

PROCEDURE

TRENCH INSPECTION PROCEDURE

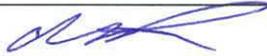
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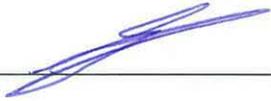
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1 INTRODUCTION

This Trench Inspection Procedure for the Northern Gas Pipeline (the Procedure) is a supporting document to the Construction Environmental Management Plan for the Jemena Northern Gas Pipeline (NGP) project (the Project). Entrapment of fauna within the open trench was identified as a risk to biodiversity through the environmental risk assessment process. This Procedure details the process for checking for, and removing, fauna from the open trench by the Fauna Spotter Catchers (FSCs).

This procedure has been prepared by EcOz Environmental Consultants on behalf of Jemena Northern Gas Pipeline Pty Ltd. It is for use by the Construction Contractor, specifically the Environmental Manager and FSCs during construction of the NGP.

1.1 PROJECT DESCRIPTION

The NGP is a gas pipeline project which will involve the construction of 622 km of underground pipeline linking the existing gas pipelines in the Northern Territory and Queensland. The pipeline will commence approximately 45 kilometres north-east of Tennant Creek near Warrego, and will terminate at its gas Delivery Station adjacent to the existing Mount Isa Mica Creek Power Station. The NGP is a 12.5-inch steel pipeline. Construction of the pipeline will be performed by a Construction Contractor who will be responsible for implementation this Procedure; Jemena will take possession post-construction.

1.1.1 Construction activities relevant to trench inspections

The following trenching activities associated with construction of the NGP pipeline have the potential to entrap and negatively impact fauna:

- Digging, and maintaining an open trench in which the pipeline will be laid.
- Stringing and welding pipeline sections.
- Progressively backfilling and reinstating the open trench following pipe laying.

1.1.2 Construction schedule

Construction is currently scheduled to commence in early 2017 and the pipeline system is planned to be operational in 2018. Trenching operations will commence in early 2017 and be completed before the onset of the wet season. The exact timing is dependent on a number of factors including the timeliness of the required approvals, access agreements with relevant stakeholders and weather conditions.

1.2 OBJECTIVE, SCOPE AND PURPOSE

The objective of this procedure is to minimise harm to wildlife during trenching activities by promptly capturing and relocating healthy animals, and preventing the suffering of injured animals.

This Procedure applies to all trenching operations during the construction of the NGP.

The purpose of the Procedure is to detail a method which can be used by the Construction Contractor (including FSC) to minimise harm to wildlife during trenching activities as part of the construction of the NGP.

1.3 LEGISLATIVE FRAMEWORK

The NGP project falls within the legal jurisdiction of the Commonwealth, Northern Territory and Queensland Governments. Approvals, permits and licences are required pursuant to the legislation within in each jurisdiction as described below.

1.3.1 Pipeline licences

The primary approvals required for construction and operation of the NGP and associated facilities are Pipeline Licences issued pursuant to the Energy Pipelines Act (NT) and the Petroleum and Gas (Production and Safety) Act 2004 (Qld). The issue of Pipeline Licences is conditional upon the NGP project obtaining all environmental approvals required under Commonwealth, Northern Territory and Queensland legislation.

1.3.2 Primary environmental approvals

The Project has been assessed under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act), Environmental Assessment Act (NT) (EA Act) and Environment Protection Act (Qld) (EP Act). The key primary environmental assessment and approvals documents that are conditional upon implementation of this Rehabilitation Management Plan are listed below:

- NTEPA Assessment Report 79 (January 2017) issued pursuant to the EA Act (NT)
- EPBC Act Approval (2015/7569) issued pursuant to the EPBC Act (Cth)
- Environmental Authority EPPG03497815 issued pursuant to the EP Act (Qld).

1.3.3 Project approval conditions

As part of the approval of the project pursuant to the EPBC Act (Cth), the following condition was attached to the approval:

For the protection of the EPBC Act listed Plains Death Adder, Carpentarian Antechinus (Pseudantechinus mimulus) and Greater Bilby (Macrotis lagotis), the approval holder must undertake open trench inspection activities in accordance with the Trench Inspection Procedure (Procedure) provided to the Department in the final public environment report.

Development of this Procedure is also a commitment made through the assessment processes in Qld and the NT.

1.3.4 Permits

In the NT, the FSC will be required under the *Territory Parks and Wildlife Conservation Act* to hold a *Permit to Take or Interfere with Wildlife*. In Qld, the FSC is required to possess a *Rehabilitation Permit* under the *Nature Conservation (Administration) Regulation 2006* to capture, release or undertake emergency euthanasia of wildlife.

These permits ensure that the FSC will be experienced in the identification of fauna and assessment of fauna condition.

1.4 RESPONSIBILITIES

The Environmental Manager will:

- Assign sufficient FSC resources so that the open length of trench can be checked each day within five hours of sunrise.
- Advise the FSCs about the location of daily trenching activities.
- Ensure that the requirements of this procedure are followed by all personnel, contractors and visitors to the site.
- Maintain records of daily trench inspections and compile Trench Inspection Reports.
- Implement recommendations which are identified in the Trench Inspection Reports.

The FSCs will:

- Complete inspections, including indirect observations (track, scats etc.) of the open trench each day prior to the commencement of each section's construction activities. Each inspection will include checking the integrity of trench plugs, exit ramps and other fauna escape devices.
- Complete trench inspections within 5 hours of sunrise.
- Complete trench inspections prior backfilling of the trench.
- Capture any wildlife entrapped within the open trench.
- Identify and assess potential habitat for the release of fauna that is removed from the open trench.
- The FSC will assess the health of all captured wildlife to determine whether the animal is:
 - Suitable for relocation – all displaced and healthy fauna will be captured, recorded and released into appropriate habitat nearby to capture area.
 - Injured or orphaned – in which case the animal may need to be euthanised in-situ in accordance with the FSCs euthanasia procedures.
- Document information for inclusion in the Trench Inspection Report.
- Install fauna shelter devices at intervals of one per 500m along the length of open trench, fauna shelter devices include sand bags and cloth.
- Between KP 609.5 and 622 (in Carpentarian Antechinus habitat) install hessian 'ladders' at intervals of 50 m through rocky habitat and 100 m through intervening habitat

2 TRENCH INSPECTION PROCEDURE

2.1 DAILY TRENCH INSPECTIONS

- The maximum length of the open trench will not exceed the length capable of being practically inspected and cleared by FSC teams.
- Each day, prior to commencement of works, the FSCs will inspect the trenches for fauna. The trench inspections will be scheduled and resourced so that they can be completed within five hours of sunrise each day. The number of FSCs will be adjusted as required to achieve this target.
- Trench inspections will be conducted from the end of the trench closest to where works will be commencing, towards the other trench end.
- Trench inspections will be completed by FSCs walking along the edge of the open trench and making observations using suitable methodologies such as a mirror attached to a pole. This will ensure that all areas of the open trench (including base and walls) are inspected.
- Any detected fauna will be captured using suitable methodologies such as a modified pool-cleaning net to enable capture without the FSC entering the trench.
- For safety reasons, FSCs will not be permitted to enter the trench. Entry to the trench to check fauna shelters will only be permitted with the approval of a Health and Safety Manager and will be in the presence of an identified observer whilst no construction works are being undertaken in the vicinity.
- Fauna that are removed from the trench will be assessed for any injury, and uninjured animals will be immediately released into adjacent suitable habitats. The FSCs will be suitably qualified to assess the habitat requirements of each species so that they are released in areas where their survival potential is maximised. Release methods applicable to different types of fauna are specified in Section 3 below.
- In the event that the immediately adjacent habitat areas are deemed unsuitable for release of an animal, it will be temporarily contained in a catch bag and placed in a cool dry area until a suitable release site is identified.

2.2 FAUNA HOTSPOT INSPECTIONS

A section of trench may be designated as a 'hotspot' for fauna entrapment based on the following criteria:

- Any recorded incidence of a listed threatened species.
- Higher than average numbers of small mammals and frogs, that are most susceptible to mortality by desiccation or are trapped in a designated section of trench on a daily basis.

Additional management measures that will be considered when a fauna 'hotspot' is identified are as follows:

- Provide additional FSC to complete trench inspections and release captured fauna as early as possible.
- Install fauna shelters at more frequent intervals.

2.3 CONSTRUCTION TRENCH INSPECTION

- If fauna is detected within the trench during construction works, then any works within the area which a FSC believes could impact the animal will cease.

- A FSC will be responsible for assessing the situation and removing the animal by the most appropriate means.
- Works will resume once the FSC indicates there is no longer a risk of impact to fauna from construction works.

3 GENERAL FAUNA HANDLING

- Fauna will be handled in accordance with published standard operating procedures. The procedures which will be used as guidance are:
 - Terrestrial Vertebrate Fauna Survey Guidelines for Queensland – DSITIA (Eyre et al. 2014)
 - Standard Operating Procedure – Animal handling/restraint using soft containment (DEC 2009a)
 - Standard Operating Procedure – Hand restraint of wildlife (DEC 2009b)
- All fauna handling will be undertaken by a suitably-qualified and experienced FSC.
- All FSC will have suitable NT or Qld permits for handling fauna – and the associated ethics approvals – and will be required to report as required for each jurisdiction.
- All fauna interactions associated with trench inspections will be recorded and kept for the life of the project. These records will be shared with DENR, DEHP and DoEE.
- A snake bite kit will be carried by each FSC whilst undertaking trench inspection activities.
- Bites from any fauna need to be treated immediately.

3.1 SNAKES

- Unless species identification is immediately certain prior to handling, all snakes and legless lizards are to be treated as venomous.
- FSCs will assess the situation to identify the best capture method.
- Snakes will be caught using appropriate equipment, including:
 - Snake hooks
 - Extendable poles with attached catch bags suitable for venomous snakes (i.e. dead corners and clean material)
 - Gloves
 - Tie to secure catch bag closed
 - Holding container (if required).
- Snakes will be released downhill or onto flat ground, and towards suitable ground cover.

3.2 SMALL REPTILES

- Small reptiles will be held at the base of the neck/upper back with firm pressure to restrain the animal but not cause injury. Handling the tail of skinks and geckos will be avoided.
- If the animal will not be immediately released, they will be placed in a catch bag and tied off. The animal will be stored in a cool dry area in a secure location for the shortest period possible.

3.3 LARGE REPTILES

- Large reptiles such as dragons and monitors will be treated with extra care and may require additional force to restrain.
- Large reptiles will be ushered to the closest ramp (if it is close by). Otherwise, capture in the bag will be possible for most goannas in this area.
- Large reptiles will be handled whilst wearing gloves to avoid injury through bites or scratches. They can be held by grasping the base of the tail to restrain the animal; after which a heavy cloth bag is placed over the animal's head. This allows the FSC to take hold of the animal at the neck behind the head and at the base of the tail.
- Whilst carrying the animal, the FSC will tilt their head back slightly and hold the animal away from their body, with the feet facing away.
- If required to be held before release, large reptiles will be placed in a large heavy cloth or hessian sack, and the opening zip-tied. Claws may protrude through the fabric, and so the bag will be held away from the body when being carried.

3.4 MAMMALS

- Small mammal species will be captured in a dark bag on the end of an extendable pole.
- Small mammals will only be handled for identification purposes. Such handling will be in a firm but gentle manner.
- All FSCs will have past experience and will be adequately trained in small mammal handling.
- Handling small mammals will only be required to confirm species identification. If identification can be obtained via 'bag inspections', no handling is required and the animal can be released.
- Small mammals will be released in a timely manner to reduce stress.
- FSCs will release small mammals into a safe location for the species. Effort will be made to not expose them to predation from raptors and other predatory fauna (as most small mammals in the region will be nocturnal and will therefore be disoriented during daytime releases).
- Large mammals (such as kangaroo, wallaby and dingo) that cannot be safely captured in the catch bag will be ushered to the closest ramp.

4 REPORTING

For each trench inspection event, a FSC will prepare a Trench Inspection Report documenting:

- The areas surveyed including start and finish time of surveys, temperature and weather conditions.
- Name and number of species relocated, injured or deceased
- Locations in which release occurred
- Recommendations (i.e. if more shelters / exit points are required).

If any threatened fauna species are observed within the project area, the FSC will mark the location with a GPS and immediately contact Jemena. Jemena will notify the relevant government departments (DENR, DEE and/or DEHP).

5 ACRONYMS, GLOSSARY REFERENCES

5.1 ACRONYMS

Cth	Commonwealth
DEC	Department of Environment and Conservation
DEE	Department of Environment and Energy
DEHP	Department of Environment and Heritage Protection
DENR	Department of Environment and Natural Resources
DSTIA	Department of Science, Information technology, Innovation and the Arts
EA Act	Environmental Assessment Act
EP Act	Environmental Protection Act 1994
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
FSC	Fauna Spotter Catcher
GPS	Global Positioning System
NGP	Northern Gas Pipeline
NT	Northern Territory
NTEPA	Northern Territory Environmental Protection Authority
Qld	Queensland

5.2 REFERENCES

Eyre TJ, Ferguson DJ, Hourigan CL, Smith GC, Mathieson MT, Kelly, AL, Venz MF, Hogan LD & Rowland J 2014, *Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland*, Department of Science, Information technology, Innovation and the Arts, Queensland Government, Brisbane.

Department of Environment and Conservation (DEC) 2009a, *Standard Operating Procedure 10.1 – Animal handling/restraint using soft containment*, Department of Environment and Conservation, Perth, Western Australia.

Department of Environment and Conservation (DEC) 2009b, *Standard Operating Procedure 10.2 – Hand restraint of wildlife*, Department of Environment and Conservation, Perth, Western Australia.