CENTRAL LAND COUNCIL

Submission to the Northern Territory Environmental Protection Agency (NTEPA) for the Mt Peake Project Draft Environmental Impact Statement

March 2016

Recommendations

Recommendation 1: Water

1. Modelling undertaken in this study is of low confidence. Further research work is needed to ensure project risks are appropriately addressed.
2. Drawdown and the potential for phreatophytic vegetation impacts have not been studied as part of this EIS. Further information is required with particular consideration paid to the following points".
    a. Riparian vegetation (including River Red Gums along the Hanson River) has high cultural significance for traditional owners.
    b. The risk to Murray creek riparian vegetation of drawdown from the mine pit has not been clearly addressed.
    c. Monitoring broader drawdown impacts beyond the predicted 1km zone of influence is essential.
    d. Mud Hut swamp is an area of high cultural significance. Further hydrogeological study should be undertaken to understand the groundwater flow including potential impacts of draw down on Mud Hut Swamp.
3. Monitoring bores should be established to verify the modelling of impacts of pit dewatering on groundwater and the Murray Creek ecosystem.
4. Baseline water studies should be undertaken
5. Extraction volumes and drawdown from production bores along the haul road should be included in the water balance modelling of the mine.

Recommendation 2: Biodiversity

1. Whole of ecosystem study across the project footprint should include baseline invertebrate studies and data collection.
2. Further biodiversity studies should be undertaken across the current disturbance footprint of the haul road corridor.
3. Further haul road biodiversity studies should be undertaken to determine the extent of the *Ipomoea polpha subsp. latzii* (Giant Sweet Potato) populations and a risk assessment undertaken on the potential impacts to this population of surface flow changes from haul road construction.
4. Information as to the timing and extent of further baseline studies recommended in the EIS is requested.
5. Staged vegetation clearance is recommended in the context of fauna management. More detail is required in regards to timing and identification processes that will be undertaken to identify and protect fauna during construction.

Recommendation 3 Aboriginal Sites and Cultural Heritage Management

1. Damage to the sacred site located to the north east of the pit from mining and pit wall collapse is a key concern of the CLC and alternative proposals need to be considered which decrease the risk of damage to zero. The CLC is not satisfied that the risks of this occurring have been assessed in enough detail.
2. Risk to riparian vegetation communities as a result of pit de-watering and local groundwater drawdown is a concern at Mud Hut Swamp, Murray Creek and the Hanson River.
3. Archaeological fieldwork was not conducted across the entirety of the current haul road corridor and further work is recommended.
4. Reconsideration of the design for the planned causeway footings at the creek and river crossings along the haul road is essential to comply with conditions set out in SSCC2015-034.
5. The importance of the area for hunting and gathering by traditional Aboriginal owners should be acknowledged as well as important occurrences of bush foods such as *Ipomoea polpha subsp. latzii* (Giant Sweet Potato).
6. A strategic indigenous water reserve for the Western Davenport Water Control District should be considered in assessing the sustainable use of water for the Project.

Recommendation 4: Waste and Hazardous Substances Management

1. The CLC recommends that best practice landfill management be adopted which excludes burning of waste and that the facility is fully fenced to manage build up in number of feral animals and dingoes.
2. More consideration should be given to best practice around tailings management with emergency release into the local waterways being unacceptable.
3. More detailed plans are required addressing contaminated soil bioremediation, hydrocarbon sump management and oil water separation at wash down bays, sumps and bunded hydrocarbon storage areas.

Introduction and context

The Central Land Council (CLC) welcomes this opportunity to provide a submission to the Northern Territory Environmental Protection Agency (NTEPA) for the TNG Limited (TNG) Mt Peake Project Draft Environmental Impact Statement (EIS).

The CLC is a Commonwealth corporate entity established under the *Aboriginal Land Rights (Northern Territory) Act 1976* ('ALRA'). Amongst other functions, it has statutory responsibilities for Aboriginal land acquisition and land management in the southern half of the Northern Territory. The CLC is also a Native Title Representative Body established under the *Native Title Act 1993* ('NTA'). The CLC region covers approximately 780,000 km² of land, and 417,318 km2 is Aboriginal land under the ALRA. Given existing pastoral land was not able to be claimed Aboriginal land tends to be very arid and remote. In addition, rights have been asserted and won under the *Native Title Act 1993*, and traditional owners unable to claim land under the ALRA have succeeded in obtaining rights to small areas known as Community Living Areas, under NT legislation.

Through its elected representative Council of 90 community delegates the CLC continues to represent the aspirations and interests of approximately 17,500 traditional landowners and other Aboriginal people resident in its region, on a wide range of land-based and socio-political issues.

The CLC aims to improve the lives and futures of its Aboriginal constituents through sustainable development and change. The CLC's development approach is based on an integrated and strengths-based strategy of building economic, social and cultural capital. Significant work is being done under the various functions of the CLC in each of these related areas through initiatives in: natural and cultural resource management; the development of remote enterprise and employment pathways; innovative community development work, ensuring land owners use income generated from land use agreements for broad community benefit; and land administration and land use agreements for third parties and traditional owners.

The CLC's primary concerns in submitting the following comments on the Draft EIS are to highlight traditional Aboriginal owners and/or Native Title Holders connection to the affected land and to ensure the protection of significant sacred sites and cultural interests on the land affected by the project. The protection of the environment is integral to Aboriginal attachment to country. Further the CLC wishes to ensure that social and economic benefits from the project are distributed for the benefit of traditional Aboriginal owners and local communities.

The CLC has had a long working relationship with TNG Ltd since it first acquired exploration tenements in the area of the Mt Peake Project in 2009. Two Deeds for Exploration were executed in 2010 and 2012 respectively and traditional Aboriginal owner and other meetings were held with the company. Negotiations toward a Mining Production Agreement are underway.

The CLC has coordinated several sacred site clearances in relation to the project footprint and as a result Sacred Site Clearance Certificates have been issued to the company setting out traditional Aboriginal owners instructions in relation to the protection of sacred sites. Cultural information is not included in the EIS as it is subject to confidentiality.

In general the coverage of risks and issues in the Draft Environmental Impact Statement (EIS) and the quality of information provided in the document is satisfactory, although the CLC believes some matters require further work in relation to cultural and environmental risks.

The main body of this document is set out as a topic summary of each of the CLC's concerns with EIS referenced text in italic and bold headings and related CLC comments.

Comments on the Draft Environmental Impact Statement

Water

A summary of the limitations presented in the EIS shows that conceptual modelling and drilling investigations indicate the need for further research to provide more certainty in regards to environmental impacts of groundwater extraction for this project.
Further the EIS identifies that the hydrogeological studies undertaken for the project have modelled ground and surface water with a low level of confidence. The CLC is concerned that hydrological, hydrogeological and ecological studies have either not been undertaken or were not designed to develop understanding of project impacts on the ground water system and riparian ecology along the Hansen River and Murray Creek. Death of riparian vegetation including culturally significant mature trees along the waterways is a threat. Mud Hut Swamp is an area of high cultural significance which could be at risk with changed ground water flows. The EIS reports no connection between Mud Hut swamp and the palaeovalley groundwater, but the CLC is concerned that the modelling alone is insufficient evidence to confidently rule out a connection that could impact on Mud Hut Swamp.

The CLC also notes that production bores associated with the haul road have not been included in extraction modelling. Further that the location of these bores and the extent of their use during the operational phase of the project is not known.

The CLC does not support discharge of saline process water to the environment under any circumstances and as such has concerns about the proposed emergency discharge management for the tailings storage facility. There is insufficient information in the EIS to appropriately assess the risk of this discharge point.

The EIS identifies that there are no identified current or future users of the water resources in the project area. The CLC however believes that strategic indigenous water reserves will be acknowledged in the future in relation to the Western Davenport Water Control District.

2. Project description

2.2 Construction

-Several bores will be established along the access road to provide construction water

2.3.5 Access Road

-Several bores will be established along the access road to provide construction water

CLC Comment: Production bores along the haul road corridor are mentioned but are not included in management documents. There is no haul road bore extraction volumes, water balance or reference to the ongoing use or otherwise of the water during the project.

4.3 Groundwater Impact Assessment

-Drawdown decreases significantly with depth away from the palaeovalley. Although the 1 m drawdown contour extended to around 6 km south of the borefield.

Appendix F 6.2.4 Hanson River palaeovalley

-It is recognised that within the Hanson River area, drilling data is relatively limited (Section 6.4), therefore the mapped extent of the palaeovalley could be highly speculative (Tickell 2013).

7-8 Model Limitations

-…hence its results should be treated in line with the expectation of a low confidence model.

-The aquifer characteristics of the palaeovalley aquifer have been developed from a relatively limited drilling investigation. As such, the measured aquifer characteristics may not be representative of the whole of the borefield (i.e. additional bores could provide greater or smaller yields).

CLC Comment: The limitations around groundwater knowledge in the area generally are noted by the CLC. The uncertainty regarding the mapped extent of the palaeovalley is an example as to why the CLC has concerns regarding the effective monitoring of groundwater draw down. The EIS reports no connection between Mud Hut swamp and the palaeovalley groundwater, but the CLC is concerned that the modelling is not supported by empirical data and that the swamp may be impacted. The CLC recommends that further hydrogeological work be undertaken to understand any drawdown that may affect the swamp.

5.3.5 Estimation of peak floodway flow depths (Figure 5-8)

-Further topographical surveys and hydraulic assessments will be required to validate these findings

CLC Comment: Any change in surface flows has potential to affect the Stirling Swamp and the population of the near threatened *Ipomoea polpha*. The CLC would like confirmation of the timing of further hydrological assessments to be undertaken on the Wood Duck Creek crossing/wash out zone.

2.7.2 Tailings Storage Facility

-The emergency spillway will be constructed at the lowest part of the perimeter area. The emergency spillway will discharge into Bloodwood Creek.

8-4-2 Potential Saline Drainage

-It is recommended that the various water storages be operated to ensure that they are well mixed and that any outflow to the environment considers the salinity of discharges

CLC Comment: Saline process water may affect the environment if discharged from the dam and tailings storage facility. Discharge of saline process water is unacceptable. Other management options should be considered.

Table 8-2 Risk management

-Runoff of contaminated stormwater: Oily water separation and treatment

CLC Comment: Oily water separation facilities need to be designed to control all contaminated water on site to ensure hydrocarbons are prevented from entering the environment (from wash down bays, work areas and storage sumps).

Biodiversity

The biodiversity information provided in the EIS is incomplete and both the report and the CLC note the need for more information and further studies to be undertaken.

The EIS identified a high risk ranking for ground water drawdown effects on riparian ecosystems. The CLC is concerned about this high risk from an ecosystem perspective but also around the health of culturally significant trees particularly along the Hanson River and Murray Creek.

We note that the borefield and pipeline corridor ecosystems have not been studied and the CLC requests further work be undertaken to increase understanding and limit identified risks.

The haul road transects the Stirling Swamp and travels very close to an NTEPA listed population of a near-threatened species .The *Ipomoea polpha* subsp. *latzii* (Giant Sweet Potato) population was not studied as part of this EIS. Combined with the species' delisting from the EPBC Act vulnerable species list in 2010 and the associated reasons for the amendment, the CLC believe that more information is required to determine what impact the project may have an on this isolated population. The species is mentioned in the EIS but no fieldwork sampling has been undertaken or a management plan set out to control risk to the species. The Giant sweet potato is an important food source for traditional Aboriginal owners and the CLC believes that a further study should be undertaken to determine strategies to protect the species. Further assessment should be undertaken to assess the risk from changes to surface water flows on the species as well as the Stirling Swamp

The EIS states that that invertebrates have not been studied in the project area due to lack of historical data and few sampling tools available. This is a concern to the CLC as an invertebrate baseline study for the project provides a whole of ecosystem dimension to the study in assessing all potential risk posed by the project.

With respect to the Haul Road route, it is noted that assessments undertaken were quadrat samples along a previous version of the route and the CLC is concerned that the current Haul Road corridor has not been sampled.

Sites of Conservation Significance

-It encompasses the known extent of the near threatened Giant Sweet Potato (Ipomoea subsp. Latzii)…

CLC Comment: The Giant Sweet Potato (*Ipomoea polpha subsp. latzii.*) was downgraded from the EPBC Act vulnerable species list in 2010. Some of the reasons given for this amendment were due to a large and stable population with no current potential threats. The construction of a haul road corridor with significant ground disturbance and the potential for surface water drainage changes is a threat to the species and should trigger re-assessment under the EPBC. It is noted that the flora survey for the EIS did not determine the current extent of the *Ipomoea* sp. or sample any quadrants in the vicinity of its known location. Threatened Species spatial data available from the Northern Territory Government shows the Haul road intersects the northern most portion of the mapped population of *Ipomoea polpha*. Further studies are needed.

Field Survey

-Field survey of the proposed borefield, associated pipeline and access road and road base borrow pit areas were not undertaken as part of this assessment as the locations of these features were not known at the time of the survey.

Clearing

-The location and area of borrow pits still needs to be determined

CLC Comment: The flora survey was undertaken in 2013 with the majority of sample quadrants set out along a previous route for the haul road. The Stirling swamp and Ipomoea distribution in the vicinity of the current haul road alignment has not been considered. The CLC recommends further biodiversity studies along the current haul road corridor.

Predicted river and creek impacts on the access road

-There is no evidence of a single specific drainage line associated with Wood Duck Creek and surface flows in this vicinity are likely to present as sheet flow. Given the relatively long length of the crossing (~1,800 m) and the likely long duration of standing water, TNG intends to install regularly spaced culverts along this section of road.

CLC Comment: The CLC recommends further study of the risk to sensitive ecosystems of changes to surface water drainage due to haul road construction plans.

5-3-2 Risk Assessment Results

-Two high risks were identified as a result of the potential for groundwater drawdown from the borefield to impact phreatophytic vegetation (GW03, VF30).
-an additional flora survey to identify presence and distribution of phreatophytic vegetation
-GW-03 Impact on phreatophytic vegetation in the area of borefield groundwater drawdown

CLC Comment:
A baseline riparian ecological study should be undertaken in conjunction with further hydrogeological studies to determine potential groundwater drawdown impacts to this

ecological community. The CLC is concerned that significant trees may die over the long term and this would not be acceptable.

7.1.2 Biodiversity Management Plan

-Flora survey to identify presence and distribution of phreatophytic vegetation and implement Borefield management strategy (if present): Prior to Borefield operation

CLC Comment: Further studies are critical to the understanding of ecological communities at risk of ground water drawdown and should be undertaken in conjunction with hydrogeological assessment.

15.2.2 Nationally Threatened Species and Ecological Communities

-If bilby occur within the project area, the level of risk can be reduced….:
a pre-clearance survey followed by staged vegetation clearing, undertaken during seasons that the bilby is less vulnerable

CLC Comment: The information and actions recommended here require more detail. The CLC is sceptical that a staged clearance of vegetation provides a practical solution to protection of possible threatened and vulnerable fauna because once construction starts the project schedules take priority.

Appendix H – 4.4 Limitations of the baseline fauna survey

The fauna assessment focused on species of terrestrial vertebrate fauna (mammals, birds, reptiles and amphibians). Existing databases and species prediction tools are biased towards vertebrates. The occurrence of terrestrial invertebrates was not assessed. Unlike terrestrial vertebrate fauna, there are relatively few data or identification tools available for terrestrial invertebrates in the region.

CLC Comment: It is unacceptable that invertebrate studies are not included for this project. The data deficiency or lack of identification tools should trigger a precautionary approach to establish at least a baseline understanding of invertebrates across the project footprint, particularly to provide key indicators for successful rehabilitation.

Aboriginal Culture

Sacred sites are an integral part of traditional Aboriginal owners' custom and law and are an important aspect of their connection to country. Sacred sites are protected through the Aboriginal Land Rights (Northern Territory) Act 1976 and the Northern Territory Aboriginal Sacred Sites Act 1989. Traditional Aboriginal owner's expectations are that sacred sites will be protected. The CLC is very concerned about the risk of wall collapse posed to the sacred site within the exclusion zone bordering the mine pit. The geotechnical risk stated in the EIS is ranked as high, then as medium after management controls are applied. The CLC considers any risk to a sacred site as unacceptable and recommends re-assessment of mine planning so the risk is reduced to zero.
Mud Hut Swamp is a culturally significant area outside of the immediate project footprint. However the CLC is concerned about the impact from possible groundwater depletion on

the ecological and cultural values of the area given the lack of confidence in the groundwater modelling.
Creeks and rivers in the project area are also of cultural significance and particularly the mature riparian trees growing along the waterways. Damage to these trees would cause considerable distress to traditional owners. Impacts on tree health from groundwater drawdown is of concern and mitigation steps proposed in this document should be taken. Construction of causeways for creek crossings at Murray Creek and the Hanson River must go no deeper than the current level of the creek or river track surface as required in Sacred Site Clearance Certificate 2015-034(SSCC2015-034) and **not** be excavated as proposed in the EIS (to a depth of 1000mm).
It is noted that the Giant Sweet potato is an important traditional food source still gathered. There is a population of the species that has potential to be at risk from road construction activities including borrow pits. The population should be protected.

The CLC supports the recommendation in the archaeological report that further field work should be undertaken along the amended haul road corridor.

The EIS identifies no current or future substantial users of the water resources in the project area. The CLC however believes that traditional Aboriginal owners should be included in water management and planning including in relation to strategic indigenous water reserves for the Western Davenport Water Control District.

Appendix K

Table 5.5 Project Risk Assessment (by Aspect)

-HE05 Major open pit slope failure. Mitigation: Establish a geotechnical stability monitoring program for the sacred site situated near to the north eastern boundary of the pit. Residual Risk: Moderate.

- CLC Comment:The monitoring control stated here will not mitigate a wall failure if it occurs and that this risk will remain into the future beyond mine closure. The CLC requests consideration of an alternative mining plan. The CLC requests consideration be given to conservative pit wall design and blast engineering, coupled with pit expansion design restrictions.

7.1.3 Cultural Heritage Management

-Site works at the RWA will be undertaken in accordance with the CLC Clearance Certificate conditions including: Murray Creek and Hanson River RWA Construction of river crossing allowed for the Haul Road on the condition the road goes no deeper than existing levels and works are supervised by traditional Aboriginal owners

2-8 Floodway detail

CLC Comment: The plan shows the causeway depth of footing at 1000mm below current surface level of the creek/river beds. The CLC considers this causeway plan as contrary to SSCC conditions for Restricted Work Areas which states that causeway construction go no deeper than the current creek surface.

11.2.3 Consultation

-AM Consulting provided their draft report to CLC for community review comment, with feedback incorporated in the final report.

CLC Comment:. A Draft Archaeological Report was not provided to CLC for comment.

9.4 Subsequent Design Changes

-The revised project design complies with Recommendation 1, and as per Recommendation 2, additional archaeological assessment in consultation with the Aboriginal community should be undertaken to assess the impact of the project on the new areas.

CLC Comment:
Further archaeological studies and consultations are appropriate.

Table 5.2 Commonwealth Legislation

-Aboriginal Land Rights (Northern Territory) Act: TNG has exploration licences and mineral leases granted by the Central Land Council.

CLC Comment: The project titles are not subject to ALRA legislation and for clarification the CLC does not grant titles.

Waste and Hazardous Substances Management

Waste and hazardous substance management is considered important for controlling the project's potential pollution impacts to the environment. The EIS set outs management plans for most potential pollutants but some information is missing. For example landfill management, waste tyres, oily water separation, waste hydrocarbon storage and bioremediation of contaminated soils.
The CLC has concerns about hydrocarbon management through the construction and operational stages. There is mention of a Construction Environmental Management Plan (CEMP) although the EIS does not set out any detail. Storage of hydrocarbons or contaminated containers at the Land fill should be avoided and be restricted to suitably bunded facilities. Oily water separation and management practice at vehicle wash down bays and within bunded areas is not clear.

The CLC is concerned that sufficient detail is not included in the EIS for the management of hydrocarbon waste including contaminated material and oily water. A contaminated soil bioremediation facility is mentioned in the EIS but no location or management plan are specified.

The CLC notes that proposed landfill management procedures vary throughout the EIS. For example the EIS referenced NTEPA 2009 Guidelines for Small Community Landfills which recommend not burning as best practice. Yet the proposed management practice for the mine is to burn waste. This is unacceptable and the better practice is to dispose of suitable waste in trenches and to cover the tip face weekly. Fauna and feral animal control measures such as fencing should also be adopted.

The proposed management of waste tyres requires more detail.

Landfill

7.1.2 Biodiversity Management Plan

-Wastes will be managed to prevent/reduce interaction with fauna. Waste management includes: -Regular burns of the landfill

7-1-4 Fire MGMT Plan

-Controlled burns are held at the landfill site as necessary to control amount of putrescible and windblown waste.

7.1.6 Non-mineralised Waste Management Plan

-Close landfill during the burning of wastes to reduce impact to human health (related to dioxins, sulphur dioxide, lead and mercury).

Waste Management Guidelines for Small Communities in the Northern Territory Working Towards Best Practice 2009

1.05 Burning of Waste

-Burning wastes changes otherwise safe materials (such as plastic) into dangerous toxic emissions and ash, including: dioxins; sulphur dioxide; lead; and mercury which may adversely impact on public health and the environment.

- Best Practice Statement: "Waste is not burnt in communities"

Risk Assessment

-GW-10 Liquid and solid waste disposal.

-Organic waste buried in an on-site landfill

Table 3-1 Key Activities, Risks and Impacts

-Loss of control leading to bushfire and subsequent loss of flora and fauna

CLC Comment: The burning of waste at the landfill in terms of the risk of pollution is not assessed in the EIS. The referenced guideline documents recommend NOT burning waste as best practice. The CLC recommends alternatives to burning of waste are considered to control fauna and feral animal interactions at the facility, for example land fill site fencing, trench tipping and daily covering of waste with soil. More detailed information should be made available as to location and management plans for the facility including comprehensive risk assessment.

Hazardous Substances Management

Release of hydrocarbons due to a spill at the mine site.

-Waste hydrocarbons will be stored in a tank within a bunded area to be held for collection by a contractor for reprocess and recycling

Storage, handling and transport of hazardous materials

-Waste oil stored in tank within bunded area and held for collection by contractor for reprocessing and recycling. Diesel stored in self bunded tanks.

-Regular inspections of storages, tanks and bulk containers and the integrity of bunded areas and containment systems

-1-5 Hazardous Substances Plan

-Storage of IBCs at the landfill will not exceed 1,000 L at any one time.

CLC Comment:
Waste hydrocarbon storage in bunded tanks is discussed but does not transfer to detail in management plans. More detail is expected on integrity checks and general monitoring

APP F Hazardous Substance Management Plan
2.3 Management and Monitoring

CLC Comment: The EIS does not detail oily-water separation at vehicle wash down bays, hydrocarbon storage sumps, drainage systems for vehicle workshops or other areas dealing with contaminated water. Monitoring of these areas is required to manage potential for pollution.

End of submission