish a Workers' Accommodation Plan for Mount Isa that does not have an overly negative impact on the price and availability of private accommodation.	The right balance is struck between providing economic benefits to Mount Isa Creek without negatively impacting on the price and availability of private accommodation.	1	A	Low
68	Clearance and disturbance activities along the alignment, access roads, camps and other areas.	Weed and weed seed spread.	Loss of agricultural productivity and costs incurred to redress pest weed spread.	3	B	Moderate	Implementation of Biosecurity (Weed) Management Plan in accordance with arrangements agreed with individual pastoral stations.	Reduced incidence of spread of weeds and weed seeds.	2	B	Low
69	Trenching activities and installation of the pipeline.	Pipeline installation across station and community access tracks.	Trenching across existing tracks causes delays to access on pastoral leases and to Aboriginal communities.	2	A	Low	Access track crossing discussed with landowners and coordinated plan put in place to minimise disruption.	No or few delays in access.	1	A	Low
70		Increased traffic on remote station roads.	Interruptions / disruptions to mustering and other station activities.	3	B	Moderate	Project liaison with pastoralists to coordinate project construction activities with mustering.	No unplanned disruption to mustering and other activities.	1	B	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
71		Damage or disturbance to existing infrastructure such as electricity, water etc.	Loss of access to critical services.	2	B	Low	Conduct pre-construction survey of known infrastructure locations and clearing delineate on ground prior to commencement of works. Close liaison with land occupants and service infrastructure noted in construction Land Line List.	No or short term interruptions to critical services. Station and community occupants fully appraised of works.	1	A	Low
72		Dry conditions and limited water available for Project construction.	Project water demand from existing sources causes water shortage for existing land users.	2	C	Moderate	Undertake water demand and supply study and determine sources that do does cause water shortages for existing land users.	No water shortages.	1	A	Low
73		Installation of gas pipeline in proximity to remote communities, e.g. Alpururulam.	Communities under false impression of the feasibility of gas supply to small communities results in disappointment about a possible foregone benefit from the project.	4	A	Low	Feasibility question to be addressed during ESIA consultations and in general community consultations and communications. Discussion with NT Power Water Corporation required.	Remote communities understand the infeasibility of the concept.	2	A	Low
OPERATIONS PHASE											
Culture & Heritage											
74	Operation and maintenance of pipeline.	Access to above ground facilities in remote areas.	Unauthorised entry onto sacred sites.	1	B	Low	Inclusion of access restrictions for operations workers in Project area in accordance with Sacred Site Authority Certificate implementation.	Complete control of access and establishment of Restricted Work Areas and Exclusion Zones.	1	B	Low
75			Unauthorised entry onto Aboriginal Land.	1	B	Low	Individual permit access in accordance with Aboriginal Land Act and Land Agreement conditions and local relationship development.	Complete control of access and regular communication.	1	B	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
76			Damage to cultural heritage sites, places or objects.	1	B	Low	Workers restricted to approved access tracks public roads and pipeline easement and respect of Authority Certificate conditions. No ground disturbing activities outside approved areas.	Complete control of access and regular communication.	1	B	Low
77			Uninvited entry into Aboriginal living areas, e.g. family outstations.	1	B	Low	Individual permit access in accordance with Aboriginal Land Act and Land Agreement conditions and local relationship development.	Complete control of access and regular communication.	1	B	Low
Community Health and Safety											
78	Operation and maintenance of pipeline.	Community concern lack of information about Project operations.	Community anxiety / negative perceptions and concern about safety and environmental management of NGP Operations facilities.	3	B	Moderate	Consult community and explain operations safety and environmental management practices.	Community understands how Jemena will safely operate the Project and manage any environmental risk.	2	B	Low
79		Use of easement and temporary and permanent access tracks for improper access.	Easement and permanent access tracks used as alternative route for people in remote areas, e.g. for personal reasons, hunting, discreet travel, illegal activities etc. - causes negative impacts on existing land users.	3	B	Moderate	Controls include: - no access track to be left along easement; - no signage on permanent access tracks; - temporary access tracks to be progressively rehabilitated, unless agreed with landowner; - ongoing communication with landowners.	Access ability limited and landowner engagement in rural watch.	2	B	Low
84	Plant Operations	The PCCS flare stack (pilot flare) will be visible to surrounding communities, particularly at night.	If the PCCS flare stack is 40 m in height, using a distance to horizon calculation, it may be visible up to approximately 23km away. The nearest receptors are in excess of this distance and so the likelihood assessment is the lowest. Consequently, the impact is minor and	1	A	Low	As the flare stack will not be seen at any populated place or Stuart Highway no mitigation is proposed apart from explaining to local stakeholders what the flare does and how safety at the PCCS is managed.	As the distance/height relationship determines the stack is not visible at any populated place or the Stuart Highway effectiveness is assumed.	1	A	Low

ID #	Project activity	Cause	Impacts	Likelihood	Consequence	Risk with no mitigation in place	Proposed mitigation measures	Effectiveness of mitigation	Likelihood	Consequence	Residual risk after mitigation measures
			the overall risk assessment is low.								
Economy & Development											
80	Project procurement and contracting.	Award of contracts.	Local businesses miss out on contract opportunities with the Project through a lack of capacity to competitively tender and supply.	3	B	Moderate	Implementation of Jemena's Industry Participation Plan (IPP) including the SME Business Growth Program.	Local suppliers' best positioned to successfully complete for business contracts with the Project.	3	B	Moderate
81	Mobilisation of operations workforce.	Project operations recruitment.	People miss out on jobs and expectations of the provision of local jobs are not met.	3	B	Moderate	Implementation of Jemena's Regional Employment Plan, including: - the Project Ready Training Program; - the NGP Jobs Portal; - the Tennant Creek Social Enterprise opportunity; - Jemena Gas Operator Training Program; - contractual provisions for subcontractors to maximise the use of labour from the Barkly and Mount Isa.	Local workforce optimises participation in the Project to the extent reasonably possible.	2	C	Moderate

APPENDIX C: OPPORTUNITY REGISTER

ID	Project activity	Cause	Opportunity	Likelihood	Impact	Opportunity with enhancement in place	Proposed enhancement measures	Effectiveness of enhancement	Likelihood	Impact	Residual likelihood of success after enhancement measures
PLANNING PHASE											
Culture & Heritage											
	Early survey works.	Field access for non-ground and low impact ground disturbing works.	Discovery of previously unknown cultural heritage site, artefact or objects adding to the body of knowledge in the Territory Heritage Register.	5	A	Low	Where possible, ensure that Traditional Owners are involved in field archaeological surveys.	TOs also gain further detailed insight into cultural heritage on the land.	5	B	Moderate
			Passing on of knowledge between generations through cultural heritage field surveys.	2	A	Low	Ensure the employment of Aboriginal Field Hands on archaeological surveys.	Aboriginal people working as field hands learn about the cultural heritage on their land.	4	B	Moderate
			Aboriginal Field Hands learn how to undertake site recording of archaeological sites.	2	A	Low	Ensure the employment of Aboriginal Field Hands on archaeological surveys and that they are provided on the job training in site recognition and recording.	Greater employability of Aboriginal people on archaeological surveys and in field work generally.	4	B	Moderate
Community Health & Safety											
		Field access for non-ground and low impact ground disturbing works.	Traditional Owners and Aboriginal Field Hands learn about Health, Safety & Environment practices in the work place.	3	B	Moderate	Support individuals with relevant additional training throughout the planning phase.	Individuals take on HSE values in their private lives, adding to general community health and safety.	4	B	Moderate

ID	Project activity	Cause	Opportunity	Likelihood	Impact	Opportunity with enhancement in place	Proposed enhancement measures	Effectiveness of enhancement	Likelihood	Impact	Residual likelihood of success after enhancement measures
		Project design	Project logistics design provides an opportunity for arrangements to be established between Jemena and local PFES that capture synergies between the project for the benefit of the relevant community.	3	B	Moderate	Ensure that worthwhile synergies are implemented between the project and the community.	Long term incremental benefit to community in areas of emergency response	5	B	Moderate
Economy & Development											
	Early survey works.	Field access for non-ground and low impact ground disturbing works.	Local people get employment opportunities	3	B	Moderate	Continued focus on local and Aboriginal employment in all aspects of field surveys and build on the cohort of people employed to feed into recruitment for the project construction opportunities.	Local people are more aware of and prepared for project employment.	4	C	Significant
			Traditional Owners and Aboriginal Field Hands learn about Health, Safety & Environment practices in the work place.	3	A	Low	Assess TOs and Aboriginal Field Hands performance throughout the planning phase for potential selection for direct employment or on the Project Ready Training Program (P RTP). Support individuals with relevant additional training throughout the planning phase.	TOs and Aboriginal Field Hands gain skills to obtain work directly on the project or the experience facilitates selection onto the P RTP.	4	C	Significant

ID	Project activity	Cause	Opportunity	Likelihood	Impact	Opportunity with enhancement in place	Proposed enhancement measures	Effectiveness of enhancement	Likelihood	Impact	Residual likelihood of success after enhancement measures
	Project procurement and contracting.	Award of contracts	Local businesses win contracts through competitive supply.	3	B	Moderate	Implementation of SME Business Growth Program including regional business briefings.	Local businesses aware of Project procurement opportunities and prequalification requirements; Jemena gains valuable insight into existing regional capacity to supply goods, services and labour to Project.	4	B	Moderate
CONSTRUCTION PHASE											
Culture & Heritage											
	Clearance and disturbance activities along the alignment, access roads, camps and other areas.	CHMP Implementation	Practical management of known cultural heritage sites and discovery of previously unknown cultural heritage sites, artefacts or objects adding to the body of knowledge in the Territory Heritage Register.	3	B	Moderate	Where possible, ensure that Traditional Owners are involved in CHMP implementation.	TOs also gain further detailed insight into cultural heritage on the land and how this can be successfully protected in resource infrastructure development.	4	C	Significant
			Passing on of knowledge between generations through CHMP implementation.	3	B	Moderate	Ensure the employment of Aboriginal Field Hands on archaeological surveys.	Aboriginal people working as field hands learn about the cultural heritage on their land.	4	B	Moderate

ID	Project activity	Cause	Opportunity	Likelihood	Impact	Opportunity with enhancement in place	Proposed enhancement measures	Effectiveness of enhancement	Likelihood	Impact	Residual likelihood of success after enhancement measures
			Aboriginal Field Hands learn how to undertake site recording of cultural heritage sites.	3	B	Moderate	Ensure the employment of Aboriginal Field Hands on archaeological surveys and that they are provided on the job training in site recognition and recording.	Greater employability of Aboriginal people on archaeological surveys and in field work generally.	4	B	Moderate
			Project non-Aboriginal staff gain greater awareness and respect for Aboriginal cultural knowledge resulting in greater acceptance of Aboriginal people working on the project.	3	A	Low	Design and deliver Indigenous cultural awareness training course for senior management / supervisors and all workers involved in the project.	Support of successful Aboriginal employment on the project.	4	C	Significant
Community Health & Safety											
	Clearance and disturbance activities along the alignment, access roads, camps and other areas.	CHMP Implementation	Traditional Owners and Aboriginal Field Hands learn about Health, Safety & Environment practices in the work place.	3	A	Low	Assess TOs and Aboriginal Field Hands performance throughout the planning phase for potential selection for direct employment or on the Project Ready Training Program (PRTTP). Support individuals with relevant additional training throughout the planning phase.	TOs and Aboriginal Field Hands gain skills to obtain work in the industry more broadly and take good HSE practice into their home lives.	4	C	Significant
Economy & Development											

ID	Project activity	Cause	Opportunity	Likelihood	Impact	Opportunity with enhancement in place	Proposed enhancement measures	Effectiveness of enhancement	Likelihood	Impact	Residual likelihood of success after enhancement measures
	Land Agreement Implementation.	Distribution of Land Agreement benefits.	Traditional Owners and Native Title Holders / Claimants receive a range of benefits from the land agreements.	5	B	Moderate	Liaison with community organisations to support beneficiaries in managing benefits received.	Beneficiaries successfully manage the benefits received for the long term social and economic development of their communities.	5	C	Significant
	Project procurement and contracting.	Award of contracts.	Local businesses have the opportunity to compete for business contracts with the project.	3	B	Moderate	Implementation of SME Business Growth Program, including regional business briefings and workshops, the SME Business Investment Fund and contractual provisions for subcontractors to maximise the use of goods and services from the Barkly and Mount Isa.	Maximisation of the use of local goods and services, the fostering of new businesses and the development of existing businesses in the region.	4	C	Significant
			Increased local demand for goods and services to support Project construction activities.	3	B	Moderate	Implementation of SME Business Growth Program, including regional business briefings and workshops and the SME Business Investment Fund.	Maximisation of the use of local goods and services, the fostering of new businesses and the development of existing businesses in the region.	4	C	Significant
	Mobilisation of Construction Phase workforce.	Local workforce employment.	Employment of people from Tennant Creek in unskilled and semi-skilled project jobs.	2	A	Low	Implementation of Jemena's Regional Employment Plan, including: - the Project Ready Training Program - the NGP Jobs Portal - the Tennant Creek Social Enterprise opportunity - contractual provisions for subcontractors to maximise the use of labour from the Barkly and Mount Isa.	Maximisation of the use of local labour from Tennant Creek.	4	C	Significant

ID	Project activity	Cause	Opportunity	Likelihood	Impact	Opportunity with enhancement in place	Proposed enhancement measures	Effectiveness of enhancement	Likelihood	Impact	Residual likelihood of success after enhancement measures
			Employment of people from Mount Isa in unskilled and semi-skilled project jobs.	3	A	Low	Implementation of Jemena's Regional Employment Plan, including: - the Project Ready Training Program - the NGP Jobs Portal - contractual provisions for subcontractors to maximise the use of labour from the Barkly and Mount Isa.	Maximisation of the use of local labour from Mount Isa.	4	C	Significant
			Employment of people from Tennant Creek in skilled and highly skilled project jobs.	1	A	Low	Promotion of recruitment of skilled and highly skilled workers from the existing workforce via the NGP Jobs Portal.	Existing capacity in skilled and highly skilled workers from the local labour market.	3	B	Moderate
			Employment of people from Mount Isa in skilled and highly skilled project jobs.	3	A	Low	Promotion of recruitment of skilled and highly skilled workers from the existing workforce via the NGP Jobs Portal.	Existing capacity in skilled and highly skilled workers from the local labour market.	3	B	Moderate
	Establishment and operation of construction workers camps.	Camps on pipeline construction ROW and at Phillip Creek Compressor Station	Local businesses have the opportunity to compete for business contracts with the project.	3	B	Moderate	Implementation of SME Business Growth Program, including regional business briefings and workshops, the SME Business Investment Fund and contractual provisions for subcontractors to maximise the use of goods and services from the Barkly and Mount Isa.	Maximisation of the use of local goods and services, the fostering of new businesses and the development of existing businesses in the region.	4	C	Significant

ID	Project activity	Cause	Opportunity	Likelihood	Impact	Opportunity with enhancement in place	Proposed enhancement measures	Effectiveness of enhancement	Likelihood	Impact	Residual likelihood of success after enhancement measures
		Use of commercial accommodation in Tennant Creek and Mount Isa./	Local accommodation providers gain business from the project.	4	B	Moderate	Early identification and establishment of arrangements with service providers.	Optimisation of the use of local accommodation.	4	B	Moderate
	Pipeline construction.	Project requirements for access to the ROW, extractives (e.g. sand, gravel etc.) and water.	Installation of new access tracks, upgrade of existing tracks and installation of new water bores and dams.	4	B	Moderate	Close liaison with landowners to optimise location and design.	Increased agricultural and community infrastructure with long term benefits.	4	C	Significant
OPERATIONS PHASE											
Economy & Development											
	Operation and maintenance of pipeline.	Award of contracts.	Local businesses have the opportunity to compete for business contracts with the project.	3	B	Moderate	Implementation of SME Business Growth Program, including regional business briefings and workshops, the SME Business Investment Fund and contractual provisions for subcontractors to maximise the use of goods and services from the Barkly and Mount Isa.	Maximisation of the use of local goods and services, the fostering of new businesses and the development of existing businesses in the region.	4	C	Significant
	Mobilisation of operations workforce.	Local workforce employment.	Local long term employment in skilled pipeline and compressor station operations jobs in Tennant Creek.	2	B	Low	Invest in training for local workforce, e.g. Gas Operator Apprenticeship Program.	Long term local employment achieved in skilled jobs.	3	C	Significant

ID	Project activity	Cause	Opportunity	Likelihood	Impact	Opportunity with enhancement in place	Proposed enhancement measures	Effectiveness of enhancement	Likelihood	Impact	Residual likelihood of success after enhancement measures
			Local long term employment in pipeline and compressor station operations jobs in Mount Isa.	3	B	Moderate	Invest in training for local workforce, e.g. Gas Operator Apprenticeship Program.	Long term local employment achieved in skilled jobs.	3	B	Moderate
		Long term accommodation required in Tennant Creek.	Incremental but sustained contribution to the local economy.	3	B	Moderate	Maximise the recruitment of local workforce to avoid need for FIFO.	Maximisation of long term sustained contribution to the local economy.	4	B	Moderate
		Long term accommodation required in Mount Isa.	Incremental but sustained contribution to the local economy.	4	A	Low	Maximise the recruitment of local workforce to avoid need for FIFO.	Maximisation of long term sustained contribution to the local economy.	4	B	Moderate

Appendix D: SIA Consultation Plan

1. PURPOSE

To set out the plan for conducting the Social Impact Assessment (SIA) stakeholder consultations for Jemena's Northern Gas Pipeline Project (Project).

2. OBJECTIVES

The principle objective of this plan is to describe how Circle will consult with Project stakeholders to identify social impacts and opportunities that may arise from the Project. These consultations will focus on:

- Identifying social risks that may arise from the Project, the consequence and likelihood of those risks and how they can be mitigated.
- Identifying the social opportunities that may arise from the Project and how those opportunities can be realised and maximised.
- Confirming and testing through stakeholder consultation the potential Project social risks and opportunities that Jemena has identified and conducted initial assessment on in the SIA Scoping Study.
- Understanding social institutions and structures including their role and importance in community cohesion and resilience and thus their ability to effectively respond to potential social impacts arising from the Project.

The outcome of the consultations will be incorporated into the Project Economic and Social Impact Assessment (ESIA) and Economic and Social Impact Management Plan (ESIMP).

Circle's objective is also to conduct these consultations in a carefully planned, supportive and cooperative manner.

Finally, Circle will facilitate consultations that allow stakeholders to identify, without influence from Circle, what the potential Project social impacts and opportunities may be. Circle's objective is to listen to and record stakeholder voices, not record Circle or Jemena's voices.

3. SCOPE

3.1. PARTIES TO BE CONSULTED AND TIMING

Parties to be consulted are those "residents, landholders, particular industry participants and interest groups, service providers and government agencies" (NTEPA Guidelines) that are potentially exposed to and / or may need to respond to potential social impacts and opportunities arising from the Project. The map outlined in the Scoping Study, Figure 4, shows the area of potential social impact and some of the communities and landholders within this area.

3.2. CONTENT

Circle will:

- Clearly define the scope of the consultations. The consultations will be carefully managed to ensure they do not become a discussion about broader social issues within communities located in the vicinity of the Project. The purpose of the consultations is to identify and discuss potential social risks and opportunities that may arise from the Project.
- Convey the exclusivity of the consultations. The consultations are not linked to any other consultation or negotiation being undertaken as part of the Project, and the outcome of the consultations will not be used for any purpose other than the ESIA, to inform the ESIMP and Project EIS.

4. CONSULTATION PLAN

4.1. COMMUNITIES AND STAKEHOLDERS IDENTIFIED FOR SIA CONSULTATION

The map in Figure 4 in the Scoping Study shows Project infrastructure overlaid with the area of potential social impact. This area of potential social impact encompasses the main population centres in the vicinity of the Project being Tennant Creek, Mount Isa, Camooweal and Alpururulam. It also shows the Aboriginal communities, land interests and pastoral stations in close proximity to the Project.

The table at Attachment 1 lists the groups of stakeholders that Circle intends to consult with and an overview of the methodology that will be used for consultations with these groups.

The table at Attachment 2 lists the individual stakeholders that Circle will invite to participate in the consultations.

4.2. JEMENA CONSULTATION TEAM

The SIA consultation team comprises staff with experience in conducting similar consultations in cross-cultural contexts.

Title	Role
Local and Indigenous Participation Manager, Circle	Responsible for Project ESIA consultations
Indigenous Participation Coordinator, Circle	ESIA Consultation Coordinator
Indigenous Participation Coordinator and Circle Associate Consultant	In-Field Consultation Team
Senior Administrator, Circle	Logistics Coordinator

4.3. CONSULTATION METHODOLOGY

The SIA consultations will be conducted with strict adherence to the methodology outlined below. This methodology is based on a three-stage approach to the consultations being:

1. Preparation and planning.

2. Conducting the consultations.
3. Consultation reporting and follow-up.

4.3.1. PREPARATION AND PLANNING

Careful planning and preparation will take place prior to conducting each of the ESIA consultations. This will occur through the following steps:

- Confirm Meeting with Stakeholders
- Consultation Planning: Circle will plan tailored stakeholder consultations by devising methods of engagement and communication for each individual stakeholder. Circle will plan for linguistic differences, varying sensitivities of stakeholders, varying levels of expertise in subject areas, elders, women and youth for example.
- Send Pre-Reading: Pre-reading including confirmation of the meeting, project information and a draft agenda will be sent to each stakeholder to help them prepare for the consultation.

4.3.2. CONDUCTING THE CONSULTATIONS

The following principles will apply to the consultations.

Public Participation Spectrum

The approach taken to the consultations will be a combination of the Consult, Involve and Collaborate parts of the IAP2 Public Participation Spectrum shown below.

	Inform	Consult	Involve	Collaborate	Empower
Goals	To provide balanced, objective, accurate and consistent information to assist stakeholders to understand the problem, alternatives, opportunities and/or solutions.	To obtain feedback from stakeholders on analysis, alternatives and/or outcomes.	To work directly with stakeholders throughout the process to ensure that their concerns and needs are consistently understood and considered.	To partner with the stakeholder including the development of alternatives, making decisions and the identification of preferred solutions.	To place final decision-making in the hands of the stakeholder. Stakeholders are enabled/equipped to actively contribute to the achievement of outcomes.
Promise to Stakeholders	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how stakeholder input influenced the outcome.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how stakeholder input influenced the outcome.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the outcomes to the maximum extent possible.	We will implement what you decide. We will support and complement your actions.
Methods of Engagement	<ul style="list-style-type: none"> • Quarterly newsletter/Fact sheets • Open houses • Newsletters, bulletins, circulars • Websites, external and educate 	<ul style="list-style-type: none"> • Public comment • Focus groups • Surveys • Public meetings • Ultranet • Web 2.0 tools 	<ul style="list-style-type: none"> • Workshops • Deliberative polling • Web 2.0 tools • Forums 	<ul style="list-style-type: none"> • Web 2.0 tools • Reference groups • Facilitated consensus building forums for deliberation and decision-making • Experimental projects 	<ul style="list-style-type: none"> • Dialogue with Government • Local governance • Joint planning • Provision of data • Shared projects • Capacity building

IAP2 Public participation spectrum

This means that the discussions will be facilitated in a manner that allows the stakeholders to identify, without advice or instruction from Circle, what the potential social impacts (risks and opportunities)

might be from their perspective.

The approach to consultation will vary with each stakeholder group as set out in Attachment 1.

Appropriate Methods of Communication

Appropriate methods of communication will be designed to allow for the various levels of education, English language capacity and understanding of the concepts and ideas around risk and opportunity management. Where necessary and considered appropriate, interpreters may be used, particularly in remote Aboriginal communities.

Gender Equity Considerations

The Circle Associates undertaking the consultations will comprise both male and female consultants in order for separate gender based consultations to occur as required.

Vulnerable Groups

Specific identification of vulnerable groups in communities, e.g. women, youth (male and female) will be made and specific consultations will be undertaken with them, as required and in consultation with community leaders.

In addition to the principles outlined above:

- Circle will never be adversarial during the SIA consultations.
- If stakeholders wish to cease the consultations, Circle will support this. Stakeholders will not be forced to consult.
- Circle will be clear, honest, unambiguous and transparent during the consultations at all times. Circle will take questions on notice if questions are not able to be answered.
- Circle will always do its best to meet the commitments it has made and carefully manage stakeholder expectations.

Consultations will proceed in accordance with a structured agenda and through interviews, meetings and focus groups. An interview guide has been provided at Attachment 3 that will be used to help structure the interviews in accordance with the Principles set out above.

In all cases the approach taken to consultations with stakeholders will involve:

1. A project presentation – to provide as much up to date information about the project, including the use of the NGP Community Information Booklet, specifically prepared for the consultations.
2. An explanation of the process for social impact (risk and opportunity) assessment.
3. Reviewing the risk and opportunity models, including a review of Jemena's assessment of existing risks and opportunities and the identification and collaborative assessment of any new risks and opportunities identified.
4. Immediate feedback on consultation outcomes to confirm with stakeholders that all of their concerns and aspirations about the project have been recorded.
5. Feedback about Jemena's response to any concerns and aspirations raised.

4.3.3. CONSULTATION REPORTING AND STAKEHOLDER FOLLOW-UP

The SIA consultations will be reported:

- Weekly to Jemena to ensure that potential social risks and opportunities are made known to the company as they are identified.
- To each stakeholder within ten business days of the conclusion of the consultation. All stakeholders will also be sent a link to the final EIS (that will include the final ESIA).

4.3.4. HEALTH AND SAFETY

Health and safety risks will be managed through compliance with Jemena's health and safety policies and procedures.

5. DEVIATION

There will be no deviation from this plan without written approval from the Local and Indigenous Participation Manager.

6. ATTACHMENTS

Attachment 1 – Overview of Consultation Methodology for Stakeholder Groupings

Project stakeholder group	Stakeholder association with the project	Method of engagement	Approach to engagement
Pastoral station owners and owners of other residences and their families living in the vicinity of the project.	The pipeline and associated infrastructure intersects ten pastoral stations. Jemena is negotiating formal land access arrangements with station owners outside of the ESIA consultation process.	SIA consultations will be held in person and where possible through small workshops with multiple stakeholders in Tennant Creek, Barkly Homestead, Camooweal and Mount Isa. The project Lands Manager or representative will participate in planning for these consultations and where possible attend the consultations.	Collaborate Consistent with the IAP2 spectrum level of 'Collaborate', Jemena will work hard to develop mutually beneficial solutions to social impacts with this stakeholder group.
Pastoral station managers and overseers and their families living on pastoral stations in the vicinity of the project.	The pipeline and associated infrastructure intersects nine pastoral stations.	SIA consultations will be held in person and where possible through small workshops with multiple stakeholders in Tennant Creek, Barkly Homestead, Camooweal and Mount Isa. The project Lands Manager or representative will participate in planning for these consultations and where possible attend the consultations.	Involve Consistent with the IAP2 spectrum level of 'Involve', Jemena will seek to consider the concerns and aspirations this group in the design and execution of the Project.
Aboriginal land owners	The pipeline and associated infrastructure intersects Aboriginal land trusts, Aboriginal owned	SIA consultations will be held individually with the Boards of the land holding organisations and / or their	Collaborate

Project stakeholder group	Stakeholder association with the project	Method of engagement	Approach to engagement
	Northern Territory freehold and determined and claimed Native Title areas. Jemena is negotiating formal land access arrangements with these groups outside of the ESIA consultation process.	representatives in Tennant Creek, Camooweal and Mount Isa. Also, many Aboriginal land owners are likely to be consulted during meetings with Aboriginal communities, outstations and town camps (see below) because this is their usual place of residence.	Consistent with the IAP2 spectrum level of 'Collaborate', Jemena will work hard to develop mutually beneficial solutions to social impacts with Aboriginal land owners.
Aboriginal communities, family outstations and town camps	The pipeline and associated infrastructure is situated in close proximity to several Aboriginal communities, outstations and town camps (community living areas) so they are potentially exposed to direct social impacts. Project employees will also likely be sourced from these communities, outstations and town camps.	Depending on their preference, separate meetings with these groups will take place either at their community, outstation, town camp or in the regional centres close to these areas. Circle will work with the Central Land Council in organising, planning and holding these consultations. Consideration will be given to holding gender specific consultations with this stakeholder group and separate discussions with community elders if necessary. Traditional Owners who don't live at these communities and outstations but have responsibilities for these places will be invited to participate in the consultations.	Involve Consistent with the IAP2 spectrum level of 'Involve', Jemena will seek to consider the concerns and aspirations this group in the design and execution of the Project.
Community service organisations	These non-government organisations provide a range of socio-economic, health, wellbeing	These organisations have well established governance and management structures in place. As	Consult

Project stakeholder group	Stakeholder association with the project	Method of engagement	Approach to engagement
	and cultural support services to communities across the Barkly and Mount Isa regions. These services may be required to support local people in employment and training on the Project and will likely play an important role in managing social impacts arising from the Project.	such, consultations will be undertaken in a more formal meeting environment with boards of directors and / or relevant staff.	Consistent with the IAP2 spectrum level of 'Consult', Jemena will listen to the views of this group concerning the potential impacts arising from the Project and where possible consider these views in Project planning and execution.
Government	Government is a key Project stakeholder responsible for Project approvals and regulatory oversight.	Jemena will seek to meet with key government departments associated with the Project through regional coordination committees comprising of several government agencies or individually as required. These will be more formal consultations because these stakeholders will be well versed in identify impacts and applying risk management modelling.	Consult Consistent with the IAP2 spectrum level of 'Consult', Jemena will listen to the views of this group concerning the potential impacts arising from the Project and where possible consider these views in Project planning and execution.
Economic development organisations	These organisations often comprise of businesses operating in the vicinity of the Project and are responsible for supporting and advising on regional economic development of which the NGP Project is a significant part. This stakeholder group is integral to	Consultations will occur through formal meetings with these organisations.	Consult Consistent with the IAP2 spectrum level of 'Consult', Jemena will listen to the views of this group concerning the potential impacts arising from the Project and where possible consider these views in Project planning and execution.

Project stakeholder group	Stakeholder association with the project	Method of engagement	Approach to engagement
	Jemena's local content effort for the Project.		
Health and emergency services	These are critical 'front line' Project stakeholders who will work closely with Jemena to execute emergency management responses if required and manage social impacts arising from the Project	Consultations with these stakeholders will involve individual meetings or workshops with multiple stakeholders to discuss potential social impacts and how they are best mitigated, controlled and managed. Were possible these consultations will involve and be planned with Jemena's Health, Safety and Environment Manager.	Involve Consistent with the IAP2 spectrum level of 'Involve', Jemena will seek to consider the concerns and aspirations this group in the design and execution of the Project.
Sport, recreation and arts organisations (and similar organisations)	An influx of local residents to work on the Project may impact the community utilisation and participation rates of these organisations.	Jemena will meet with these organisations either individually or as a collective in a workshop style environment.	Consult Consistent with the IAP2 spectrum level of 'Consult', Jemena will listen to the views of this group concerning the potential impacts arising from the Project and where possible consider these views in Project planning and execution.
Industry representative bodies and participants	This group comprises oil and gas and resources representative bodies that provide industry governance frameworks pertaining to social impact assessment and community	Consultations will occur through formal meetings with these organisations.	Consult Consistent with the IAP2 spectrum level of 'Consult', Jemena will listen to the views of this group concerning the

Project stakeholder group	Stakeholder association with the project	Method of engagement	Approach to engagement
	engagement. This group also includes companies that are either operating resources projects in the vicinity of the Project area or are planning to establish such operations. This group also includes the pastoral industry representative body in the NT.		potential impacts arising from the Project and where possible consider these views in Project planning and execution.
Other interest groups	These are special interest groups that may be concerned with certain aspects of the Project or oppose the Project based on environmental or other grounds.	Consultations will occur through formal meetings with these organisations.	Consult Consistent with the IAP2 spectrum level of 'Consult', Jemena will listen to the views of this group concerning the potential impacts arising from the Project and where possible consider these views in Project planning and execution.

Attachment 2 – List of Stakeholders

Stakeholder Group	Stakeholder Name
Pastoral station owners and owners of other residences and their families living in the vicinity of the project.	Tennant Creek Station
	Phillip Creek Station
	Dalmore Downs Station
	Donovan & Hagglund
Pastoral station managers and overseers and their families living on pastoral stations in the vicinity of the project.	Glencoe Station
	West Ranken Station
	Soudan Station
	Avon Downs Station
	Austral Downs Station
	Barkly Downs Station
	May Downs Station
Aboriginal land owners and claimants	Phillip Creek Native Title Claim
	Warumungu Aboriginal Land Trust
	Dalmore Downs Native Title Claim
	Dalmore Downs South Native Title Claim
	Wakaya Aboriginal Land Trust
	Arruwurra Freehold
	Burramurra Native Title Claim
	Indjalandji-Dhidhanu Native Title Area

Stakeholder Group	Stakeholder Name
	Kalkadoon Native Title Area
Aboriginal communities, family outstations and town camps	Mungalawurru
	Town Camps near Tennant Creek - Village Camp, Munji-Marla, Marla Marla, Ngalsa Ngalsa, Tinkarli, Wuppa and Kargaru
	Hingstons Place
	Wiitin
	Pakulki
	Likkaparta
	Kurnttapurra
	Ngurrara
	Purrukuwurru
	Wunara
	Alpururulam
	Kurraya
Community service organisations	Julalikari Council Aboriginal Corporation
	Papulu Apparr-Kari Aboriginal Corporation
	Mount Isa Aboriginal and Torres Strait Islander Community Reference Group
Government	Barkly Regional Council
	Mount Isa City Council
	Barkly Regional Coordination Committee

Stakeholder Group	Stakeholder Name
	Regional Manager Coordination Network (Mount Isa)
Economic development organisations	Tennant Creek Regional Economic Development Committee
	Tennant Creek Chamber of Commerce
	Tennant Creek Mount Isa Cross Border Alliance
	Mount Isa Townsville Economic Development Zone
	Commerce North West
Health and emergency services	Tennant Creek Emergency Management Committee
	Tennant Creek, Avon Downs, Camooweal, Alpururulam and Mount Isa Police
	Anyinginyi Health Aboriginal Corporation (Tennant Creek)
	Camooweal Primary Health Care Clinic
	Alpururulam Health Clinic
	North West Hospital and Health Service (Mount Isa)
	Department of Police, Fire and Emergency Services (Northern Territory)
	Tennant Creek Community Safety Committee
Sport, recreation and arts organisations (and similar organisations)	Sporting and other recreational associations in Tennant Creek, Camooweal, Alpururulam and Mount Isa
	Barkly Regional Arts
Industry representative bodies and participants	The Australian Petroleum Production & Exploration Association
	Minerals Council of Australia
	Mount Isa Mines

Stakeholder Group	Stakeholder Name
	Minemakers Australia
	Emmerson Resources
	NT Cattlemen's Association
Other interest groups	<p>Lock the Gate Alliance (Northern Territory) whose members comprise:</p> <ul style="list-style-type: none"> • Arid Lands Environment Centre. • Central Australia Frack Free Alliance. • Frack Free Alliance NT. • Frack Free NT.

Attachment 3 –Interview Guide

The following interview guide for the social impact consultations has been drafted to assist the Circle consultation team to work in accordance with the consultation principles set out in section 4.3.2 above. It is important to note that this is a guide only. Circle will carefully plan for each consultation that will include tailoring the questions below and the approach to questioning each stakeholder.

1. What do you know about the Project and Jemena and have you had any involvement with the Project?
2. What are your initial thoughts, based on what you know about the Project and / or your involvement?
3. Can you provide us with an overview of the community and its services and your sense of how united and organised the community is to be able to provide community support services (community cohesion) both now and in managing potential social impacts.
4. What do you think are the potential benefits of the Project and what do you think Jemena and the community should do to realise those benefits?
5. What negative impacts do you think could arise from the Project for the community and the region, how likely do you think it is that those impacts will occur? If those impacts do arise, what do you think the consequences be for the community may be? What should be done to minimise the negative impacts and maximise the opportunities arising from the Project?
6. Is the community talking about this project? What are they saying? What are people's expectations?
7. What role could your organisation play in managing social impacts arising from the Project? Can you give me information about (your department, property, business)?
8. Do you have any useful statistics on your workload or demand for services/reports/previous research (for baseline data)?
9. Can you describe your current workload and ability to absorb any likely additional demand from Jemena? What constraints do you have / does your organisation have in being able to respond to social impacts arising from the Project?

Some specific questions could be:

- How well do you think the community would cope with an influx of workers?
- What impact could you imagine might come from the Project?
- How will the community respond/adapt to changes from the Project?
- What sort of lifestyle do you lead, what do you like about living here? What are the strengths of this community, the networks that create a community?
- What is the experience of employing and training local people?
- What is the experience of supplying mining and other projects in the region?
- Do you want to be kept informed? How would the community like to be consulted in future?
- Who are the key people in this community that we should be talking to?

Appendix E: Framework ESIMP

Northern Gas Pipeline

Economic and Social Impact Management Plan

VERSION: ONE

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1. EXECUTIVE SUMMARY

This Economic and Social Impact Management Plan (ESIMP) sets out how Jemena will manage the social and economic impacts (risks and opportunities) arising from the Northern Gas Pipeline (NGP) Project.

The ESIMP draws on:

1. The Social Impact Assessment (SIA) Scoping Study – completed August 2016.
2. The Economic Impact Assessment (EIA) - completed June 2016.
3. SIA Community consultations – scheduled completion in August 2016.
4. The Economic and Social Impact Assessment (ESIA) – scheduled completion in August / September 2016.

This ESIMP will be finalised during the fourth quarter of 2016, once the outcomes from the SIA consultations have been analysed, the ESIA completed and other stakeholder consultations have been finalised.

This ESIMP will be implemented by Jemena throughout the planning, construction and commissioning phase of the Project in particular, but will also provide the foundation for Jemena's management of social impact throughout the operations phase of the project.

The Project phase timing is:

1. Planning: 2016.
2. Construction and Commissioning: early 2017 to 2018.
3. Operations: 2018+

Social and economic impacts are by nature quite varied and when combined with the various elements of the project, are spread across a variety of disciplines. In order to make sense of these, to plan appropriately, to allot responsibilities and to measure impacts the following three areas of social and economic impact form the framework for the plan:

1. Culture and Heritage
2. Community Health and Wellbeing
3. Economy and Development

These themes are consistent with the approach taken in the SIA Scoping Study, in the SIA consultations and in the subsequent development of the ESIA.

While the current version of this plan will be updated once the consultations have been completed and ESIA finalised, many of the elements of the plan are under implementation already as the impacts (risks and opportunities) have been under continuous management since Jemena was shortlisted in the competitive process (in May 2015) and then awarded the right to build, own and operate the Project in November 2015.

The structure of this plan is that Sections 2, 3 and 4 set out in accordance with each project phase and for each impact area referred to above:

- how each risk is to be mitigated;
- how each opportunity is to be realised or enhanced;
- preliminary indicators and measures;
- when the risk / opportunity is expected to arise and the risk mitigation or enhancement is expected to be done;
- any associated project plans; and
- who holds the primary responsibility for managing each activity.

Subsequent sections provide further information in relation to overall accountability and responsibilities, and monitoring, reporting and review.

2. PLANNING PHASE

This section sets out how social impacts (risks and opportunities) are being managed during the planning phase of the project.

2.1. CULTURE & HERITAGE

Risks

Planning phase culture and heritage risks are being managed throughout 2016 within the range of cultural heritage survey agreements that are in place with Aboriginal Parties, in accordance with the various licensing and permitting processes and the existing legislation.

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Planning Phase						
Culture & Heritage						
Early survey works.	Unauthorised entry onto and / or damage to sacred sites that results in anxiety or distress to Traditional Owners / site custodians.	Sacred Site surveys undertaken by Land Councils and reports received setting out Restricted Work Areas and Exclusion Zones. Cultural heritage survey agreements in place with all other Aboriginal Parties, to identify Restricted Work Areas and Exclusion Zones.	Number of incidents.	2016	EPA Pipeline Permit #1 Survey agreements with Aboriginal Parties	Field Survey Coordinator
	Unauthorised entry onto Aboriginal land, causes breach of the Aboriginal Land Act (ALA) and offence to Traditional Owners.	Compliance with the ALA and issue of individual permits.	Breaches of permit conditions, incidents of unauthorised access.	2016	CLC Aboriginal Land permit system	Cultural Heritage Coordinator
	Damage to cultural heritage sites, places or objects in breach of the Heritage Act and that results in anxiety or distress to Traditional Owners.	No low impact ground disturbing works to be undertaken without cultural heritage sites survey by archaeologist.	Number of incidents.	2016	Arch. Survey	

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Uninvited entry into Aboriginal living areas, e.g. family outstations and so causes anxiety and concern among residents.	Identification of family outstations and inclusion of access restrictions in Project land access line list.	Number of incidents.	2016	CLC Aboriginal Land permit system	

Opportunities

Opportunities are being pursued during the planning phase to the extent possible, alongside the establishment of the necessary arrangements for the opportunities planned for the construction phase.

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Planning Phase						
Cultural & Heritage						
Early survey works. Field access for non-ground and low impact ground disturbing works.	Discovery of previously unknown cultural heritage site, artefact or objects adding to the body of knowledge in the Territory Heritage Register.	Where possible, ensure that Traditional Owners are involved in field archaeological surveys.	Number of Traditional Owners involved in the archaeological surveys. Number of new sites discovered and registered.	2016	Pipeline Permit Survey Agreements Field Surveys	Field Survey Coordinator
	Passing on of knowledge between generations through cultural heritage field surveys.	Ensure the employment of Aboriginal Field Hands on archaeological surveys.	Number of Aboriginal Field Hands employed on archaeological surveys	2016	Pipeline Permit Survey Agreements Field Surveys	Cultural Heritage Coordinator

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Aboriginal Field Hands learn how to undertake site recording of archaeological sites.	Ensure the employment of Aboriginal Field Hands on archaeological surveys and that they are provided on the job training in site recognition and recording.	Number of Aboriginal Field Hands employed on archaeological surveys who become competent in site recognition and recording.	2016	Pipeline Permit Survey Agreements Field Surveys	

2.2. COMMUNITY SOCIAL HEALTH & SAFETY

Risks

Planning phase community social health and safety risks are being managed throughout the planning phase (2016) within the practices being undertaken by Jemena through its consultation and community engagement program.

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Planning Phase						
Community Health & Safety						
Mobilisation of Planning Phase workforce.	Community and individual concern and anxiety arising from uncertainties about the Project.	Implementation of communications strategy and plan, including regular updates through a community reference group, established in 2016 and implemented throughout the Project Construction Phase.	Level of knowledge about the project. Extent of fears, attitudes or negative perceptions about the project.	2016	n/a	Stakeholder & Approvals Manager Local & Indigenous Participation Manager Community Relations Manager

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Land negotiations.	Inter/intra family conflict and reduced community cohesion, consequent increases in interaction with the criminal justice system and health and other community services.	Land negotiations held through well established and proponent funded Land Council and Aboriginal representative body processes. Land negotiations with other landowners held through established and transparent, proponent funded processes.	Reported incidents of conflict in levels of crime and anti-social behaviour directly attributable to the land negotiations.	2016	n/a	Stakeholder & Approvals Manager Local & Indigenous Participation Manager
	Traditional owners and native title holders are not able to exercise Free, Prior and Informed Consent and so are not appropriately protected or afforded appropriate compensation for land use.	Land negotiations held through well established and proponent funded Land Council and Aboriginal representative body processes and in accordance with the ALRA and NTA.	Formal and informal protest / objections made about the project agreements reached with Aboriginal Parties. Proponent resorts to compulsory acquisition process or procedural rights under various legislation.	2016 / 2017	n/a	Stakeholder & Approvals Manager Local & Indigenous Participation Manager
Land negotiations and community engagement and consultation.	Broader community and special interest group concerns regarding hydraulic fracturing (fracking) in the onshore gas industry cause concern, anxiety and division in the community (loss of social cohesion) about the enabling impact of the NGP for the onshore gas industry and consequent increase in fracking in NT sedimentary basins.	In managing the risk Jemena will continue to engage with the broader Tennant Creek community and directly with Traditional Owner groups and other Aboriginal people through direct briefings and meetings about the project to explain the nature of the project, i.e. sources of foundation and future gas, that the NGP is a transporter of gas and not a producer. Also that approval decisions regarding any onshore gas projects would be made separately to any approval decisions about the NGP. These communications would also occur through the proposed CRG. Jemena will also engage directly with the special interest groups concerned to understand and respond to their concerns as much as is reasonably practicable.	Agreements reached with landowners. Absence of protests. Communication events through CRGs, newspaper advertisements, newsletters published. Engagement with special interest groups.	2016	n/a	Stakeholder & Approvals Manager Community Relations Manager Local & Indigenous Participation Manager

Opportunities

Opportunities are being pursued during the planning phase to the extent possible, alongside the establishment of the necessary arrangements for the opportunities planned for the construction phase.

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Planning Phase						
Community Health & Safety						
Field access for non-ground and low impact ground disturbing works.	Traditional Owners and Aboriginal Field Hands learn about Health, Safety & Environment practices in the work place.	Support individuals with relevant additional training throughout the planning phase.	Number of Traditional Owners and Aboriginal Field Hands that complete the inductions and relevant training.	2016	ESIMP	Field Survey Coordinator Cultural Heritage Coordinator
Project design	Project logistics design provides an opportunity for arrangements to be established between Jemena and local PFES that capture synergies between the project for the benefit of the relevant community.	Ensure that worthwhile synergies are implemented between the project and the community.	Evidence of arrangements established between the project and the PFES, including emergency exercises held.	2016	ESIMP	Indigenous Participation Coordinator Local Industry Participation Coordinator

2.3. ECONOMY & DEVELOPMENT

Risks

Planning phase economy and development risks are being managed throughout 2016 through the stakeholder and community engagement practices informing the employment and procurement processes.

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Planning Phase						
Economy & Development						
Early survey works.	Local people miss out on employment opportunities.	Proponent actively pursues local employment.	Number of local and Aboriginal people employed.	2016	n/a	Indigenous Participation Coordinator
Project does not proceed.	No economic development arising from the Project. Local businesses and individuals incur financial loss or loss in goodwill.	Proponent uses best endeavours to obtain all approvals within the current market conditions. Keep local business and community regularly briefed on Project progress.	Project proceeds.	2016 / 2017	n/a	Project Director
Project is delayed.	Local businesses and individuals incur financial loss or loss in goodwill.	Proponent uses best endeavours to obtain all approvals within the current market conditions. Keep local business and community regularly briefed on Project progress.	Project proceeds. Number of complaints / reports of individual businesses incidences of over-investment.	2016 / 2017	n/a	Project Director Stakeholder & Approvals Manager

Opportunities

Opportunities are being pursued during the planning phase to the extent possible, alongside the establishment of the necessary arrangements for the opportunities planned for the construction phase.

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Planning Phase						
Economy & Development						
Early survey works. Field access for non-ground and low impact ground disturbing works.	Local people get employment opportunities	Continued focus on local and Aboriginal employment in all aspects of field surveys and build on the cohort of people employed to feed into recruitment for the project construction opportunities.	Number of Aboriginal Field Hands employed on archaeological surveys.	2016	Pipeline Permit Survey Agreements Field Surveys	Field Survey Coordinator Cultural Heritage Coordinator Indigenous Participation Coordinator
	Traditional Owners and Aboriginal Field Hands learn about Health, Safety & Environment practices in the work place.	Assess Traditional Owners and Aboriginal Field Hands performance throughout the planning phase for potential selection for direct employment or on the Project Ready Training Program (P RTP). Support individuals with relevant additional training throughout the planning phase.	Number of Traditional Owners and/or Aboriginal Field Hands that gain direct employment on the Project or participate on the P RTP.	2016	Regional Employment Plan (REP) P RTP	Indigenous Participation Coordinator

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Project procurement and contracting. Award of contracts.	Local businesses win contracts through competitive supply.	Implementation of SME Business Growth Program including regional business briefings.	Number of regional business briefings. Number of businesses winning contracts.	2016-17	SME Business Growth Program	Indigenous Participation Coordinator Local Industry Participation Coordinator

3. CONSTRUCTION PHASE

This section sets out how social impacts (risks and opportunities) will be managed during the construction phase of the project.

3.1. CULTURE & HERITAGE

Risks

Construction phase culture and heritage risks will be managed primarily through the Project Cultural Heritage Management Plan (CHMP) and in accordance with the relevant administrative approvals received.

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Construction Phase						
Culture & Heritage						
Mobilisation and construction activities	Unauthorised entry onto and / or damage to sacred sites that results in anxiety or distress to Traditional Owners / site custodians.	<p>Inclusion of access restrictions for workers in Project area in accordance with Sacred Site Authority Certificate.</p> <p>All clearance activities undertaken in accordance with Authority Certificates from Aboriginal Areas Protection Authority (AAPA). Authority Certificate conditions incorporated into Project Construction Management Plans and incorporated into all subcontracts.</p> <p>Specific conditions set out in Project Cultural Heritage Management Plan (CHMP), including all clearance areas defined by line of site pegs prior to clearance activities.</p> <p>Traditional Owner participation in clear and</p>	Number of incidents.	2017	CHMP / ASSA Authority Certificate	<p>Construction Manager</p> <p>Local & Indigenous Participation Field Supervisor</p>

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
		grade team ahead of construction in Restricted Work Areas.				
	Uninvited entry into Aboriginal living areas, e.g. family outstations.	Identification of family outstations and inclusion of access restrictions in Project land access line list.	Number of incidents.	2017	Project Personnel Management Plan	
	Unauthorised entry onto Aboriginal Land.	Agreement with the Central Land Council regarding the issue of Project permits to access the Warumungu and Wakaya Aboriginal Land Trust lands.	Breaches of permit conditions, incidents of unauthorised access.	2017 - 2018	CLC Aboriginal Land permit system	
	Damage to known cultural heritage sites, places or objects.	Implement Construction Phase CHMP including: - Incorporating site management conditions in Work Approvals under the Heritage Act. - Archaeological Heritage Field hands working alongside Traditional Owners during clear and grade in Restricted Work Areas. - Archaeological Field hands working during clear and grade in areas of high archaeological potential. - Marking out and fencing off of heritage site areas in close proximity to construction activities.	Evidence of implementation of Works Approvals under the Heritage Act.	2017	CHMP Work Approvals	
	Discovery and disturbance of previously undiscovered cultural heritage sites, places or objects.	Inclusion of procedures in CHMP for management of further site discovery during clear and grade activities.	Evidence of implementation of Works Approvals under the Heritage Act.	2017	CHMP Work Approvals	

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Skeletal remains discovery and disturbance.	Monitoring of initial clearance of treed areas through Traditional Owner participation in clear and grade team ahead of construction. Inclusion of procedures in CHMP for skeletal remains discovery and management.	Number of incidents of skeletal discovery. Actual extent of impact on site.	2017	CHMP Work Approvals	

Opportunities

Construction phase culture and heritage opportunities will be managed primarily through the Project Cultural Heritage Management Plan (CHMP) and supported by the Regional Employment Plan initiatives.

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Construction Phase						
Cultural & Heritage						

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Clearance and disturbance activities along the alignment, access roads, camps and other areas. CHMP Implementation	Practical management of known cultural heritage sites and discovery of previously unknown cultural heritage sites, artefacts or objects adding to the body of knowledge in the Territory Heritage Register.	Where possible, ensure that Traditional Owners are involved in CHMP implementation.	Number of Traditional Owners involved in the CHMP implementation. Number of new sites discovered and registered.	2017	CHMP Work Approvals	Local and Indigenous Participation Manager Indigenous Participation Coordinator
	Passing on of knowledge between generations through CHMP implementation.	Ensure the employment of Aboriginal Field Hands on archaeological surveys.	Number of Aboriginal Field Hands employed on archaeological surveys.	2016-17	CHMP Work Approvals	Field Survey Coordinator Cultural Heritage Coordinator Indigenous Participation Coordinator
	Aboriginal Field Hands learn how to undertake site recording of cultural heritage sites.	Ensure the employment of Aboriginal Field Hands on archaeological surveys and that they are provided on the job training in site recognition and recording.	Number of Aboriginal Field Hands employed on archaeological surveys.	2016-17	CHMP Work Approvals	Field Survey Coordinator Cultural Heritage Coordinator Indigenous Participation Coordinator
	Project non-Aboriginal staff gain greater awareness and respect for Aboriginal cultural knowledge resulting in greater acceptance of Aboriginal people working on the project.	Design and deliver Indigenous cultural awareness training course for senior management / supervisors and all workers involved in the project.	Number of cultural awareness training courses provided and number of attendees	2016-17	Cultural Awareness Training Plan	Indigenous Participation Coordinator Local Industry Participation Coordinator

3.2. COMMUNITY HEALTH & SAFETY

Risks

Community health and safety risks during the construction phase will be managed through a variety of initiatives and project plans as set out below.

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Construction Phase						
Community Health & Safety						
Land Agreement Implementation.	Inter/intra family conflict and reduced community cohesion, consequent increases in interaction with the criminal justice system and health and other community services.	Land agreement benefits are managed through well-established Land Council and Aboriginal representative body processes.	Reported incidents of conflict in levels of crime and anti-social behaviour directly attributable to the land agreement implementation.	2017 - 2018	Land Agreements	Local and Indigenous Participation Manager
Mobilisation of construction workforce.	Members of the workforce unskilled in money management engage in increased alcohol and drug consumption, resulting in increased anti-social behaviours including inter / intra family violence causing consequent increases in negative interaction with the criminal justice system and health and other community services.	Money management and associated education of local workforce through Jemena's Project Ready Training Program and liaison with community support agencies.	Inclusion and implementation of modules within the PRTP. Strategies put in place with community support agencies. Number of incidents directly attributable to the risk.	2016 - 2017	REP / PRTP	Local and Indigenous Participation Coordinator Local and Indigenous Participation Supervisor

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Remote community members working on the project gravitate to centres such as Tennant Creek and Mount Isa during rostered break and engage in increased alcohol and drug consumption, resulting in increased anti-social behaviours including inter / intra family violence causing consequent increases in negative interaction with the criminal justice system and health and other community services. Also, results in high incidence of employment abandonment.	Develop strategies in consultation with remote community workers and community organisations that support and coordinate workers during rostered breaks including town based support for workers returning to the project.	Inclusion and implementation of modules within the PRTP. Strategies put in place with community support agencies. Number of incidents directly attributable to the risk.	2016 - 2017	REP / PRTP	Local and Indigenous Participation Coordinator Local and Indigenous Participation Supervisor
	Community conflict over perceptions of unfair employment processes results in reduced community cohesion, possible inter / intra family violence and conflict and consequent negative increases in interaction with the criminal justice system and health and other community services.	Transparent implementation of Jemena's Regional Employment Plan, including selection processes for the Project Ready Training Program and transparency communication of employment recruitment processes by contractors through the NGP Jobs online portal.	Establishment of NGP Jobs Portal Implementation of REP elements. Number of incidents directly attributable to the risk.	2016 - 2017	REP / PRTP	Local and Indigenous Participation Coordinator Local and Indigenous Participation Supervisor
	Local people employed on the Project are unable to maintain active participation in local community (volunteering) and sporting organisations, results in reduced community amenity and cohesion.	Jemena to discuss potential impacts with community organisations to assess level of impact and possible mitigation strategies, e.g. potential participation of workforce existing community events.	Evidence of discussion with community groups. Adoption and implementation of strategies. Reports of risk occurrences through the CRGs.	2017	Stakeholder Management Plan	Community Relations Manager

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Transportation of personnel, machinery and materials during construction and installation of the pipeline.	Traffic incidents in Tennant Creek, on the Stuart Highway and the Barkly Highway results in increased road trauma, particularly in higher speed zones.	Risk managed through the Project Traffic Management Plan including Project communications at key points, e.g. roadhouses in Tennant Creek and along the Barkly Highway.	Number of traffic incidents associated with project traffic	2017 - 2018	Traffic Management Plan	Construction Manager
	Trespass into laydown yard with possible illegal activities, theft, vandalism or injury increasing interaction with the criminal justice system, health and other community services.	Security plan established for the pipe laydown yard in consultation with local police.	Security plan established. Number of incidents of the risk.	2016 - 2017	Security Management Plan	Construction Contractor
	People who engage in petrol sniffing seek to access project areas to gain access to petrol.	Any petrol used is to be stored in securely locked storage areas and specifically monitored through security plan.	Security plan established. Number of incidents of the risk.	2016 - 2017	Security Management Plan	Construction Contractor
Clearance and disturbance activities along the alignment, access roads, camps and other areas.	Injuries to local people and property damage.	Security plan established for the Project activities including and Project communications about risks.	Security plan established. Number of incidents of the risk.	2016 - 2017	Security Management Plan	Construction Contractor

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Establishment and operation of construction workers camps.	Increased demand on existing community services and infrastructure, e.g. GP, hospital and emergency services, leading to loss of service for Tennant Creek community.	<p>Levels of demand for use of local medical and emergency facilities controlled through:</p> <ul style="list-style-type: none"> - pre-employment fitness-for-duty drug/alcohol/medical assessments. - appropriate medical facilities and support at PCCS camp - Safety Management Systems minimise workplace injury; - established medical and evacuation protocols in consultation with Tennant Creek Hospital and other emergency services. <p>Refer Project Human Health & Safety Plan.</p>	Refer EMP Chapter 10.	207-2018	Ref EIS Chapter 10	Various
	Increased demand on emergency / medical services and insufficient resources to adequately cover local response to remote locations: bushfire, vehicle incidents, emergency evacuation, police incident.	<p>Develop Emergency Response Plan in consultation with NT PFES including integrating emergency communications procedures.</p> <p>Ensure ER capacity at temporary camps and with crews. Established medical and evacuation protocols. Pre-employment fitness-for-duty drug/alcohol/medical assessments.</p>	Refer EMP Chapter 10.	2017-2018	Ref EIS Chapter 10	Various
	Construction workforce (>200 people) resident in Tennant Creek for 12 months results in a changed demographic profile and impacts on Tennant Creek sense of place, community amenity, safety etc.	<p>Undertake further consultation with the Tennant Creek community stakeholders about the safe number of workers able to be accommodated in Tennant Creek either in a workers camp situation or in existing commercial accommodation.</p> <p>Establish a Workers Accommodation Plan for the Project that protects community amenity.</p>	Reports of negative impacts on community amenity, safety etc., through the proposed Community Reference Groups.	2016 - 2018	ESIMP	Community Relations Manager

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Anti-social behaviour of PCCS construction workers in Tennant Creek causes community disruption and increased pressure on local health and emergency services.	Controls include Project Drug and Alcohol Policy, Codes of Conduct, FIFO workers directly transported to and from landing point to construction accommodation. Establishment of a Workers Accommodation Plan for the project that protects community amenity.	Reports of negative impacts on community amenity, safety etc., through the proposed Community Reference Groups.	2016 - 2018	ESIMP	Community Relations Manager
	Increased formal / informal sexual interaction between construction workers and community causes negative health and community consequences in Tennant Creek (e.g. increased prevalence of STIs).	Establish a Workers' Accommodation Plan for Tennant Creek that manages the interaction between the community and the workforce in a way that minimises the potential for these risks to occur.	Reports of negative impacts on community amenity, safety etc., through the proposed Community Reference Group.	2016 - 2018	ESIMP	Community Relations Manager
	Increased demand on existing community services and infrastructure, e.g. GP, hospital and emergency services, leading to loss of service for Mount Isa community.	Jemena provides for medical services to an appropriate level for MICS construction workforce and makes arrangements for emergency medical scenarios with Mount Isa Hospital and other local emergency services.	Refer EMP Chapter 10.	207-2018	Ref EIS Chapter 10	Various
	Increased demand on emergency / medical services and insufficient resources to adequately cover local response to remote locations: bushfire, vehicle incidents, emergency evacuation, police incident.	Develop Emergency Response Plan in consultation with Mount Isa emergency services including integrating emergency communications procedures. Ensure Emergency Response capacity at temporary camps and with crews.	Refer EMP Chapter 10.	207-2018	Ref EIS Chapter 10	Various

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Construction workforce (>100 people) resident in Mount Isa over a 12 month period results in a changed demographic profile and impacts on Mount Isa sense of place, community amenity, safety etc.	Establish a Workers' Accommodation Plan for Mount Isa that manages the interaction between the community and the workforce in a way that minimises the potential for these risks to occur.	Reports of negative impacts on community amenity, safety etc., through the proposed Community Reference Group.	2016 - 2018	ESIMP	Community Relations Manager
	Anti-social behaviour of MICS construction workers in Mount Isa including increased drug and alcohol abuse and potential associated increased violence and crime.	Establish a Workers' Accommodation Plan for Mount Isa that manages the interaction between the community and the workforce in a way that minimises the potential for these risks to occur.	Reports of negative impacts on community amenity, safety etc., through the proposed Community Reference Group.	2016 - 2018	ESIMP	Community Relations Manager
	Increased formal / informal sexual interaction between construction workers and community causes negative health and community consequences in Mount Isa (e.g. increased prevalence of STIs).	Establish a Workers' Accommodation Plan for Mount Isa that manages the interaction between the community and the workforce in a way that minimises the potential for these risks to occur.	Reports of negative impacts on community amenity, safety etc., through the proposed Community Reference Group.	2016 - 2018	ESIMP	Community Relations Manager
Trenching activities and installation of the pipeline.	Injuries to local people and property damage.	A combination of Project signage and gates will be used to control unauthorised access to the construction site. Security plan established for the pipeline and compressor station construction activities.	Refer EMP Chapter 10.	207-2018	Ref EIS Chapter 10	Various
	Community anxiety / negative perceptions regarding environmental management of the NGP Project.	Implementation of Communications Strategy & Plan, including regular updates through specified Community Stakeholder Communications Network, established in 2016 and implemented throughout the Project Construction Phase.	Reports of negative impacts on community amenity, safety etc., through the proposed Community Reference Group, direct to Jemena through 1300 contact line.	2016 - 2018	ESIMP	Community Relations Manager

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Project activities will be visible to other users in the area where they are occurring, e.g. vegetation clearing and earthworks, pipeline stockpiles equipment, visibility of people, vehicles and other equipment, causing a negative impact on visual amenity for people driving through the area(s).	Communications with the local community through the Tennant Creek CRG, newsletters and project updates and to other stakeholders, through other communication points, e.g. roadhouses, about the Project.	Reports of negative impacts on visual amenity through proposed Community Reference Group, direct to Jemena through 1300 contact line	2017-2018	ESIMP	Community Relations Manager Construction Contractor

Opportunities

Community health and safety opportunities during the construction phase will be managed through a variety of initiatives and project plans as set out below.

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Construction Phase						
Community Health & Safety						
Clearance and disturbance activities along the alignment, access roads, camps and other areas. CHMP Implementation	Traditional Owners and Aboriginal Field Hands learn about Health, Safety & Environment practices in the work place.	Assess Traditional Owners and Aboriginal Field Hands performance throughout the planning phase for potential selection for direct employment or on the Project Ready Training Program (P RTP). Support individuals with relevant additional training throughout the planning phase.	Number of Traditional Owners and/or Aboriginal Field Hands that gain direct employment on the Project or participate on the P RTP.	2016-17	P RTP	Field Survey Coordinator Cultural Heritage Coordinator Indigenous Participation Coordinator

3.3. ECONOMY & DEVELOPMENT

Risks

Economy and development risks during the construction phase will be managed through a variety of initiatives and project plans as set out below.

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Construction Phase						
Economy & Development						
Project procurement and contracting.	Local businesses miss out on contract opportunities with the Project through a lack of capacity to competitively tender and supply.	Implementation of Jemena's Industry Participation Plan (IPP) including the SME Business Growth Program.	Number of local businesses successfully winning contracts with Jemena and 1st and 2nd tier contractors.	2016 - 2018	SME Business Growth Program	Local Participation Coordinator
	Jemena's 1st tier (major) and Tier 2 contractors fail to maximise use of local goods and services from the regions and local businesses miss out on opportunities as a result.	Implementation of Jemena's Industry Participation Plan (IPP) including the SME Business Growth Program, including inclusion of local content requirements in all Tier 1 and Tier 2 contracts, continued assessment and scrutiny of contractor local content plans.	Number of local businesses successfully winning contracts with Jemena and 1st and 2nd tier contractors.	2016 - 2018	SME Business Growth Program	Local Participation Coordinator
	Local businesses over invest in expectation of winning contracts but are unsuccessful.	Continued communication with the local business community about opportunities with the Project, including timing and scope.	Complaints from local suppliers or supplier organisations of issues arising from over-investment, either directly or through the CRGs.	2016 - 2018	SME Business Growth Program	Local Participation Coordinator Community Relations Manager

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	New small businesses may accelerate in initial development based on the project and then fail once the project opportunities pass.	Communicate support opportunities to all businesses, particularly new small businesses, including the risk of early failure and the importance of adopting strategies to manage this in their business plans.	Evidence of communication through Jemena, 1st and 2nd tier contractors, via CRGs or otherwise, of information being provided to new small businesses regarding this issue.	2016 - 2018	SME Business Growth Program	Local Industry Participation Coordinator Indigenous Participation Coordinator Community Relations Manager
	Inflationary pressures occur resulting in increased prices and economic hardship for locals not involved in the Project.	Implementation of Communications Strategy & Plan, including regular updates through a Community Reference Group, established in 2016 and implemented throughout the Project Construction Phase. Understanding of Project demand impact lessens possibility of false demand signals and unnecessary price increases.	Reports of inflationary pressures received through CRGs, 1300 contact line or other methods.	2017-2018	ESIMP	Community Relations Manager
	Reduced level of goods and services to support existing community requirements.	Implementation of Communications Strategy & Plan, including regular updates through a Community Reference Group, established in 2016 and implemented throughout the Project Construction Phase. Understanding of Project demand impact lessens possibility of false demand signals and unnecessary price increases.	Reports of reduced levels of goods and services to the community received through CRGs, 1300 contact line or other methods.	2017-2018	ESIMP	Community Relations Manager
Mobilisation of construction workforce.	People miss out on jobs and expectations of the provision of local jobs are not met.	Transparent implementation of Jemena's Regional Employment Plan, including selection processes for the Project Ready Training Program and transparent communication of employment recruitment processes by contractors through the NGP Jobs online portal.	Number and Indigenous people obtaining jobs through monitoring of outcomes from the PRTP, the NGP Jobs Portal and contractor reporting.	2016-2017	Regional Employment Plan	Local & Indigenous Participation Manager Indigenous Participation Coordinator

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Fly in, fly out component of the workforce takes up available spaces on regional flights resulting in displacement of other travellers, e.g. tourists, government service workers and other industry workers, i.e. particularly in Tennant Creek.	Construction contractor to organise charter flights to and from Tennant Creek.	Air charter contracts put in place by construction contractor.	2016-2017	n/a	Construction Contractor
	Local government, pastoral industry, tourism and hospitality industry, businesses and community organisations lose workers to the Project.	<p>Transparent implementation of Jemena's Regional Employment Plan, including selection processes for the Project Ready Training Program and transparent communication of employment recruitment processes by contractors through the NGP Jobs online portal.</p> <p>Briefing of local government, businesses, pastoral industry and community organisations regarding the timing and extent of Project labour demand.</p>	<p>Evidence of community briefings on employment and orientation days for PRTP.</p> <p>NGP Jobs Portal establishment and information content.</p> <p>Evidence of briefing of other business and community stakeholders through the CRGs.</p>	2016-2017	ESIMP	Community Relations Manager
	Increased costs to local government, pastoral industry and community organisations through increased wages and conditions required to retain staff.	<p>Transparent implementation of Jemena's Regional Employment Plan, including selection processes for the Project Ready Training Program and transparent communication of employment recruitment processes by contractors through the NGP Jobs online portal.</p> <p>Briefing of local government, businesses, pastoral industry and community organisations regarding the timing and extent of Project labour demand.</p>	<p>Evidence of community briefings on employment and orientation days for PRTP.</p> <p>NGP Jobs Portal establishment and information content.</p> <p>Evidence of briefing of other business and community stakeholders through the CRGs.</p>	2016-2017	ESIMP	Community Relations Manager

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Mount Isa labour market overshadows Barkly labour market and results in limited employment outcomes for people from the Barkly, particularly Tennant Creek and Alpururulam.	Implementation of Jemena's Regional Employment Plan, including: - the Project Ready Training Program - the NGP Jobs Portal - the Tennant Creek Social Enterprise opportunity - contractual provisions for subcontractors to maximise the use of labour from the Barkly and Mount Isa.	Number of local and Aboriginal people employed from Mount Isa and the Barkly.	2016 - 2017	REP / PRTP	Indigenous Participation Coordinator
Establishment and operation of construction workers camps.	Existing accommodation providers miss out on commercial benefits from the Project.	Establish a Workers' Accommodation Plan for Tennant Creek that provides the broadest possible benefits for local accommodation providers.	Planned local commercial accommodation estimates met.	2017	ESIA / ESIMP	Construction Contractor
	Significant spike in demand for local utilities occurs outside of existing capacity resulting in requirement for short term utilities infrastructure investment.	Establish a Workers' Accommodation Plan for Tennant Creek that does not result in utilities demand outside of existing capacity.	No negative impact on local utilities.	2017	ESIA / ESIMP	Construction Contractor
	Accommodation demand from the Project displaces other accommodation demand and results in a negative impact on other industries and services in the town, e.g. tourism, government services, other industry, particularly at time of significant annual events that bring revenue to the town, e.g. the Tennant Creek Annual Show.	Establish a Workers' Accommodation Plan for Tennant Creek that provides the broadest possible benefits for local accommodation providers but does not have a negative impact on other industries and services.	No negative impact on other industries or services in Tennant Creek.	2017	ESIA / ESIMP	Construction Contractor

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Existing accommodation providers miss out on commercial benefits from the Project.	Establish a Workers' Accommodation Plan for Tennant Creek that provides the broadest possible benefits for local accommodation providers but does not have a negative impact on other industries and services.	Optimised use of local accommodation providers measured through actual accommodation bookings made.	2017 - 2018	ESIA / ESIMP	Construction Contractor
	Price and availability of private accommodation pressures increase cost of living in Tennant Creek.	Establish a Workers' Accommodation Plan for Tennant Creek that does not have an overly negative impact on the price and availability of private accommodation.	Optimised use of local accommodation providers measured through actual accommodation bookings made.	2017 - 2018	ESIA / ESIMP	Construction Contractor
	Existing accommodation providers miss out on commercial benefits from the Project.	Establish a Workers' Accommodation Plan for Mount Isa that provides the broadest possible benefits for local accommodation providers.	Planned local commercial accommodation estimates measured.	2017 - 2018	ESIA / ESIMP	Construction Contractor
	Significant spike in demand for local utilities occurs outside of existing capacity resulting in requirement for short term utilities infrastructure investment capacity.	Establish a Workers' Accommodation Plan for Mount Isa that does not result in utilities demand outside of existing capacity.	No negative impact on local utilities.	2017	ESIA / ESIMP	Construction Contractor
	Accommodation demand from the Project displaces other accommodation demand and results in a negative impact on other industries and services in the town, e.g. tourism, government services, other industry.	Establish a Workers' Accommodation Plan for Mount Isa that provides the broadest possible benefits for local accommodation providers but does not have a negative impact on other industries and services.	No negative impact on other industries or services in Tennant Creek.	2017	ESIA / ESIMP	Construction Contractor

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Price and availability of private accommodation pressures increase cost of living in Mount Isa.	Establish a Workers' Accommodation Plan for Mount Isa that does not have an overly negative impact on the price and availability of private accommodation.	Number of houses / apartments sought for purchase / rent compared with housing sale and rental stock available.	2017 - 2018	ESIA / ESIMP	Construction Contractor
Clearance and disturbance activities along the alignment, access roads, camps and other areas.	Loss of agricultural productivity and costs incurred to redress pest weed spread.	Implementation of Biosecurity (Weed) Management Plan in accordance with arrangements agreed with individual pastoral stations.	Reports from land owners of weed spread and/or resultant loss of productivity.	2017 - 2018	Biosecurity (Weed) Management Plan	Construction Contractor
Trenching activities and installation of the pipeline.	Trenching across existing tracks causes delays to access on pastoral leases and to Aboriginal communities.	Access track crossing discussed with landowners and coordinated plan put in place to minimise disruption.	Number of reports of delays received directly or through CRGs, 1300 contact line or other methods.	2017 - 2018	ESIA / ESIMP	Construction Contractor
	Interruptions / disruptions to mustering and other station activities.	Project liaison with pastoralists to coordinate project construction activities with mustering.	Number of reports of interruptions / disruptions received directly or through CRGs, 1300 contact line or other methods.	2017 - 2018	ESIA / ESIMP	Construction Contractor
	Loss of access to critical services.	Conduct pre-construction survey of known infrastructure locations and clearing delineate on ground prior to commencement of works. Close liaison with land occupants and service infrastructure noted in construction Land Line List.	Number of reports of loss of services received directly or through CRGs, 1300 contact line or other methods.	2017 - 2018	ESIA / ESIMP	Construction Contractor

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Project water demand from existing sources causes water shortage for existing land users.	Undertake water demand and supply study and determine sources that do does cause water shortages for existing land users.	Number of reports of water shortages received through CRGs, 1300 contact line or other methods.	2017 - 2018	Ref EIS Chapter 7	Construction Contractor
	Communities under false impression of the feasibility of gas supply to small communities results in disappointment about a possible foregone benefit from the project.	Feasibility question to be addressed during ESIA consultations and in general community consultations and communications. Discussion with NT Power Water Corporation required.	Number of reports of the issue being raised through CRGs, or other methods.	2017 - 2018	ESIA / ESIMP	Local & Indigenous Participation Manager

Opportunities

Economy and development opportunities during the construction phase will be managed through a variety of initiatives and project plans as set out below.

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Construction Phase						
Economy & Development						
Land Agreement Implementation. Distribution of Land Agreement benefits.	Traditional Owners and Native Title Holders / Claimants receive a range of benefits from the land agreements.	Liaison with community organisations to support beneficiaries in managing benefits received.	Evidence of constructive and positive use of land agreement benefits.	2017	ESIMP	Local and Indigenous Participation Manager Indigenous Participation Coordinator
Project procurement and contracting. Award of contracts.	Local businesses have the opportunity to compete for business contracts with the Project.	Implementation of SME Business Growth Program, including regional business briefings and workshops, the SME Business Investment Fund and contractual provisions for subcontractors to maximise the use of goods and services from the Barkly and Mount Isa.	Number of regional business briefings and workshops held. Number of attendees at each regional business briefing and workshop. Number of businesses securing funding through the SME Business Investment Fund. Number of local and Indigenous businesses securing contracts on the Project.	2016-17	SME Business Growth Program	Indigenous Participation Coordinator Local Industry Participation Coordinator

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Increased local demand for goods and services to support Project construction activities.	Implementation of SME Business Growth Program, including regional business briefings and workshops and the SME Business Investment Fund.	<p>Number of regional business briefings and workshops held.</p> <p>Number of attendees at each regional business briefing and workshop.</p> <p>Number of businesses securing funding through the SME Business Investment Fund.</p> <p>Number of local and Indigenous businesses securing contracts on the Project.</p>	2017	SME Business Growth Program	<p>Indigenous Participation Coordinator</p> <p>Local Industry Participation Coordinator</p>
<p>Mobilisation of Construction Phase workforce.</p> <p>Local workforce employment.</p>	Employment of people from Tennant Creek in unskilled and semi-skilled project jobs.	<p>Implementation of Jemena's Regional Employment Plan, including:</p> <ul style="list-style-type: none"> - the Project Ready Training Program - the NGP Jobs Portal - the Tennant Creek Social Enterprise opportunity - contractual provisions for subcontractors to maximise the use of labour from the Barkly and Mount Isa. 	<p>Number of participants successfully completing the PRTP.</p> <p>Number of people employed on the Project via the NGP Jobs Portal.</p> <p>Number of people working on the TCSE opportunity transitioning to employment on the Project.</p> <p>Number of people local and Indigenous people from the Barkly / Mount Isa regions employed through subcontractors.</p>	2016-17	REP	<p>Indigenous Participation Coordinator</p> <p>Local Industry Participation Coordinator</p>

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Employment of people from Mount Isa in unskilled and semi-skilled project jobs.	Implementation of Jemena's Regional Employment Plan, including: - the Project Ready Training Program - the NGP Jobs Portal - contractual provisions for subcontractors to maximise the use of labour from the Barkly and Mount Isa.	Number of participants successfully completing the PRTP. Number of people employed on the Project via the NGP Jobs Portal. Number of people working on the TCSE opportunity transitioning to employment on the Project. Number of people from the Barkly / Mount Isa regions employed through subcontractors.	2016-17	REP	Indigenous Participation Coordinator Local Industry Participation Coordinator
	Employment of people from Tennant Creek in skilled and highly skilled Project jobs.	Promotion of recruitment of skilled and highly skilled workers from the existing workforce via the NGP Jobs Portal.	Number of people from Tennant Creek employed in skilled / highly skilled Project jobs.	2017	REP	Indigenous Participation Coordinator Local Industry Participation Coordinator
	Employment of people from Mount Isa in skilled and highly skilled project jobs.	Promotion of recruitment of skilled and highly skilled workers from the existing workforce via the NGP Jobs Portal.	Number of Mount Isa local and Indigenous people employed in skilled / highly skilled Project jobs.	2017	REP	Indigenous Participation Coordinator Local Industry Participation Coordinator

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
<p>Establishment and operation of construction workers camps.</p> <p>Camps on pipeline construction ROW and at Phillip Creek Compressor Station</p>	Local businesses have the opportunity to compete for business contracts with the Project.	Implementation of SME Business Growth Program, including regional business briefings and workshops, the SME Business Investment Fund and contractual provisions for subcontractors to maximise the use of goods and services from the Barkly and Mount Isa.	<p>Number of regional business briefings and workshops held.</p> <p>Number of attendees at each regional business briefing and workshop.</p> <p>Number of businesses securing funding through the SME Business Investment Fund.</p> <p>Number of local and Indigenous businesses securing contracts on the Project.</p>	2016-17	SME Business Growth Program	Local Industry Participation Coordinator
Use of commercial accommodation in Tennant Creek and Mount Isa.	Local accommodation providers gain business from the project.	Early identification and establishment of arrangements with service providers.	Number of agreements with service providers.	2016	ESIMP	Local Industry Participation Coordinator
<p>Pipeline construction.</p> <p>Project requirements for access to the ROW, extractives (e.g. sand, gravel etc.) and water.</p>	Installation of new access tracks, upgrade of existing tracks and installation of new water bores and dams.	Close liaison with landowners to optimise location and design.	Number of new access tracks created / upgraded in consultation with landowners.	2016-17	ESIMP	Local and Indigenous Participation Manager

4. OPERATIONS PHASE

This section sets out how social impacts (risks and opportunities) will be managed during the operations phase of the project.

4.1. CULTURE & HERITAGE

Risks

During the operations phase, culture and heritage risks will be managed as a part of the Operations Environment Management Plan (OEMP).

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Operations Phase						
Culture & Heritage						
Operation and maintenance of pipeline.	Unauthorised entry onto sacred sites.	Inclusion of access restrictions for operations workers in Project area in accordance with Sacred Site Authority Certificate implementation.	Number of incidents reported through Land Councils, AAPA or directly.	2018>	Operations CHMP, Authority Certificate	Operations Manager
	Unauthorised entry onto Aboriginal Land.	Individual permit access in accordance with Aboriginal Land Act and Land Agreement conditions and local relationship development.	Breaches of permit conditions, incidents of unauthorised access.	2018>	CLC Aboriginal Land permit system	Operations Manager
	Damage to cultural heritage sites, places or objects.	Workers restricted to approved access tracks public roads and pipeline easement and respect of Authority Certificate conditions. No ground disturbing activities outside approved areas.	Number of incidents reported through Land Councils, AAPA or directly.	2018>	Operations CHMP, Authority Certificate	Operations Manager

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Uninvited entry into Aboriginal living areas, e.g. family outstations.	Individual permit access in accordance with Aboriginal Land Act and Land Agreement conditions and local relationship development.	Number of incidents reported through Land Councils, AAPA or directly.	2018>	CLC Aboriginal Land permit system	Operations Manager

4.2. COMMUNITY HEALTH & SAFETY

Risks

During the operations phase, community health and safety risks will be managed as a part of the Operations Environment Management Plan (OEMP) and through operational engagement through Jemena's community affairs.

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Operations Phase						
Community Health and Safety						
Operation and maintenance of pipeline.	Community anxiety / negative perceptions and concern about safety and environmental management of NGP Operations facilities.	Consult community and explain operations safety and environmental management practices.	Number of concerns raised through the 1300 contact line or directly to field operations staff.	2018>	n/a	Operations Manager Community Relations Manager

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Easement and permanent access tracks used as alternative route for people in remote areas, e.g. for personal reasons, hunting, discreet travel, illegal activities etc. - causes negative impacts on existing land users.	Controls include: - no access track to be left along easement; - no signage on permanent access tracks; - temporary access tracks to be progressively rehabilitated, unless agreed with landowner; - ongoing communication with landowners.	Number of reported incidents of unauthorised use of access tracks from landowners.	2018>	ESIA / ESIMP	Operations Manager Community Relations Manager
	The PCCS flare stack (pilot flare) will be visible to surrounding communities, particularly at night.	As the flare stack will not be seen at any populated place or Stuart Highway no mitigation is proposed apart from explaining to local stakeholders what the flare does and how safety at the PCCS is managed.	Number of concerns raised through the 1300 contact line or directly to field operations staff.	2018>	ESIA / ESIMP	Operations Manager Community Relations Manager

4.3. ECONOMY & DEVELOPMENT

Risks

During the operations phase, economy and development risks will be managed through Jemena's approach to local content and through operational engagement through Jemena's community affairs. Initial risk management, in the early operations phase, will draw on the activities undertaken and learnings drawn from the construction phase.

Project activity / cause	Risk	Proposed mitigation	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Operations Phase						
Economy & Development						
Project procurement and contracting.	Local businesses miss out on contract opportunities with the Project through a lack of capacity to competitively tender and supply.	Implementation of Jemena's Industry Participation Plan (IPP) including the SME Business Growth Program.	Number of local businesses being awarded contracts. Number of local businesses tendering for work and not being awarded contracts.	2018>	SME Business Growth Program	Operations Manager Community Relations Manager
Mobilisation of operations workforce.	People miss out on jobs and expectations of the provision of local jobs are not met.	Implementation of Jemena's Regional Employment Plan, including: - the Project Ready Training Program; - the NGP Jobs Portal; - the Tennant Creek Social Enterprise opportunity; - Jemena Gas Operator Training Program; - contractual provisions for subcontractors to maximise the use of labour from the Barkly and Mount Isa.	Number of local people successful in gaining employment. Number of people applying for, but not being successful in gaining employment.	2018>	Regional Employment Plan	Operations Manager Community Relations Manager

Opportunities

During the operations phase, economy and development opportunities will be managed through Jemena's approach to local content and through operational engagement through Jemena's community affairs. Initial opportunity management, in the early operations phase, will draw on the activities undertaken and learnings drawn from the construction phase.

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
Operations Phase						
Economy & Development						
Operation and maintenance of pipeline. Award of contracts.	Local businesses have the opportunity to compete for business contracts with the Project.	Implementation of SME Business Growth Program, including regional business briefings and workshops, the SME Business Investment Fund and contractual provisions for subcontractors to maximise the use of goods and services from the Barkly and Mount Isa regions.	Number of regional business briefings and workshops held. Number of attendees at each regional business briefing and workshop. Number of businesses securing funding through the SME Business Investment Fund. Number of local and Indigenous businesses securing contracts on the Project.	2018>	SME Business Growth Program	Operations Manager Local Industry Participation Coordinator
Mobilisation of operations workforce. Local workforce employment.	Local long term employment in skilled pipeline and compressor station operations jobs in Tennant Creek.	Invest in training for local workforce, e.g. Gas Operator Apprenticeship Program (GOAP).	Number of Tennant Creek local and Indigenous people who secure employment in the operations phase. Number of people successfully completing the GOAP.	2018>	REP	Operations Manager Local and Indigenous Participation Manager Indigenous Participation Coordinator

Project activity / cause	Opportunity	Proposed enhancement measures	Indicators / Measures	Timing	Associated Project Plans / Agreements / Permits & Licences and Activities	Responsibility
	Local long term employment in pipeline and compressor station operations jobs in Mount Isa.	Invest in training for local workforce, e.g. Gas Operator Apprenticeship Program.	Number of Mount Isa local and Indigenous people who secure employment in the operations phase. Number of people successfully completing the GOAP.	2018>	REP	Operations Manager Local and Indigenous Participation Manager Indigenous Participation Coordinator
Long term accommodation required in Tennant Creek.	Incremental but sustained contribution to the local economy.	Maximise the recruitment of local workforce to avoid need for Fly In Fly Out staff.	Number of Tennant Creek local and Indigenous people who secure employment in the operations phase.	2018>	REP	Operations Manager Local and Indigenous Participation Manager Indigenous Participation Coordinator

5. ACCOUNTABILITIES & RESPONSIBILITIES

The NGP Project Director is accountable to the Jemena Steering Group for the implementation of the ESIMP *during the planning and construction phases*.

The Construction Manager is responsible to the Project Director for the implementation of the ESIMP during the Construction Phase; this includes ensuring the construction contractor's, sub-contractors support the implementation of the ESIMP in accordance with contractual provisions.

The Operations Manager is responsible to the relevant Operations Asset Manager for the implementation of the ESIMP during the Operations Phase.

The Construction Contractor is accountable to Jemena for the management of all of the risks under its control and for actively supporting the opportunities initiatives.

The various other key roles with responsibilities as set out in the plan tables above include:

- Field Survey Coordinator
- Cultural Heritage Coordinator
- Stakeholder and Approvals Manager
- Community Relations Manager
- Local and Indigenous Participation Manager
- Indigenous Participation Coordinator
- Local Industry Participation Coordinator
- Local and Indigenous Participation Field Supervisor

6. MONITORING & MEASUREMENT, REPORTING, REVIEW

6.1. MONITORING AND MEASUREMENT

6.1.2 MONITORING

Monitoring of the ESIMP will be carried out through both formal and informal methods.

The formal methods that will be used are:

- Community Reference Groups
- 1300 contact line
- NGP Enquiry email address

Informally, monitoring will also be conducted through direct ongoing direct stakeholder engagement and established networks.

6.1.3 MEASUREMENT

Measuring the implementation of the ESIMP will be through measuring changes (or lack thereof) in the indicators / measures listed above for each identified risk and opportunity. The indicators / measures will be finalised upon completion of the ESIA Report and any amendments reflected in the final ESIMP.

6.2. REPORTING

Reporting of the implementation of the ESIMP will be to the Northern Territory Government on a quarterly basis.

6.3. REVIEW

A review of the ESIA process and the ESIMP outcomes will be conducted following completion of the construction phase of the Project.

7. COMMUNICATIONS

Communication of the implementation of the ESIMP will primarily be through:

- Jemena community newsletters
- Community Reference Groups
- Established Jemena / Northern Territory Government NGP Project management committees.

Appendix F: Circle Advisory Pty Ltd

The assessment and management of the economic and social impacts arising from the NGP Project is being led by Circle Advisory Pty Ltd (Circle).

Circle was established in 2014 with the vision of contributing to social and economic development through natural resource management and development, particularly in remote, rural and developing communities and economies.

James Kernaghan, Managing Director of Circle, is coordinating the economic and social impact assessment (ESIA) and management for the NGP Project. James has in excess of 29 years of experience in resources development in Australia, including mining, oil and gas, including gas infrastructure experience in the Northern Territory.

Projects that James has worked on include Pluto LNG, Kitan and Sunrise Projects in Timor-Leste and the JPDA, the Blacktip Project and the Trans Territory Pipeline, the Otways Gas Project and the North West Shelf Venture. In particular to social and economic impacts, James coordinated the development of the social impact assessment and management plan for the Blacktip Project.

James holds a post graduate qualification in Social Impact from the University of Western Australia.

In addition to James the following Circle Associate Consultants are working on the NGP Project economic and social impact assessment and management.

Ben Garwood

Ben is a senior external relations and Indigenous affairs professional with over 15 years' experience working across government, non-government and industry.

Ben has highly developed skills in stakeholder engagement, cross cultural consultation and negotiation, land access agreement negotiation and implementation, cultural heritage management and approvals, Indigenous employment, training and business participation, corporate social investment and community development project management.

Ben has a Bachelor of Arts Degree in Aboriginal and Torres Strait Islander Studies.

Fadzai Matambanadzo

Fadzai is an experienced social impact consultant and social entrepreneur passionate about helping organisations achieve impactful social outcomes in the business, Not for Profit and government sectors. Fadzai has almost eight years' experience in social impact, social innovation, philanthropy, social entrepreneurship and social sustainability.

Most recently Fadzai worked on a community development project for an ASX listed resources company in Mozambique, which included stakeholder engagement, social impact investment policy and social impact management plan.

Fadzai has a Bachelor Degree in Commerce majoring in Management and Marketing from Murdoch University, an MBA from the University of Western Australia, and is currently enrolled in a Graduate Certificate in Social Impact at the University of Western Australia.

Martin Edwards

Martin has over a decade of professional involvement in Australia's petroleum industry with experience spanning both the private sector and Commonwealth Government.

For over five years Martin worked in a variety of external and community affairs roles for major Australian oil and gas producer that saw him regularly engage with a wide range of external stakeholders, including community members, the Not for Profit sector and all levels of government.

The roles Martin has worked in include offshore oil assets, the Sunrise Liquid Natural Gas (LNG) Project, the Browse Floating Liquid Natural Gas (FLNG) Development, as well as in corporate community relations area. As part of working on the Browse FLNG Development, Martin coordinated the Development's ESIA study and ESI Management Plan.

Martin holds a Bachelor's Degree in Marketing and International Business, and a Masters of Environmental Law.