

15

Socio-economics

15. Socio-economic

15.1 Introduction

This chapter describes the potential social and economic impacts relating to the activities of the Nolans Project.

A social impact assessment report (Michels Warren Munday, 2016) is provided in Appendix S of the EIS. An economic assessment report (ACIL Allen, 2016) is provided in Appendix T.

The TOR for the preparation of an environmental impact assessment issued by the NT EPA for the project provided the following environmental objective in relation to socio-economic issues:

To analyse, monitor and manage the intended and unintended social consequences, both positive and negative, of the project and any social change processes.

This chapter addresses the social and economic impact assessment, as required in the TOR for the project. The level of risk associated with potential impacts to socio-economic values is described in this chapter and assessed in the risk register in Appendix G.

15.2 Methodology

A summary of the approach to socio-economic assessment in the study area is described below and more detail is provided in section 2 of Appendix S and section 1 of Appendix T.

15.2.1 Social impact assessment

The social impact assessment (SIA) considers the social impacts on people, families and communities of the region, including impacts on lifestyles, way of life and livelihoods; including culture, amenity, demographic composition, community cohesion and the potential influence of the project on community infrastructure.

The study covers the planning, construction, operations and mine closure/rehabilitation phases of the project, and considers how impacts will vary over time.

Key tasks in the preparation of the SIA included:

- Identifying a baseline social environment for the study area. This involved:
 - Identification of key areas for study both spatially and socially
 - Desktop review to gather quantitative baseline data, (e.g. 2011 Census data and other publically available social and economic data)
 - Literature review into the history and social context of the region
 - Cross-disciplinary project risk workshop
 - social impact assessment interviews
 - Information gathered from Arafura's community engagement process.
- Analysis and prediction of change resulting from the project against baseline conditions and the consequence of impacts. This involved:
 - Preparation of a risk and opportunity assessment in line with the *AS/NZS 12031:2009 risk management –principles and guidelines*, and
 - Grouping of impacts based on *International Association of Impact Assessment (IAIA), Social Impact Assessment Principles* (Vanclay, 2003) and *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects* (Vanclay et al, 2015).

The key outcomes of the SIA are:

- Identification and information on community profiles relevant to understanding the people, institutions and communities in which the project will be operating
- A description of how mining and major projects can impact on remote communities and contribute, or otherwise, to their social and economic development
- Potential risks to the communities in the study area
- Identification of potential impacts (positive and negative)
- Identification of measures to enhance positive impacts and mitigate or manage negative impacts
- Provision of indicators for ongoing measurement and reporting against identified impacts.

The study area for the SIA covers communities and people most likely to experience change from the Nolans Project. These impacts would be experienced in different ways, depending on the location, ability to adapt to the impacts and stage of the project. The spatial footprint of the SIA therefore focusses on two key areas of local impact:

- Around the project site: The Aileron and Napperby cattle stations, Aileron Roadhouse, nearby Anmatyerr communities including Alyuen, Laramba and Pmara Jutunta, and the closest service town of Ti Tree
- The main regional centre of Alice Springs, 135 km to the south, which is likely to be a major source of services and supplies, the home base of many workers and a transit centre for fly-in fly-out (FIFO) workers.

The broader regional area includes other nearby cattle stations, Aboriginal communities and important environmental and conservation areas that could be affected by the project's use of water and impact on cultural values (e.g. Annas Reservoir Conservation Reserve, the Ti Tree and Southern Basins).

15.2.2 Economic impact assessment

The economic impact assessment is included in Appendix T. Key tasks included:

- Identifying a baseline economic environment for the study area including:
 - Identification of key areas for study spatially and economically
 - Desktop review to gather quantitative baseline data (e.g. 2011 Census data and other publically available economic data).
- Undertaking economic modelling using Computable General Equilibrium modelling. For this analysis, ACIL Allen's Computable General Equilibrium model, Tasman Global, was used to estimate the impacts of the construction and operation activities associated with the Nolans Project. Three regions were modelled:
 - The Alice Springs region as defined by the Australian Bureau of Statistics SA3 area
 - The Northern Territory
 - Australia.

For the purposes of this study, the life of the project refers to the three years of operation from 2017 to 2019 inclusive plus 20 years of operations from 2020 to 2039 and includes construction and operational phases of the project. Appendix T assumes steady state from year 3 of the project onwards (i.e. 3 years' construction, 2 years ramp up followed by steady state production). After two years ramp up, years 3 to 20 in Appendix T and years 3 to 40 in the EIS, the year in year out figures are constant.

15.3 Existing environment

The following sections describe the existing social and economic baseline identified in the study area, and discuss the relative value of these elements in the regional and wider context.

15.3.1 Regional and local governance

Federal Governance

The key policy directions of the Australian Government relevant to this project are a general emphasis on 'closing the gap' of Indigenous disadvantage and a focus on 'developing the north' by investing in key infrastructure that unlocks investment in mining, agriculture, pastoral properties, horticulture and tourism.

Territory Governance

The Northern Territory Government commissioned a regional infrastructure study and other transport studies and in late 2014 released a *Discussion Draft Northern Territory Economic Development Strategy*. Seven priority opportunities for a prosperous economy were listed in the strategy as being:

- Energy resources
- Minerals
- Tourism
- Agribusiness
- International education and training
- Defence, and
- Supply and service.

Similarly, the Northern Territory Government has a goal of reducing the disadvantage of remote Aboriginal communities through regional economic development, getting children to school and attracting private sector investment into strategic infrastructure that supports a North Australia Development agenda.

The Department of Education has a focus on reform of Indigenous education to support the government's economic development agenda. It is working with major employers to provide links to vocational training, increase the Aboriginal workforce and motivate students to consider careers in, for example, the mining industry. A key goal of government, councils, businesses and mining companies is to employ Aboriginal people.

The key pillars to drive economic growth are identified as resources (oil and gas, and mining), tourism, agriculture, cattle and international education.

Local Governance

Central Desert Regional Council (CDRC) covers an area of about 282,093 km² that stretches across the Northern Territory. In the middle is Anmatjere Ward that includes Ti Tree, Yuelamu, Laramba, Engawala, with Willowra and Yuendumu across the boundary with Southern Tanami Ward. The CDRC is a significant employer in smaller communities in the region and employs 74% indigenous staff.

Indigenous Governance

The Central Land Council (CLC) is a Commonwealth statutory authority operating under the *Aboriginal Land Rights (Northern Territory) Act 1976* (ALRA) and a Native Title Representative Body acting under the *Native Title Act 1993* (NTA). CLC represents the interests of native title holders. The CLC covers 780,000 km² and 15 language groups in Central Australia. It is governed by a 90-member council, with elected members meeting three times a year in various bush locations.

The CLC negotiates agreements with mining companies on behalf of traditional owners to protect interests in Aboriginal land. Agreements, which can be in the form of an ILUA include compensation payments, employment, training, sacred site protection, environmental protection and cultural awareness. A key focus is ensuring traditional owners are able to make informed decisions about activities such as mining on their country.

While many parts of the Northern Territory are deemed Aboriginal land under ALRA, pastoral properties are covered by the NTA. However, many community living areas (or 'enhanced NT freehold') areas have been excised from pastoral leases. Such is the case with the Alyuen and Laramba communities.

15.3.2 Population and communities

The key settlements in the local area of the project (refer Figure 1-6) comprise the following:

- Alice Springs is located 135 km south-southeast of the Nolans site. It has a wide population mix including 43 per cent moving from interstate between 2011 and 2014 and 9.8 per cent coming from overseas; and has a large Aboriginal population. It is a major regional centre with a large service economy.
- Ti Tree is located on the Stuart Highway 193 km north of Alice Springs, 53 km north of the Nolans site and is the closest town to the project. It mainly comprises non-Aboriginal people providing services to nearby Aboriginal communities and outstations and passing travellers.
- Nturiya (Ti Tree Station) is 17 km to the west of Ti Tree on Land Trust land. Access from Nturiya to Ti Tree is via a dirt road and the community is connected to Ti Tree's electricity and water systems.
- Alyuen (Aileron) is an Anmatjere family outstation, and the closest community to the project (about 15 km). It has a small permanent residential population and is about two kilometres west of the Stuart Highway.
- Aileron Roadhouse is located close to Alyuen outstation. This is an important stop-over for travellers on the Stuart Highway and includes a caravan park, motel style accommodation, a bar, petrol station, and an Aboriginal art shop. It provides services to nearby Aboriginal communities, bus lines and general traffic passing between Alice Springs and Tennant Creek.
- Aileron Station is a 4,078 km² cattle station within which nearly the entire footprint of the Nolans Project is contained (with the exception of the western part of the borefield and the proposed Woodforde carbonate quarry). The Aileron homestead and workers' accommodation are located adjacent to the Aileron Roadhouse. Melbourne-based Aileron Pastoral Holdings Pty Ltd acquired the property in July 2015 from the Dann family.
- Pmara Jutunta (Six Mile) is about nine kilometres south of Ti Tree. Many people commute to Ti Tree for work and school. The community is 46 km north-east of the project and close to the Stuart Highway.

- Laramba is the closest community settlement to the borefield (about 50 km west). It is in the water catchment area for the project's borefield and is home to Anmatjere people, including traditional owners for the land covered by the project. Access to the community is by the Napperby Station road, which runs west from the Stuart Highway. The community is located 83 km from the Stuart Highway turnoff.
- Napperby Station is a 5,356 km² cattle station 50 km to the west of the project. This includes a shared borefield area and is close to the Laramba community settlement.
- Pine Hill Station is a 2,686 km² cattle station bordering Aileron Station to the north. It hosts the proposed Woodforde carbonate quarry (not the subject of this EIS).
- Pine Hill (Anyumgyumba) family outstation located near the Pine Hill homestead, 35 km west of the Stuart Highway and approximately 30 km north-west of the project. It has a small transient population.
- Willowra is a Warlpiri community. It is located 130 km west of Barrow Creek.
- Wilora is located on Stirling Station, off the Stuart Highway about 30 km south-west of Barrow Creek, and about 60 km north-east of Ti Tree.
- Yuelamu is 230 km north-west of Alice on the old Mt Allen Pastoral lease. Access is from the Tanami Highway.

The population of the Northern Territory as at June 2014 was 245,100, or 1.0% of Australia's population, characterised by high mobility, a large proportion of Aboriginal residents (26.8% in the 2011 Census), younger than the national median age and slightly higher proportion of males.

Territory residents under 15 constitute about 31% of the Aboriginal population, compared with 19% of the non-Aboriginal population. Of the Territory's Aboriginal population, 21.4% lived in remote areas, 28.3% in very remote areas and 20% in outer regional areas as at 30 June 2014.

The Alice Springs Local Government Area had a population of 28,667 in 2014, or 12% of the Territory's population. However, the town acts as a service centre to the Alice Springs Region, or ABS SA3 area, which has a population of 41,700 (including Alice Springs) and covers the bottom half of the Territory.

At the 2011 Census, the number of Alice Springs residents who stated one or both parents were born overseas was almost equal to the number of Aboriginal residents. A key demographic trend is the apparent major increase in overseas migrants moving to Alice Springs from other parts of Australia and overseas since the 2011 Census. A strong growth in migrants coming from new source countries such as India, the Philippines and several countries in Africa has contributed to the stability of population numbers in Alice Springs.

In the broader Central Australian region covered by the SIA, residents are mainly Aboriginal, characterised by a high level of disadvantage across all socioeconomic indicators (ABS 2013, Australian Government 2015). The Central Desert Regional Council area covers more than 28 million square kilometres. The sparsely settled region has a population density of 0.1, is 80% Aboriginal and the Local Government Area had a Socio-economic Relative Disadvantage Index of 557.5% in 2011, the third most disadvantaged local government area in the Northern Territory, compared with a score of 1005.6 for Alice Springs.

The unemployment rate recorded in the 2011 ABS Census for the Central Desert Regional Council was 14.4% while the participation rate was 43.2%, compared with 3.1% unemployment and 61.4% participation for the Alice Springs Local Government Area and 5.3% and 56.5% respectively for the Northern Territory. The unemployment rate for the SA2 Yuendumu-Anmatjere area was 18.1% in 2011.

Table 15-1 provides comparative data of the key communities in or near the project footprint, including data relating to population size and income levels, employment status and other household data.

Table 15-1 Community statistics

2011 population statistics	Alice Springs	Ti Tree	Laramba	Pmara Jutunta (Six mile)	Alyuen	Nturiya (Ti Tree Station)	Willowra	Yuelamu (Mt Allen)	Wilora
Total population in 2011	24,208	123	251	196	25	106	221	207	111
Total population updated (2014)	26,108	143	292				253		
Aboriginal population	4,590(19%)	60 (49.2%)	230 (91.3%)	192	25	95	229	187 (91.7%)	
Median weekly household income	\$1,676	\$1,281	\$987	\$1,031		\$633	\$1,281	\$700	
Median weekly rent	\$300	\$20	\$20			\$20	\$20	\$20	
Average vehicles per dwelling	1.7	1.3	1				0.3	0.8	
Median age	33	39	24	22		25	20	28	26
Median age of Aboriginal residents	24	41							
Worked full-time	9,241 (70.8%)	50 (82%)	22 (28.6%)				14 (24.1%)	15 (31.9%)	
Worked part-time	2,494 (19.1%)	8 (13.1%)	42 (54.5%)				26 (44.8%)	20 (42.6%),	
Unemployed	404 (3.1%)	0	10 (13%)				15 (25.9%)	3 (6.4%)	
Total dwellings	8,104	56	51	35	6	26	59	55	28
Average people per household	2.6	2.5	4.2	5.9		4.8	5.	4	4.4

Source: ABS (2011): www.censusdata.abs.gov.au, viewed 18 May 2015 (Appendix S)

15.3.3 Employment and economies

Northern Territory

The Northern Territory economy supports a wide range of industries including oil and gas, mining, construction, government and community services and the defence sector. The value of the Gross State Product (GSP) of the Northern Territory is approximately \$21.9 billion (2013- 14).

In terms of the value of industry contribution to the Northern Territory GSP in 2013-14:

- The Government sector comprised 18.3 %
- Mining industries, including oil and gas, comprised 13.3 %
- Tourism comprised 4.0%, and
- Agriculture, including pastoral and horticultural sectors, comprised 2.1%.

The dominance of the government sector as a major employer in the Northern Territory is highlighted in the industry of employment results including:

- Nearly 40% of jobs in the Northern Territory are in the government and community services, including the healthcare sector
- Tourism (13% of the workforce)
- Construction (8.2% of total employment)
- Mining (4.3% of the workforce), and
- Agriculture (1.1% of the workforce).

Tourism plays an important role in regional areas such as Central Australia, with a focus on attracting tourists for an experience based on the 'Outback', nature and culture, also generating benefits for small Aboriginal businesses, art shops, retail and dispersion to remote areas.

Mining is a major contributor to the Northern Territory's economy, contributing 13.3 per cent of GSP. In the past year closure of an alumina refinery and several small mines, and exploration activity, consistent with global cyclical trends, is in decline after several years of record expenditure.

The Northern Territory Government is promoting expansion of the horticultural sector, to boost regional growth and jobs, by supporting the availability of land with good soil, a good climate and access to good water. Access to competitively-priced energy is a constraint to growing this industry. The Northern Territory's cattle industry covers 680,000 km², or 45 percent of the land. Most cattle properties in Central Australia, including those around the Nolans site, are leasehold and owned by pastoral families, although some have been purchased by interstate or overseas investors.

Alice Springs region

The Alice Springs regional economy is driven by the town of Alice Springs as the major service and supply base for the population of Central Australia and particularly for the surrounding Aboriginal population. It also supports the government services, mining and agricultural industries, the tourism sector, and the Joint Defence Facility at Pine Gap.

Alice Springs supports nearly 2,300 businesses including those in construction, food and accommodation, transport and logistics, and financial services that can support the construction and the operations phases of the Nolans Project.

The Alice Springs SA3 region supports a workforce of around 29,000 people of whom just over 1,100 are currently seeking work. This equates to around 24 percent of the workforce of the Northern Territory and 23 percent of all job seekers in the Northern Territory. The current unemployment rate of the Alice Springs region is comparable with that of the Northern Territory at 3.9 per cent.

15.3.4 Services and infrastructure

Services and community infrastructure in the local area and region around the project is provided primarily by the Northern Territory Government and CDRC, including policing, health and education, municipal services to communities in the local area around the project as well as major infrastructure such as utilities, roads and telecommunications.

Alice Springs

Alice Springs is the largest population centre in Central Australia and is the service centre for the surrounding region. It is serviced by transport infrastructure due to its location on the Stuart Highway and the Adelaide to Darwin railway. The Alice Springs Airport is the major airport for the region providing air links to all mainland capital cities in Australia as well as services to Cairns, Tennant Creek and Uluru.

Alice Springs is a modern town with a good level of social infrastructure, providing the main service and retail opportunities in the region. The town provides the regional hospital and services the health clinics in other smaller settlements. It has ten primary schools, five secondary schools (including boarding for remote students) and tertiary education opportunities. Police, Fire and Emergency Services provide services to the region for incidents beyond the capacity of Ti Tree Police. Alice Springs Town Council provides municipal services in Alice Springs.

Ti Tree

Ti Tree is the service centre for a number of surrounding communities including Alyuen which, along with Laramba and Ti Tree, are the closest settlements to the Nolans Project. The town of Ti Tree contains a limited level of infrastructure however the facilities provided are suitable for a remote town with a small population base of around 120 people. It includes the local office and workshops of CDRC, as well as a school, health centre, police station, women's shelter, a park, oval, and air strip. Other services include stores, roadhouse and caravan park. Ti Tree is largely surrounded by land owned by an Aboriginal Land Trust.

Key constraints to growth are a lack of housing, insufficient government employee housing to accommodate expanded government services, overcrowding in nearby communities and the need to plan for expanded utilities to support any construction of new houses. There are pressures on the Northern Territory Government to provide more public housing in Ti Tree so people can move to the town from nearby communities.

Laramba

The Aboriginal community of Laramba includes a school, health clinic, stores, a Church, women's centre, laundry, childcare centre, recreational facilities, and a Community Development Program run by CDRC. There is an air strip half way between Laramba and Napperby Station. Constraints to growth in Laramba include a lack of accommodation for visitors or expanded staffing levels, tenure issues with building additional houses on community living areas, and some issues with water supply. Some community infrastructure improvement projects are ongoing.

Other small communities

Pmara Jutunta (Six Mile) is connected to Ti Tree's power and water supplies. Some houses were upgraded as part of the joint Australian and Northern Territory Governments' Strategic Indigenous Housing and Infrastructure Program, but the level of overcrowding constrains any population increase. The community accesses jobs and community services in Ti Tree, including policing and education. Children commute from Pmara Jutunta to school in Ti Tree by bus and some residents drive to work in Ti Tree.

Nturiya (Ti Tree Station) has few services apart from reticulated water and electricity, a road to Ti Tree and school bus services.

Alyuen community has poor water supply which reportedly led to families moving to Pmara Jutunta (Six Mile) or camps around Ti Tree (Appendix S). The community was connected to a reliable and better quality water supply from the Southern Basins by CDRC in September 2014 following the discovery of water in these basins by Arafura in 2012. Infrastructure improvements currently being considered include a community garden, permanent health facilities for visiting nurses from Ti Tree and a central laundry and ablutions block. Because Alyuen is an outstation, services are provided by CDRC and the NT Department of Community Services.

15.3.5 Health and wellbeing

World Health Organisation (2008) outlines ten key determinants of health comprising:

1. Social gradient: a person's social and economic circumstances
2. Stressful economic and social circumstances mean people are less likely to be healthy and have a long life
3. Early years of life: babies born with low birth weight have a much greater likelihood of developing coronary health disease in adulthood
4. Social exclusion
5. Stress at work: having little control over jobs, limited opportunities to use their skills or in high demand jobs with few rewards
6. Unemployment, job and income insecurity can lead to chronic stress
7. Social support
8. Addiction: misuse of alcohol, drugs and tobacco is harmful to health but is often a response to stressful situations and social breakdown
9. Food security, including good quality and affordable food, and
10. Transport is vitally important to accessing health and other services and, for Aboriginal people, a means to find traditional bush foods and hunting.

Remote Aboriginal Northern Territory communities continue to reflect poorly against these measures, which impact on school attendance and employment outcomes and individual health and wellbeing (Appendix S).

There is a gap between the health status of Aboriginal and non-Aboriginal Territorians, including chronic diseases and mental health. Smoking rates, and alcohol consumption and admissions to hospital for circulatory disease, cancer and injury are higher amongst Aboriginal people than non-Aboriginal people. Aboriginal Territorians comprise 70% of all hospital patients and 93% of renal dialysis patients in the Northern Territory.

Alcohol-related violence is a key issue throughout the Northern Territory although a major government focus is on issues such as alcohol abuse and domestic violence.

The Northern Territory's Centre for Disease Control has reported an increased prevalence of sexually transmitted diseases in Central Australia.

The Department of Transport statistics show that Indigenous people living in remote areas are over-represented in crash statistics.

15.3.6 Natural resources and the environment

Water is a key constraint to population and industrial growth in Central Australia. People place a high value on water and traditionally lived their lives based on its availability, retreating to soaks and permanent water sources during drought. Potential impacts to surface water are discussed within Chapter 7 and Appendix I, and groundwater is discussed in Chapter 8 and Appendix K of this EIS.

There has been an increasing focus on good land management in the Northern Territory, through local Landcare groups (often run by pastoralists) and ranger programs that are a small but significant source of employment for Aboriginal people. For the past fifteen years, the CLC has coordinated ranger groups in Central Australia, with 11 ranger groups now employing about 100 Aboriginal people and helping Aboriginal people work on country. In 2015 the ranger program received \$8.8 million in funding.

15.3.7 Culture and way of life

Indigenous heritage

Anmatjere people have strong ties to their land, water and culture and speak their traditional languages at home and traditional owners retain strong cultural authority. Knowledge of special sites on the country around Aileron Station and knowledge about plants, animals and hunting sites in the area has been retained in spite of the many disruptions to traditional Aboriginal culture and way of life due to early pastoral settlement.

European heritage

European heritage is linked to early pastoral settlement, with all cattle properties linked to early settlement and long-standing settler families. Remnants of this early settlement include heritage-listed areas such as the 1929 Aileron Homestead, Ryan Well and Annas Conservation Reserve (outlined above), as well as the old Glen Maggie homestead. Further afield, there are remnants of early settlement in old pastoral homesteads and telegraph stations in the district.

Culture and heritage are covered in more detail in the Indigenous and Historic Cultural Heritage Assessment at Chapter 16.

15.3.8 Human rights

The United Nations Declaration on the Rights of Indigenous Peoples includes the right for Indigenous peoples to be included in impact assessment processes, with a stipulation of 'free, prior and informed consent'. A consequence of this stipulation is the importance of meaningful engagement to ensure Aboriginal people receive information that helps them understand the project, that they are not inhibited from providing feedback and that this is received before any rights are disturbed.

Native title gives traditional owners the right to negotiate an ILUA and compensation, through the CLC, as well as the right to protect sacred and important sites, the right to access for traditional activities such as hunting and the right to have a say on the management or development of land.

An ILUA allows governments, companies and native title holders to negotiate agreements about future developments on the land, including agreement on jobs, compensation and the protection of sacred sites. For example, Anmatyerr families signed an ILUA on the Pine Hill Pastoral Lease in 2007 which provided compensation in the form of a living area, art centre at Mulga Bore and horticultural block. Another ILUA was signed in 2015 as part of the Government's release of two additional horticultural blocks on Pine Hill.

15.4 Assessment of potential impacts

This section examines the potential impacts (described in this case as opportunities and threats) that the project will have on key social and economic features of the existing environment. The level of risk posed to socio-economic factors by each source of impact was assessed using standard qualitative risk assessment procedures, which have been described in Chapter 5 (Risk assessment). The risk associated with each potential impact is detailed in the risk matrix in Appendix G.

15.4.1 Population and communities

The potential improvement in the socio-economic status of residents in Alice Springs and smaller Anmatjere communities, arising from business, employment and training opportunities on the project has the potential to impact positively on the broader population (see also Section 15.4.2).

A long term commitment to the region by the resources sector and supporting businesses will assist in supporting the existing workforce in the region and potentially attracting new workers and their families to the region. Job creation as a result of the Nolans Project could result in new population moving to the area in the form of workers and their immediate families. New population to the area will contribute to the population of the Local Government Area of Alice Springs which currently has a population of 28,667 and is experiencing population growth of around -0.2 per cent per annum for 2013-14.

Negative impacts on community cohesion and community resilience could potentially come from two sources:

- the influx of workers and their families to Alice Springs and the local SA2 region creating tensions with existing communities, relating to employment opportunities, and
- tension that can arise from the distribution of benefits, including wages and royalty payments, particularly management of cash payments.

Local populations not employed by the project may have unmet expectations that could result in tension between the local population, the project and its employees. Perceptions of local traditional owners that outsiders (i.e. from Alice Springs, including Aboriginal people from other places, FIFO workers) are winning the work and taking jobs may result in cultural tensions and resentment.

Royalty payments and increased cash from wages can increase disposable income, with consequential effects on higher levels of alcohol consumption and drug abuse leading to social disruptions within the community. Distribution of benefits payments can be to some family members and not others, which may create inequalities across communities or families. Dependency by local communities on royalties may lead to a decrease in economic participation and a disincentive to work. The increase in disposable incomes may have the potential to lead to anti-social behaviours associated with conflict and alcohol, with decreased feelings of safety, impacts to school / workplace attendance, and increased demand for police and health services.

Additionally, the project may employ people previously volunteering with local organisations or recreational groups. This may lead to a loss of organisers or participants from community

groups and sporting clubs due to project roster arrangements, and could result in a decline in quality of some services and viability of local community organisations and sporting clubs, including some voluntary organisations not surviving.

These risks relate to the construction and operational phases of the project. There are high levels of uncertainty about these risks and there may be potential cumulative impacts as a result of other changes in the region, arising from other large resources projects.

15.4.2 Employment and economies

Table 15-2 summarises the key economic assumptions for the project.

Table 15-2 Key economic assumption for Nolans Project

Item	Assumption
Construction period	Three years (36 months)
Peak construction	Year two
Construction workforce	375 FTE
Peak construction workforce	200 FTE
Steady state production year	Year 2022
Steady state production workforce	248 FTE

Source: Appendix T

Project contribution to GSP and real incomes

It is estimated that over the three years of construction, there will be capital expenditure of \$1.19 billion on the project of which around \$866 million will be spent in Australia. Of this, nearly \$145 million will be spent in the Northern Territory including \$71 million in the Alice Springs region.

First production is expected in 2020 with steady state production reached around 2022. At steady state, the project will produce around 20,000 tonnes per annum of RE products earning revenue of around \$520 million per annum. In steady state operations, there will be expenditure of \$90.6 million per annum in Australia including \$38 million in the Northern Territory and \$18 million in the Alice Springs region.

The potential economic benefits to the Alice Springs region are substantial, with 83 per cent of the total impact on GSP from the Nolans Project accruing to the region. Economic modelling found the contribution to the regional area during construction to be \$17 million over the three-year construction period (Appendix T). This is equivalent to an average of \$5.6 million per annum.

In steady state operations the potential impact on GSP is expected to be greater than during construction and in the order of an average of \$326 million per annum over the modelled period of 20 years. Over the life of the Project, an estimated \$6.5 billion will be added to the Gross Product of the Alice Springs region, an average of \$284 million per annum (Appendix T). This is a significant positive contribution in an area which has a limited economy based primarily on the delivery of Government Services to the surrounding population.

The project is expected to create an increase in real income of \$717 million over the life of the Project including by \$282 million in the Alice Springs region. This means that the ability of residents of the Alice Springs region to purchase goods and services and to accumulate wealth will rise by an average of \$12 million per annum over the life of the project (Appendix T).

Job creation

The project is expected to create direct employment of 375 full time equivalent workers over the three-year construction period. In steady state operation, the project will employ 250 workers, and is expected to result in the indirect creation of jobs of around 675 full time equivalent job

years in the three years of construction. On average this equates to 225 full time equivalent job years in each year of construction (Appendix T).

Indirect employment (i.e. the number of workers employed as a result of the additional expenditure in the economy from the project which generates additional jobs) of around 4,185 full time equivalent job years are expected over the life of the project which amounts to an average of 223 full time equivalent job years per annum. Most of the job creation would occur in the rest of Australia. This is because of the redistribution of profits and taxes from the project are expected to be spread proportionately based on population size in each region of Australia.

There will be significant impacts in the Alice Springs region where an estimated 420 full time equivalent job years will be created over the life of the project. This is equivalent to an average of 18 full time equivalent job years per annum or 1.6 percent of the current number of unemployed people in the Alice Springs region (Appendix T).

New business opportunities

The Nolans Project will provide additional demand for existing goods and services in the region from the direct expenditure by the project and the indirect expenditure as a result of the increased wealth in the region. Arafura has conservatively estimated that the Nolans Project will include expenditure in the Alice Springs region of \$71 million in construction and \$18 million per annum in steady state operations (Appendix T).

This increase in demand for goods and services may assist in attracting further businesses to the region. The focus for regional development is likely to be the town of Alice Springs, however there is potential for smaller towns and communities to benefit.

Tourism

The room occupancy rate in the Alice Springs tourism region which is dominated by the town of Alice Springs, is currently around 65 per cent which has shown sustained improvement since June 2013 of around 3 percent per annum. Peak occupancy rates tend to be in the months of August, September and October when occupancy rates reached just under 80 percent in 2015 (Tourism NT, 2015). This indicates bed availability of around 500 rooms in the region. The Nolans Project will boost the number of visitors to the area primarily as a result of business related visitors to the project. This will generate additional demand for accommodation in the town of Alice Springs.

Workforce participation

The project represents an opportunity for Aboriginal and non-Aboriginal people from the local region to obtain work experience in the mining and minerals processing industry in which few people are currently employed (Appendix T). In doing so, it provides them with the skills and experience to gain work on other mining and construction projects that are operating or planned. There are challenges however, including the following:

- how to maximise local employment without removing workers from other employers
- how to engage a large source of unemployed Aboriginal people into a productive workforce, avoiding saturation of communities with mining workers at peak periods, while encouraging families to move and become part of the community longer-term, and
- boosting local economies in a sustainable way so the benefits last beyond the life of a project.

While the potential economic benefits are substantial, the potential impacts from sourcing employees from local communities are highly uncertain given the available work-ready labour pool relative to the project's labour needs, particularly during construction.

Recruitment of personnel for the project may source staff from existing jobs in Central Australia, resulting in employment losses to existing local businesses (e.g. retail, hospitality, council), attracted by the higher wages available in mining and minerals processing. This may impact at least in the short term, on delivery of services to some private businesses, government and local government, as organisations source new staff.

Key impacts for the CDRC are expected to be localised loss of talent around Ti Tree, in particular with Aboriginal workers. There is a smaller pool of workers to draw from, and any Indigenous participation in the project's workforce may impact on local services, which may take a medium-term period from which to recover. Employers, including Government, may lose staff to the project and have to backfill with less qualified or trained staff or struggle.

Local business

Arafura expects that the project will create opportunities for Alice Springs-based providers of services and supply during its construction and operational phases. The company intends to adopt procurement policies and processes that will encourage and assist local business to participate in the project. Use of local contractors and businesses by the project may result in some short-term reduction in business capacity in the local area. This impact is anticipated to be highest during the project's construction period when there will be short term demand for a range of contractor services.

Local businesses that cannot meet the company's prequalification requirements may not win work on the project, resulting in unmet expectations and negativity towards the project (including project employees). This may result in some dissatisfaction across the broader Central Australian business community.

The company will encourage project personnel to relocate to the Alice Springs area. The economic and social impact on the region, should this occur in reasonable numbers, is expected to be positive. However, a substantial influx of people may result in localised inflationary pressure on goods and services, including on private housing, rent, trades and childcare. There may also be additional pressure on government and NGOs to meet the possible shortfall in services.

Arafura will continue its policy of stakeholder engagement to communicate the project's timeframes and program of works to local business, community and other stakeholders. This should result in people having sufficient time to plan for the project's arrival. Nevertheless, it is possible that local businesses may over-extend and invest unsustainably in staff and equipment, particularly during the construction period.

Indirect opportunities

Increase in local employment opportunities may lead to positive impacts of higher levels of employment, economic participation, improved education outcomes and reduced levels of disadvantage. This may result in higher incomes for families reducing social disadvantages. There may also be increased interest in private ownership of houses, which in turn reduces pressure on public housing. Associated indirect impacts may have a positive effect on other sectors, such as retail, goods, services and hospitality due to increased wealth in the community and increase the capacity of local businesses. This may result in long-term growth in business capacity of the region. Employment opportunities from the project may also lead to a general up skilling of the workforce, increasing long-term employability of the workforce.

15.4.3 Services and infrastructure

The project will potentially create the opportunity for improved infrastructure that benefits local communities, particularly if the combination of the Nolans Project and horticultural expansion prompt the growth of Ti Tree as a regional economic hub. Benefits could include better telecommunications and essential services.

Infrastructure investment or equipment associated with the project, such as road upgrades, communications networks and power supply would provide indirect benefits for local communities. Improved access to services and improved communications, with access to better regional infrastructure, may indirectly encourage other economic activity to the region, e.g. horticultural activities.

The predicted impact on services is uncertain, driven as it is, by employment and workforce issues. However, it is likely that both Alice Springs and nearby communities can absorb the proposed project workforce without a great impact on existing services such as health, housing and emergency services, particularly as the FIFO/BIBO workforce is planned to be largely accommodated at an onsite workers' village.

Cumulative impacts however from other potential developments / projects operating at the same time could lead to pressures on scarce public housing (through inflationary impacts on the private housing market) and on the availability and affordability of private housing.

Additionally, a return of people to local communities (such as the Anmatjere people) to take up employment opportunities with or resulting from the project may lead to pressures on local community housing and create a demand for more private housing and community infrastructure in Ti Tree. Population mobility to the smaller communities could put pressure on housing and community infrastructure at these locations. This may result also in a higher demand for police, health, emergency and education services with potentially adverse impacts to service delivery.

15.4.4 Health and wellbeing

The project has the potential to result in reduced substance abuse, and increased health and wellbeing outcomes in Aboriginal and non-Aboriginal communities, due to employment and training opportunities and access to higher wages.

On the other hand, the project has the potential to create additional substance abuse and mental health issues associated with the high wages and living away from home conditions prevalent in the resources industry.

Additional health issues associated with the project include real or perceived potential impacts such as dispersion or storage of radioactive materials, transport of dangerous goods, dispersion of dust, tailings dam failure, waste storage, contamination of water and spills. This may result in local communities opposing the project, leading to project delays or withdrawal.

15.4.5 Natural resources and the environment

The project may enhance opportunities for the existing Aboriginal Ranger program to become involved in long-term land management projects associated with the Nolans Project. There is also an opportunity for active land management of landscape-scale threatening processes (e.g. management of feral animals and fire).

Conversely, there is the potential for the project to impact negatively on ecological functioning.

While actual loss of access to and enjoyment of the natural environment is predicted to be low, there may be negative perceptions of changes to the landscape because of the scale of the project.

The project may be perceived by adjacent land users (including Aileron and nearby stations) to be incompatible with their operations, including impacting on the quality and marketability of farming products, leading to tensions and potential for reputational impacts to the project. This may result in adverse perception of the project within the broader community.

Concerns about cumulative environmental impacts on the project are predicted to be low but cumulative industrial and mining development in Central Australia is likely to be perceived to impacting on the environment, in particular water supplies.

15.4.6 Culture and way of life

The project has the potential to enhance existing cultural programs in the region through added wealth in the broader community and through the development of a larger population to support such programs.

The project may have an impact on Aboriginal lifestyles and culture if the project challenges cultural authority or contributes to the breakdown of traditional law and cultural practices (e.g. through the removal of or damage to sacred sites). Project activities may result in perceptions by pastoralists, recreational users and traditional owners of a changed landscape and restricted access to traditional lands and conservation zones leading to concerns relating to cultural authority and connections. The likelihood that this will occur is low.

The project could impact on the broader lifestyle and culture of the region if mining and mineral processing replaces pastoralism as the predominant land use activity and brings in workers and their families who have no connection to or appreciation of the area's strong pastoral way of life. However, this likelihood is also considered as low.

The project may accelerate cultural change of local Aboriginal communities, including reduced strength of culture, language and customs. This may lead to a reduction in cohesion of community, including decline in respect for traditional law and authority from those people with increased contact with the project.

15.4.7 Human rights

In general, it is not envisaged that the project would have an impact on human rights, which are protected by a number of statutes and native title organisations, including the CLC.

The key impacts on rights are more likely to be unintended, such as racism experienced by workers. This could lead to reduced workforce participation in the project.

15.5 Mitigation and monitoring

The following mitigation measures will be implemented to address potential impacts arising from the Nolans Project.

15.5.1 Pre-construction and planning controls

A Social Impact Management Plan (SIMP, Appendix X) will be implemented prior to construction commencing, including:

- Agreements that, where practicable, provide continued access to traditional lands including access for cultural activities
- If requested, annual visits to the site by traditional owner groups
- Consider the demand and supply for goods and services expected for the project
- Identify measures to manage the impacts on local services, e.g. by providing additional temporary accommodation

- Community Reference Group to identify issues, and
- Measures will be implemented to minimise a reduction in community volunteering. This will include community investment programs for workers which may include volunteering and a volunteer program for staff.

A workforce plan will be prepared to prevent breaches in labour law, equitable opportunities, and women in the workforce. This will include:

- Performance criteria mandated in contracts to ensure adherence to human rights and labour requirements
- Collaboration with the CLC with the intention of achieving equitable treatment and employment of a community liaison officer to interface with the community
- Mentoring and support provided so any incidents are raised and resolved
- Key Performance Indicators (KPIs) around inclusion of locally based employees and indigenous employment program
- KPIs for contractors regarding indigenous and local employment
- Collaboration with relevant recruitment providers to increase the available local labour pool, e.g. through shared planning and training programs, and
- Consider using the "Sentenced to a Job" program to supplement the project's workforce.

The workforce plan would contain a program for work-readiness and training. This will include:

- Engaging with Community Reference Group and local education providers to develop strategies to get members of the local community work-ready
- Ensuring contractors have a commitment to Aboriginal participation, and
- Providing information about company expectations and the types and range of jobs available, including opportunities for women.

A pre-construction business management program will be established for engagement and training of local businesses to identify potential demand for goods and services. This will include:

- Providing advice on planning and timeframes of contracts available
- Monitoring the use of local resources and external providers to reduce impact on other businesses, if practicable
- Procurement policies to account for a company's size and ability to sustain growth, and
- Collaborating with the Northern Territory Government, ICN and Chamber of Commerce to prepare local businesses for opportunities.

A communication strategy will be implemented to alleviate community concerns relating to health and environmental impact. This will include:

- Provision of fact sheets and community information taking into account culturally appropriate formats for material
- Community information sessions to understand community concerns and provide information
- Community Reference Groups to respond to community concerns, and
- Consultation with adjacent land users to provide information on the project, potential effects and proposed management measures.

An exclusion zone around key operational areas of the project will be established to exclude pastoral activity thereby mitigating potential for adverse impact on pastoral operations.

Transparent monitoring and availability of results, including regular publishing of baseline data and operational data will be provided to regulators. This will include engagement with the Australian Government's Office of the Supervising Scientist and independent radiation experts.

Regular liaison with the three levels of Government will be undertaken on a regional approach to infrastructure development and on shared planning to optimise the potential for the project to supply local communities.

15.5.2 Operation

All distribution of community benefit payments will be managed either via the CLC or through an agreed trustee arrangement with the aim of an equitable distribution of benefits.

A Community Relations Officer will work with communities and agencies to address concerns relating to distribution and management of economic benefits.

Consideration will be given to planning a negotiated community benefits package with less dependence on cash payments.

Employment training programs will include life skill training including money management topics.

Strict policies about worker behaviour and drug and alcohol programs will be established for the project workplace. This will include restrictions on leaving site during roster thereby reducing potential for negative impact of project personnel on communities.

Contract and service opportunities will be packaged to enable local businesses to be competitive and prime contractors may be required to provide opportunities to local business in their supply chains. Local procurement strategies will be managed to increase the number of successful businesses, e.g. establishing consortia and partnerships.

The success of local businesses involvement with the project will be communicated.

A short-term accommodation strategy will be prepared to manage the capacity of local hotels and likely project demand. This strategy will include monitoring of potential displacement and cost pressures on Alice Springs hotels, matching rosters and transport from site to flight schedules, and providing temporary accommodation if necessary.

Onsite project facilities will include medical facilities for staff. Other health support initiatives will include mediation/counselling provided by off-site trained specialists and workplace training and awareness programs.

The Cultural and Heritage Management Plan (Appendix X) will include cross-cultural awareness programs and a cultural induction program will be mandatory for all employees and contractors.