Pluto North West Shelf Interconnector Pipeline

Australian Gas Infrastructure Group

2023 Compliance Assessment Report – Ministerial Statement 1117

JBS&G 65375

16 February 2024

We acknowledge the Traditional Custodians of Country throughout Australia and their connections to land, sea and community.

We pay respect to Elders past and present and in the spirit of reconciliation, we commit to working together for our shared future.

Caring for Country The Journey of JBS&G
Artist: Patrick Caruso, Eastern Arrernte

Table of Contents

List of Tables

List of Figures

No table of figures entries found.

Appendices

Abbreviations

Term	Definition
AGID	AGI Development Group Nominees Pty Limited
AGIG	Australian Gas Infrastructure Group
CAP	Compliance Assessment Plan
CAR	Compliance Assessment Report
DWER	Department of Water and Environmental Regulation

1. Introduction

1.1 Project Background

The Pluto North West Shelf Interconnector Pipeline (PNI) project involved the construction of 3.3 km of natural gas pipeline in the industrialised section of the Burrup Peninsula in the Pilbara Region of Western Australia (WA).

The project commences at the Pluto Compressor Station (PCS) within the Dampier Bunbury Natural Gas Pipeline (DBNGP) corridor and connects the Pluto Liquefied Natural Gas (LNG) Plant with the Karratha Gas Plant (KGP).

The proposal for the PNI was approved for implementation under Part IV of the Environmental Protection Act 1986 (EP Act) with the issue of Ministerial Statement No. 1117 (MS 1117) on 21 November 2019. The required management plans included for the project are the Construction Environmental Management Plan (CEMP) and the Cultural Heritage Management Plan (CHMP).

Operation of the PNI is regulated by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) via Pipeline License (PL) 69, issued under the *Petroleum Pipelines Act 1969*. Associated with this, AGID has the approved Pluto – North West Shelf Interconnector Operations Environment Plan [E-PLN-038] in place for the management of environmental aspects of the pipeline.

1.2 Objectives and Scope

The objective of this document is to comply with Condition 4-1 to 4-6 of MS1117, which requires submission of an annual compliance report to address the status and compliance of the PNI project with Statement conditions and key actions in accordance with the Compliance Assessment Plan approved 2 June 2020.

The scope of this document covers the reporting period commencing 21 November 2022 and concluding 20 November 2023.

1.3 Proponent Details

The details of the proponent are detailed below in Table 1.1.

Table 1.1: Proponent Details

Subject	Detail
Project	Pluto North West Shelf Interconnector Pipeline
Proponent:	AGI Development Group Nominees Pty Limited (AGID).
ACN:	153 396 911
Proponent Address:	Level 22, 140 St Georges Terrace Perth WA 6000

2. Current Status

The PNI pipeline was in operational status during the reporting period. The works conducted in the reporting period were:

- Pest Control
- Aerial Surveillance
- Inspections
- Maintenance
- Accuracy Verification Test (AVT) and gas sampling
- Cathodic Protection Survey (annual)

3. Audit Methodology

This Compliance Assessment Report (CAR) addresses the current status and compliance of operations at the Project with respect to the conditions in MS1117 and the management plans associated with it.

3.1 Audit Period

This CAR addresses the 12-month compliance period from 21/11/2022 to 20/11/2023.

3.2 Audit Criteria

This assessment was conducted in accordance with the Compliance Assessment Plan. Audit criteria were based on the conditions of approval as per Table 2 (Compliance Audit Table).

The audit table contains each condition separated into audit elements for auditing purposes (i.e. the audit criteria), and includes the following headings:

- Condition No MS1117: Ministerial Statement reference number
- Subject: the environmental theme/issue
- Phase: project phase applicable to audit element
- Condition
- How: the manner in which the requirements of an audit element should be achieved
- Evidence: information or data collected to verify compliance, i.e. report/letter/site inspection requirements
- When: specific timing for achieving the requirements of an audit element
- Compliance Status: notes about the fulfilment of compliance using compliance status terms
- Notes / Further information: explanation to support compliance findings, where required.

3.3 Methodology

The desktop audit was undertaken by lead auditor Andrea Wills of JBS&G with interviews with personnel in Table 3.2 and review of relevant documents.

Table 3.1: Persons consulted during audit

Person and position	Organisation	Purpose
JZ Khoo	AGIG	Verification of status of the Proposal
Melanie Kenny	AGIG	

3.4 Terminology

All conditions have been assessed and assigned a compliance status as defined in Table 3.3 below.

Table 3.2: Action implementation status (adapted from OEPA [2012b])

Status	Description
Compliant / Conformant	Implementation of the proposal has been carried out in accordance with requirements of the audit.
Complete	A requirement with a finite period of application has been completed.
Not required at this stage	The requirements of the audit element were not triggered during the reporting period.
Potentially non-compliant / Potentially non-conformant	Possible or likely failure to meet the requirements of the audit element.
In process	Where an audit element requires a management or monitoring plan be submitted to the DWER or another government agency for approval, that submission has been made and no further information or changes have been requested by the DWER or the other government agency and assessment by the DWER or other government agency for approval is still pending. Note the term 'In process' must only be used for the purpose stated.

4. Compliance

Compliance with the 7 conditions of MS1117 and associated in the management plans for the Project have been assessed and reported using the Audit Tables provided in Table 4.1, Appendix B and Appendix C.

4.1 Compliance with MS1117

This assessment of compliance with the 20 sub-conditions of the MS1117 approval for this auditing period has found that:

- 13 conditions were assessed as compliant, with four conditions were assessed as 'compliant (complete);
- 3 conditions were assessed as not relevant at this time (NRATS);
- No conditions were assessed to be potentially non-compliant; and

A Statement of Compliance has been completed and forms part of this submission (Appendix A).

4.2 Conformance with Cultural Heritage Management Plan

This assessment of conformance with the 44 commitments within the Cultural Heritage Management Plan for the auditing period has found that:

- 5 commitments were assessed as conformant;

- 38 commitments were assessed as not applicable; and
- One commitment were assessed as potentially non-conformant.

The non-conformances related to the induction not including penalties for non-conformance with heritage requirements.

4.3 Compliance with Construction Environmental Management Plan

This assessment of conformance with the 217 commitments within the Construction Environmental Management Plan for the auditing period has found that:

- 47 commitments were assessed as conformant;
- 166 commitments were assessed as not applicable; and
- Four commitments were assessed as potentially non-conformant.

The non-conformances related to:

- The site inspection checklist does not meet the EP Standard and Measurement Criteria for hazardous materials
- Photo monitoring every 5km is not being undertaken during rehabilitation monitoring
- Rehabilitation monitoring personnel had not completed the environmental awareness component of the induction

Two opportunities for improvement were identified:

- To update the Site inspection checklist to meet the Standards and Measurement Criteria of the EP.
- Ensure contractors on the PNI pipeline undertake the environmental awareness module of the induction.

5. Table of Compliance

Table 4.1: Ministerial Statement 1117 Audit Table

Audit Code	Subject	Phase	Requirement	How	Evidence	Timeframe	Compliance Status	Further Information
MS1117:M1-1	Implementation	Overall	When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Table 2 of Schedule 1, unless amendments to the proposal and the authorised extent of the proposal have been approved under the Environmental Protection Act (EP Act). Table 2, Schedule 1: Vegetation Clearing shall not exceed: No more than 10.69ha of which 3.26ha is within the KGP Lease and Buffer Zone lease and 7.43ha within the DBNGP Corridor and Dampier Facilities Area.	Implement the proposal as per MS1117 Table 2 Schedule 1	R01_2023 CAR	During and post construction	NRATS	No clearing was conducted in the reporting period
MS1117:M 2-1	Contact Details	Overall	The proponent shall notify the Chief Executive Officer (CEO) of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.	Notify the CEO of any change of name or address	AGID Advice 01/02/2024	Within 28 days of such change	NRATS	The proponent name of AGI Operations Pty Ltd (AGID) and physical address of Level 22, 140 St Georges Terrace Perth WA 6000 remained unchanged during the reporting period.
MS1117:M 3-1	Time Limit for Proposal Implementation	Overall	The proponent shall not commence implementation of the proposal after five (5) years from the date of this Statement, and any commencement, prior to this date, must be substantial.	Implement the proposal prior to 21 November 2024	R02_2022 CAR	By 21 November 2024	Compliant (complete)	Operations commenced on 19 March 2022.
MS1117:M 3-2	Time Limit for Proposal Implementation	Implementation	Any commencement of implementation of the proposal, on or before five (5) years from the date of this Statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five (5) years from the date of this Statement.	Substantially commence the proposal.	R02_2022 CAR	By 21 November 2024	Compliant (complete)	Written evidence was provided in the 2022 CAR of substantial commencement.
MS1117:M 4-1	Compliance Reporting	Overall	The proponent shall prepare and maintain a Compliance Assessment Plan which is submitted to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation of the proposal, whichever is sooner.	Approved Compliance Assessment Plan (this plan)	R03_20200429 PNI Compliance Assessment Plan Rev 1	Prior to implementation or 6 months prior to first Compliance Assessment Report being due (21 August 2020)	Compliant (complete)	The CAP was approved on 2 June 2020
MS1117:M 4-2	Compliance Reporting	Overall	The Compliance Assessment Plan shall include: (1) the frequency of compliance reporting; (2) the approach and timing of compliance assessments; (3) the retention of compliance assessments; (4) the method of reporting of potential non-compliances and corrective actions taken; (5) the table of contents of Compliance Assessment Reports; and (6) public availability of Compliance Assessment Reports.	Approved Compliance Assessment Plan (this plan)	R02_2022 CAR R03_20200429 PNI Compliance Assessment Plan Rev 1	Post submission to DWER	Compliant (complete)	The CAP was deemed to meet all requirements as per DWER approval.
MS1117:M 4-3	Compliance Reporting	Overall	After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 4-2, the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 4-1.	Compliance is assessed according to Compliance Assessment Plan	R02_2022 CAR	Within 15 months of the approval of the project (21 February) then annually	Compliant	Compliance was assessed in 2020, 2021 and 2022.
MS1117:M 4-4	Compliance Reporting	Overall	The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 4-1 and shall make those reports available when requested by the CEO.	Reports, records and data shall be retained in accordance with document management system	R01_2023 CAR Appendix D	Annually	Compliant	Appendix D of this CAR provides a list of the records retained for this compliance assessment.
MS1117:M 4-5	Compliance Reporting	Overall	The proponent shall advise the CEO of any potential non-compliance within seven (7) days of that non-compliance being known.	All non-compliance events are reported within timeframes to the CEO	M07_MS1117 Information Request Response	Within 7 days of known non-compliance	Compliant	There were no non-compliances identified during the reporting period. Event reporting for incidents is in place for the project with no non-compliances identified or reported during the reporting period.

Audit Code	Subject	Phase	Requirement	How	Evidence	Timeframe	Compliance Status	Further Information
MS1117:M 4-6	Compliance Reporting	Overall	The proponent shall submit to the CEO the first Compliance Assessment Report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then annually from the date of submission of the first Compliance Assessment Report, or as otherwise agreed in writing by the CEO. The Compliance Assessment Report shall: (1) be endorsed by the proponent's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer's behalf; (2) include a statement as to whether the proponent has complied with the conditions; (3) identify all potential non-compliances and describe corrective and preventative actions taken; (4) be made publicly available in accordance with the approved Compliance Assessment Plan; and (5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.	Submission of Compliance Assessment Report on time	R01_2023 CAR R02_2022 CAR	Within 15 months of the approval of the project (21 February 2020) then annually	Compliant	Compliance was assessed in 2020, 2021 and 2022 (R02). This Annual Compliance Assessment Report meets the requirements of this condition for 2023 (R01).
MS1117:M 5-1	Public Availability of Data	Overall	Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps), management plans and reports relevant to the assessment of this proposal and implementation of this Statement.	All public available data is updated and available both on request and through the Australian Gas Infrastructure Group (AGIG) Website.	E11_Pluto Interconnector Screenshot 2024-01-30	Life of the proposal	Compliant	The CHMP and CEMP are included on the AGIG website (https://www.agig.com.au/articles/pluto-nw-shelf-interconnector) Additionally, the Flora and Fauna Survey completed for the project is included on the website.
MS1117:M 5-2	Public Availability of Data	Overall	If any data referred to in condition 5-1 contains particulars of: (1) a secret formula or process; or (2) confidential commercially sensitive information; The proponent may submit a request for approval from the CEO to not make these data publically available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publically available.	Submission of requests to the CEO	R04_PNI CHMP 210219 R05_CEMP - EPA Rev B 20190402 R02_2022 CAR	As required	NRATS	All data has been made publicly available.
MS1117:M 6-1	Cultural Heritage Management Plan Implementation	Overall	The proponent shall implement the proposal to meet the following environmental objective: (1) Avoid where possible and minimise direct and indirect impact so that the proposal does not cause long term impacts on Aboriginal Heritage values.	Implement Cultural Heritage Management Plan (CHMP)	R01_2023 CAR Appendix C CHMP Audit R04_PNI CHMP 210219	Prior to and during the construction phase	Compliant	Rev 1 of the CHMP ((R04) (most recent version) was implemented in the reporting period. The assessment of implementation of the CHMP controls is included in Appendix B of this CAR. The assessment found: • 5 commitments were assessed as conformant; • 38 commitments were assessed as not applicable; and • One commitment were assessed as potentially non-conformant.
MS1117:M 6-2	Cultural Heritage Management Plan Implementation	Overall	In order to meet the requirements of condition 6-1, the proponent shall implement the Pluto - NWS Interconnector Cultural Heritage Management Plan (version 1, December 2018).	Implementation of the CHMP	Refer to MS1117:M 6-1	Until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 6-1	Compliant	Refer to MS1117:M 6-1
MS1117:M 6-3	Cultural Heritage Management Plan Implementation	Overall	The proponent shall implement the most recent version of the Cultural Heritage Management Plan which the CEO has confirmed by notice in writing, addresses the requirements of condition 6-1.	Approval of any revisions of the CHMP ensuring Condition 6-1 is met	Refer to MS1117:M 6-1	Until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 6-1	Compliant	Refer to MS1117:M 6-1
MS1117:M 6-4	Cultural Heritage Management Plan Implementation	Overall	The proponent shall continue to implement the Cultural Heritage Management Plan (version 1, December 2018), or any subsequent revisions as approved by the CEO in condition 6-3, until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 6-1.	CEO confirms that the objective in Condition 6-1 has been met by the plan or revisions	Refer to MS1117:M 6-1	Until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 6-1.	Compliant	Refer to MS1117:M 6-1

Audit Code	Subject	Phase	Requirement	How	Evidence	Timeframe	Compliance Status	Further Information
MS1117:M 7-1	Construction Environmental Management Plan Implementation	Overall	Construction Environmental Management Plan Implementation The proponent shall implement the proposal to meet the following environmental objective: (1) Avoid, where possible, and minimise direct and indirect impacts as far as practicable to Priority flora; Terminalia supranitifolia (P3) and Rhynchosia bungarensis (P4). (2) Avoid, where possible, and minimise direct and indirect impacts as far as practicable to significant fauna; Dasyurus hallucatus (Northern Quoll) and Liasis olivaceus barroni (Pilbara Olive Python).	Construction Environmental Management Plan (CEMP)	R01_2023 CAR Appendix B CEMP Audit R05_CEMP - EPA Rev B 20190402	Until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 7-1.	Compliant	Rev B of the CEMP ((R05) (most recent version) was implemented in the reporting period. The assessment of implementation of the CEMP controls is included in Appendix C of this CAR. The assessment found: • 46 commitments were assessed as conformant; • 166 commitments were assessed as not applicable; and • Five commitments were assessed as potentially non-conformant.
MS1117:M 7-2	Construction Environmental Management Plan Implementation	Overall	In order to meet the requirements of condition 7-1, the proponent shall implement the Pluto North West Shelf Interconnector Construction Environmental Management Plan (Rev B, April 2019).	Implementation of the CEMP	Refer to MS1117:M 7-1	Until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 7-1.	Compliant	Refer to MS1117:M 7-1
MS1117:M 7-3	Construction Environmental Management Plan Implementation	Overall	The proponent shall implement the most recent version of the Construction Environmental Management Plan which the CEO has confirmed by notice in writing, addresses the requirements of condition 7-1.	Approval of any revisions of the CEMP ensuring Condition 7-1 is met	Refer to MS1117:M 7-1	Until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 7-1.	Compliant	Refer to MS1117:M 7-1
MS1117:M 7-4	Construction Environmental Management Plan Implementation	Overall	The proponent shall continue to implement the Construction Environmental Management Plan (Rev B, April 2019), or any subsequent revisions as approved by the CEO in condition 7-3, until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 7-1.	CEO confirms that the objective in Condition 7-1 has been met by the plan or revisions	Refer to MS1117:M 7-1	Until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 7-1.	Compliant	Refer to MS1117:M 7-1

6. Environmental Information / Monitoring

Appendix E contains the 2023 Rehabilitation Monitoring Report. The assessment against completion criteria found that rehabilitation areas have satisfied two of the four minimum standards outlined in the completion criteria (native plant species density and native species richness). The following recommendations have been made:

- Continue monitoring to establish a stable and/or positive development trajectory across specified rehabilitation values in view of minimum standards outlined in the completion criteria;
- Undertake targeted weed control within the survey corridor to reduce populations of recorded weed species; and
- The northern section of the survey corridor could not be accessed due to fencing and restriction zones associated with the Woodside Northwest Shelf Operations project area. The facilitation of access to this area by Australian Gas Infrastructure Group would be beneficial to enable assessment of rehabilitation values in this area.

7. Revision of Compliance Assessment Plan

The approved Compliance Assessment Plan has been reviewed and no revision is required at this time.

8. References

Office of Environmental Protection Authority (OEPA) 2012b, *Post Assessment Guideline for Preparing an Audit Table*, OEPA, Perth, August 2012.

Office of Environmental Protection Authority (OEPA) 2012d, *Post Assessment Guideline for Preparing a Compliance Assessment Report*, OEPA, Perth, August 2012.

Appendix A Statement of Compliance

Statement of Compliance

1. Proposal and Proponent Details

Proposal Title	*Pluto North West Shelf Interconnector Pipeline*
Statement Number	*1117*
Proponent Name	*DBNGP (WA) Nominees Pty Ltd (DBP)*
Proponent's Australian Company Number *(where relevant)*	78 081 609 289 7

2. Statement of Compliance Details

Reporting Period	*21/11/22* to *20/11/23*

Implementation phase(s) during reporting period (please tick ✓ relevant phase(s))							
Pre-construction		Construction		Operation	✓	Decommissioning	

Audit Table for Statement addressed in this Statement of Compliance is provided at Attachment:	2
An audit table for the Statement addressed in this Statement of Compliance must be provided as Attachment 2 to this Statement of Compliance. The audit table must be prepared and maintained in accordance with the Department of Water and Environmental Regulation (DWER) *Post Assessment Guideline for Preparing an Audit Table*, as amended from time to time. The 'Status Column' of the audit table must accurately describe the compliance status of each implementation condition and/or procedure for the reporting period of this Statement of Compliance. The terms that may be used by the proponent in the 'Status Column' of the audit table are limited to the Compliance Status Terms listed and defined in Table 1 of Attachment 1.	

Were all implementation conditions and/or procedures of the Statement complied with within the reporting period? (please tick ✓ the appropriate box)			
No (please proceed to Section 3)		Yes (please proceed to Section 4)	✓

3. Details of Non-compliance(s) and/or Potential Non-compliance(s)

The information required Section 3 must be provided for each non-compliance or potential non-compliance identified during the reporting period covered by this Statement of Compliance.

Non-compliance/potential non-compliance 3-1

Which implementation condition or procedure was non-compliant or potentially non-compliant?
Was the implementation condition or procedure non-compliant or potentially non-compliant?
On what date(s) did the non-compliance or potential non-compliance occur (if applicable)?

Was this non-compliance or potential non-compliance reported to the Chief Executive Officer, DWER?	
☐ Yes ☐ Reported to DWER verbally Date _____ ☐ Reported to DWER in writing Date _____	☐ No

What are the details of the non-compliance or potential non-compliance and where relevant, the extent of and impacts associated with the non-compliance or potential non-compliance?
What is the precise location where the non-compliance or potential non-compliance occurred (if applicable)? (please provide this information as a map or GIS co-ordinates)
What was the cause(s) of the non-compliance or potential non-compliance?
What remedial and/or corrective action(s), if any, were taken or are proposed to be taken in response to the non-compliance or potential non-compliance?
What measures, if any, were in place to prevent the non-compliance or potential non-compliance before it occurred? What, if any, amendments have been made to those measures to prevent re-occurrence?
Please provide information/documentation collected and recorded in relation to this implementation condition or procedure: • in the reporting period addressed in this Statement of Compliance; and • as outlined in the approved Compliance Assessment Plan for the Statement addressed in this Statement of Compliance. (the above information may be provided as an attachment to this Statement of Compliance)

For additional non-compliance or potential non-compliance, please duplicate this page as required.

Each page (including Attachment 2) must be initialed by the person who signs Section 4 of this Statement of Compliance.
INITIALS: _____

4. Proponent Declaration

I, Craig de Laine (CEO) declare that I am authorised on behalf of DBNGP (WA) Nominees Pty Ltd (DBP) to submit this form and that the information contained in this form is true and not misleading.

Signature:..... Date:..1 March 2024.....

Please note that:

- it is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give or cause to be given information that to his knowledge is false or misleading in a material particular; and
- the Chief Executive Officer of the DWER has powers under section 47(2) of the *Environmental Protection Act 1986* to require reports and information about implementation of the proposal to which the statement relates and compliance with the implementation conditions.

5. Submission of Statement of Compliance

One hard copy and one electronic copy (preferably PDF on CD or thumb drive) of the Statement of Compliance are required to be submitted to the Chief Executive Officer, DWER, marked to the attention of Manager, Compliance (Ministerial Statements).

Please note, the DWER has adopted a procedure of providing written acknowledgment of receipt of all Statements of Compliance submitted by the proponent, however, the DWER does not approve Statements of Compliance.

6. Contact Information

Queries regarding Statements of Compliance, or other issues of compliance relevant to a Statement may be directed to Compliance (Ministerial Statements), DWER:

Manager, Compliance (Ministerial Statements)

Department of Water and Environmental Regulation

Postal Address:	Locked Bag 10 Joondalup DC WA 6919
Phone:	(08) 6364 7000
Email:	compliance@dwer.wa.gov.au

7. Post Assessment Guidelines and Forms

Post assessment documents can be found at www.epa.wa.gov.au

ATTACHMENT 1

Table 1 Compliance Status Terms

Compliance Status Terms	Abbrev	Definition	Notes
Compliant	C	Implementation of the proposal has been carried out in accordance with the requirements of the audit element.	This term applies to audit elements with: • ongoing requirements that have been met during the reporting period; and • requirements with a finite period of application that have been met during the reporting period, but whose status has not yet been classified as 'completed'.
Completed	CLD	A requirement with a finite period of application has been satisfactorily completed.	This term may only be used where: • audit elements have a finite period of application (e.g. construction activities, development of a document); • the action has been satisfactorily completed; and • the DWER has provided written acceptance of 'completed' status for the audit element.
Not required at this stage	NR	The requirements of the audit element were not triggered during the reporting period.	This should be consistent with the 'Phase' column of the audit table.
Potentially Non-compliant	PNC	Possible or likely failure to meet the requirements of the audit element.	This term may apply where during the reporting period the proponent has identified a potential non-compliance and has not yet finalized its investigations to determine whether non-compliance has occurred.
Non-compliant	NC	Implementation of the proposal has not been carried out in accordance with the requirements of the audit element.	This term applies where the requirements of the audit element are not "complete" have not been met during the reporting period.
In Process	IP	Where an audit element requires a management or monitoring plan be submitted to the DWER or another government agency for approval, that submission has been made and no further information or changes have been requested by the DWER or the other government agency and assessment by the DWER or other government agency for approval is still pending.	**The term 'In Process' may not be used for any purpose other than that stated in the Definition Column.** The term 'In Process' may not be used to describe the compliance status of an implementation condition and/or procedure that requires implementation throughout the life of the project (e.g. implementation of a management plan).

Appendix B Cultural Heritage Management Plan Compliance Assessment

Table B.1: Cultural Heritage Management Plan Audit Table

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CHMP 01	Objective To avoid disturbance to sites identified for protection within or near the PNI Corridor Performance Indictor / Target No disturbance to sites	Overall	M06_MS1117 Information Request Response	There were no clearing or construction activities undertaken in the reporting period.	Conformant
CHMP 02	Objective To manage new sites/cultural material uncovered or identified during construction of the Project in accordance with the Aboriginal Heritage Act 1972 Performance Indictor / Target All sites managed in accordance with the Aboriginal Heritage Act 1972	Overall	M06_MS1117 Information Request Response	No new Aboriginal heritage sites were identified in the reporting year.	Conformant
CHMP 03	Site Management Strategy 1. Demarcate all heritage sites that intersect the disturbance easement to ensure no indirect impact. Pink and black heritage flagging tape will be used. Refer 8.2 for more details.	Pre-construction	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 04	Site Management Strategy 2. Invite Aboriginal monitors to oversee initial ground clearing works in the vicinity of heritage sites. Refer 8.3 for more details.	Pre-construction	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 05	Site Management Strategy 3. Appoint a heritage advisor, which if required may be an archaeologist to assist and oversee monitoring process.	Pre-construction	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 06	Construction will be undertaken only within the PNI Corridor	Construction	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 07	Ensure contractors are provided with and abide by all approval documentation and management plans.	Construction: Vehicle / machinery activity	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 08	Vehicle and machinery movements limited to areas that have been subject to heritage clearance or previous disturbance.	Construction: Vehicle / machinery activity	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 09	Demarcation of heritage places and sites as required, to avoid indirect disturbance.	Construction: Vehicle / machinery activity	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 10	Vegetation clearing limited to areas that have heritage clearance.	Construction: Vegetation clearing	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 11	Vegetation clearing Ensure contractors are provided with and abide by all approval documentation and management plans.	Construction: Vegetation clearing	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 12	Vegetation clearing Demarcation of heritage places and sites as required, to avoid indirect disturbance.	Construction: Vegetation clearing	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 13	Vegetation clearing Invite Aboriginal heritage monitors to oversee initial vegetation clearing.	Construction: Vegetation clearing	Refer to CHMP 01	Refer to CHMP 01	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CHMP 14	Vegetation clearing Appoint Heritage Advisor and archaeologist to ensure this management plan is implemented during planning and construction activities.	Construction: Vegetation clearing	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 15	Ensure contractors are provided with and abide by all approval documentation and management plans.	Construction: Earthworks	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 16	Earthworks limited to areas that have been subject to heritage clearance.	Construction: Earthworks	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 17	Demarcation of heritage places and sites as required to avoid indirect disturbance.	Construction: Earthworks	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 18	Invite aboriginal heritage monitors to oversee initial earthworks.	Construction: Earthworks	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 19	Appoint Heritage Advisor and archaeologist to ensure this management plan is implemented during planning and construction activities.	Construction: Earthworks	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 20	Ensure contractors are provided with and abide by all approval documentation and management plans.	Maintenance and construction activities	E04_PNI Site Specific Induction E05_Induction Register 15.02.24	Slide 10 and 29 of the site specific induction outline requirement for personnel to adhere to the CEMP and requirements of the cultural management plan.	Conformant
CHMP 21	Construction activities limited to areas that have been subject to heritage clearance.	Maintenance and construction activities	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 22	Demarcation of heritage places and sites as required to avoid indirect disturbance.	Maintenance and construction activities	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 23	Invite aboriginal heritage monitors to oversee initial earthworks and any maintenance work in highly sensitive areas.	Maintenance and construction activities	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 24	Appoint Heritage Advisor and archaeologist to ensure this management plan is implemented during planning and construction activities.	Maintenance and construction activities	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 25	Demarcation of heritage places and sites as required, to avoid indirect disturbance.	Direct human contact	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 26	All project personnel and contractors to attend compulsory inductions prior to commencing site work and will undergo training in relation to cultural heritage obligations under this Plan.	Direct human contact	E04_PNI Site Specific Induction E05_Induction Register 15.02.24	Induction register confirms that all personnel have completed the site specific induction outlining the requirement for personnel to adhere to the requirements of the cultural management plan.	Conformant
CHMP 27	Ongoing monitoring of dust and vibration levels and inspection of heritage places in proximity	Generation of dust and vibration (operation of heavy machinery / blasting)	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 28	Before commencing work on the PNI, all project personnel must attend a mandatory project induction.	Overall	Refer to CHMP 26	Refer to CHMP 26	Conformant

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CHMP 29	The Aboriginal heritage component of the project induction will ensure participants are made aware of: • Their obligations and the protected nature of all Aboriginal sites, recorded and unrecorded, under the AHA; • The procedures and protocols established in this document to avoid disturbance to sites; • The possibility of encountering new sites and what may constitute a site/cultural material; • The significance of Aboriginal Sites within and/or in close proximity to all areas associated with the Project; and • The penalties of disturbance to Aboriginal sites.	Overall	E04_PNI Site Specific Induction	The Aboriginal heritage component of the project induction includes details to make personnel of the requirements listed in the criteria with the exception of the penalties of disturbance to Aboriginal sites.	Potentially non-conformant
CHMP 30	The outer perimeter of all heritage sites that are located in the PNI easement will be physically demarcated in the field to avoid any indirect disturbance.	Pre-construction	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 31	The demarcation will be installed using demarcation poles and pink and black heritage tape prior to any activities being undertaken. If required signage will also be installed.	Pre-construction	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 32	Demarcation will also be installed around other heritage sites that are located close to project construction or operation activities as necessary.	Pre-construction	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 33	One (1) Aboriginal representative from each of the Aboriginal Stakeholder groups will be invited to participate in the monitoring activities. • Ngarluma People • Yaburara & Mardudhunera People • Wong- Goo-Tt-Oo	Vegetation Clearing	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 34	Monitoring invitations will be issued to the relevant parties at least 2 working days prior to works commencing.	2 working days prior to clearing works commencing	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 35	The monitors will undertake visual inspections of the work areas prior to disturbance and as work proceeds.	Vegetation Clearing	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 36	AGIG will engage its own archaeologist to be on site to monitor ground disturbing activities in consultation with the heritage monitors.	Vegetation Clearing	Refer to CHMP01	Refer to CHMP01	Not applicable
CHMP 37	The PNI will not impact any of the identified heritage sites, therefore archaeological salvage is not proposed.	Overall	Refer to CHMP01	Refer to CHMP01	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CHMP 38	In the event that inadvertent damage occurs to an Aboriginal heritage site within the Project area, the damaging activity will cease immediately, and the following procedures will be followed: • Work will cease, and the Site Supervisor will be contacted, and the area will be cordoned off with tape (pink and black heritage tape); • The Site Supervisor will contact the Heritage Advisor to assess the situation to determine the extent of impact and noncompliance; • If the monitor/s did not make the discovery, the Heritage Advisor must inform the monitors; • Pending assessment, the Heritage Advisor will contact the DPLH, the relevant Aboriginal Stakeholders immediately; • The Site supervisor and the Heritage Advisor will investigate the cause of the disturbance; • The incident will be dealt with and reported on according to AGIG Incident Management System; • The Heritage Advisor, along with the Site Supervisor, will implement any recommendations or procedures as directed by the DPLH and the Aboriginal Stakeholders.	Overall	Refer to CHMP02	Refer to CHMP02	Not applicable
CHMP 39	No work is to be conducted in the damaged area until the issue is resolved, and new procedures are in place.	Overall	Refer to CHMP02	Refer to CHMP02	Not applicable
CHMP 40	If cultural material is uncovered or identified, the procedure detailed above must be followed along with the following considerations: • The Heritage Advisor will contact a qualified archaeologist and Aboriginal monitor/s to determine whether the material constitutes a site as specified under section 5 of the AHA; • If the material is determined to constitute a site, the Heritage Advisor or suitably qualified archaeologist will conduct the necessary site recording and the area will be avoided and demarcated; • If the material is deemed not to constitute a site under the AHA, management strategies and next steps will be developed in consultation with the Heritage Advisor, archaeologist, Aboriginal monitor/s and site supervisor; • Should the area be unavoidable no work is to be conducted in the area until section 18 consent has been granted by the DPLH.	Overall	Refer to CHMP02	Refer to CHMP02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CHMP 41	If human remains are uncovered at any stage during the development the incident reporting procedure detailed above must be followed along with the following considerations: • The Site Supervisor will contact the Western Australian Police Department. • The Site Supervisor will contact the Heritage Advisor who will contact the DPLH and the Aboriginal Stakeholders. The Aboriginal monitors and archaeologist will be allowed on site with the police for consultation purposes. • If the remains are decided to be historical Aboriginal, then determination of the procedure will be directed by DPLH and the Aboriginal stakeholders. • If the remains are not historical Aboriginal, then direction from WA Police will be sought. • No personnel are allowed to disturb, touch or alter in any way the human remains unless they have been authorised by WA Police or the DPLH.	Overall	Refer to CHMP02	Refer to CHMP02	Not applicable
CHMP 42	All survey reports will be maintained and appended to this CHMP.	Overall	M06_MS1117 Information Request Response	No surveys were conducted in the reporting period	Not applicable
CHMP 43	Timesheets for all monitors overseeing project activities will be maintained and used to support payments. The information captured will include: Date, names, group affiliation, area and works overseen and relevant comments i.e. outcomes, issues, incident, discoveries etc.	Overall	Refer to CHMP 01	Refer to CHMP 01	Not applicable
CHMP 44	All incident reports and investigation outcomes to be keep in accordance with AGIG's Incident Reporting System.	Overall	M06_MS1117 Information Request Response	There were no cultural heritage incidents in the reporting period	Not applicable

Appendix C Construction Environmental Management Plan Compliance Assessment

Table C.2: Construction Environmental Management Plan Audit Table

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 01	The objective of this CEMP is to: • establish suitable controls so as to eliminate or minimise these risks to a level that is low, negligible or reduced to as low as is reasonably practical (ALARP) • establish performance objectives and measurement criteria for the ongoing monitoring of environmental performance	Overall	R06_PNI OEP Rev 2	The Pluto EP (R06) establishes suitable controls and includes performance objectives and measurement criteria.	Conformant
CEMP 02	The objective of this CEMP is to: • is to identify and assess environmental aspects associated with construction of the Project • establish suitable controls so as to eliminate or minimise these risks to a level that is low, negligible or reduced to as low as is reasonably practical (ALARP) • establish performance objectives and measurement criteria for the ongoing monitoring of environmental performance • provide a practical tool for implementation in the management of environmental risk during the construction of the Project.	Construction	M06_MS1117 Information Request Response	There were no clearing or construction activities undertaken in the reporting period.	Not applicable
CEMP 03	The AGIG Environmental Policy is reviewed annually. Employees are consulted during the review process through a number of mechanisms, including HSE Committees.	Overall	E08_AGIG Environment Policy 6 June 2023	The AGIG Environmental Policy was last reviewed in June 2023 and is scheduled to be reviewed again in June 2024.	Conformant
CEMP 04	The size of the Indicative Disturbance Footprint (and proposed area to be cleared) is approximately 10.69ha.	Overall	R02_2022 CAR	There has been no clearing in the reporting year.	Not applicable
CEMP 05	Topsoil: Minimise change to soil profile from excavation activities Measurement Criteria: No evidence of subsoil on surface (as detected by colour and texture) within excavated areas following backfill	Rehabilitation	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 06	Topsoil: Minimise change to soil profile from excavation activities Measurement Criteria: No visual evidence of soil compaction following backfill and rehabilitation (e.g. hard soil, local water pooling)	Rehabilitation	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 07	Erosion and Sediment control: Prevent occurrence of soil erosion during and following construction Measurement Criteria: No soil erosion inconsistent with that of the surrounding land	Rehabilitation	M07_MS1117 Information Request Response	There was no erosion reported in the pipeline corridor in the reporting period. Erosion observed outside the pipeline corridor (not inconsistent with that of the surrounding land) has not required control measures and has been monitored.	Conformant
CEMP 08	The top 100-150 mm of topsoil shall be removed from any areas within the disturbance footprint and stockpiled where available (mainly rock)	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 09	If erosion is identified associated with construction activities, erosion and sediment control structures shall be constructed, such as sediment traps or drainage controls.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 10	Topsoil, subsoil and trench spoil disturbed during earthworks shall be stockpiled separately such that the soil profile may be maintained during backfilling.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 11	Stockpiles shall be stored within the approved construction footprint as close as practicable to the source location.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 12	Soil shall not be stockpiled where it has the potential to result in flooding or sedimentation of land or surface water (e.g. on slopes that drain immediately to a watercourse). Topsoil containment measures e.g. berms and sediment fencing shall be used as necessary. Gaps shall be placed in topsoil windrows in low areas to minimise flooding and erosion potential.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 13	Following the completion of earthworks, trench spoil, subsoil and topsoil shall be returned in that order such that the soil profile is reinstated.	Rehabilitation	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 14	Sumps and containment ponds excavated for crossings or water storage shall be reinstated to restore the soil profile and natural contours.	Rehabilitation	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 15	Construction Contractor will conduct site inspection (opportunistic observation for evidence of erosion or sedimentation issues) recorded on an Event Report	Construction: Opportunistic, minimum once annually	E01_Activity List 1 E02_Activity List 2 E03_Activity List 3 M07_MS1117 Information Request Response	Aerial Surveillance was undertaken to inspect the pipeline easement for evidence of erosion or sedimentation. No erosion was observed within the pipeline corridor.	Conformant
CEMP 16	Disturbance to Native vegetation: Minimise and manage disturbance to remnant vegetation Measurement Criteria: All vegetation disturbance undertaken within the spatial limits of the native vegetation clearing permit.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 17	Disturbance to Native vegetation: Minimise and manage disturbance to remnant vegetation Measurement Criteria: Conformance with the conditions of the native vegetation clearing permit or other approval where relevant.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 18	Maintain a GIS Environmental Database to present available information regarding the location of conservation significant and environmentally sensitive areas in addition to NVCP (as applicable) and Pipeline Licence boundaries.	Overall	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 19	Appropriate approvals shall be obtained prior to the clearing of any native vegetation.	Overall	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 20	An internal approval process shall be used for ground disturbance / clearing activities	Overall	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 21	No clearing is to be undertaken outside the delineated approved construction footprint	Overall	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 22	Conservation significant flora identified proximal to but outside the construction footprint shall be demarcated in the field and identified on the Environmental Line List (ELL) to mitigate against accidental disturbance.	Overall	R06_PNI OEP Rev 2	Vegetation maintenance is not required for PNI. Firebreaks are maintained in the specified footprint.	Not applicable
CEMP 23	Previously cleared areas shall be utilised where possible for laydown and turn around points.	Overall	M06_MS1117 Information Request Response	There was no clearing for laydown or turnarounds in the reporting period.	Conformant
CEMP 24	Records shall be kept to document the details of clearing conducted in order to facilitate reporting in accordance with relevant approvals.	Overall	R06_PNI OEP Rev 2 M07_MS1117 Information Request Response	No clearing was undertaken in the reporting period.	Not applicable
CEMP 25	Vegetation shall not be burned.	Overall	M06_MS1117 Information Request Response	There were no fires in the reporting period.	Conformant

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 26	Construction Contractor will keep a Vegetation Clearing Register to record the location; date of clearing and total hectares; of all vegetation clearing.	Ongoing	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 27	Construction Contractor will undertake a Vegetation Demarcation Review involving the inspection of adequacy of demarcation of all approved boundaries and conservation significant flora required to be avoided	Construction: Weekly	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 28	Introduction of new weeds, pests or pathogens: Minimise the potential for new weeds to be introduced into the corridor from external sources. Measurement Criteria: No new species of weeds recorded in the pipeline corridor.	Overall	M07_MS1117 Information Request Response R07_PNI Rehabilitation Monitoring 2023	No new species of weeds were reported from PNI in the reporting period.	Not applicable
CEMP 29	Threat of spreading weeds, pests or pathogens: Minimise the risk of spreading existing weeds along the corridor and to adjacent areas. Measurement Criteria: No significant change to the extent and distribution of weeds within one year of completion of construction activities compared to the extent and distribution of weeds prior to construction.	Overall	R08_Interconnector Pipeline Flora & Fauna Survey R07_PNI Rehabilitation Monitoring 2023	The pre-construction survey in 2018 found that **Cenchrus ciliaris* was common in areas of disturbance along the entire survey corridor while **Aerva javanica* was predominantly restricted to the Karratha Gas Plant and Pluto Liquefied Natural Gas plant sites, road verges and pipeline intersection with Burrup Road. Construction was completed in 2022. Rehabilitation monitoring in 2023 recorded **Aerva javanica* (<1% cover), **Cenchrus ciliaris* (1% to 18% cover) and **Malvastrum Americanum* (<0.01% cover) presence in the rehabilitation plots and extent across the broader area.	Compliant
CEMP 30	Maintain a GIS Environmental Database to identify the location of hygiene risk areas within the construction footprint.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 31	Identify hygiene risk areas on the ELL.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 32	As far as practicable, construction activities will be scheduled for drier periods and avoided during wet conditions.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 33	All vehicles and machinery shall be checked to ensure they are free from soil/organic matter prior to arrival on site (recorded as part of the mobilisation procedure) and marked accordingly.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 34	All vehicles shall remain on designated roads and access tracks and shall not go outside approved access areas.	Overall	M07_MS1117 Information Request Response E07_Site Inspection 20230523	No access outside of the permitted easement was observed in the reporting period	Conformant
CEMP 35	Hygiene stations will be sufficient to enable the clean down and capture of soil material from machinery and vehicles.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 36	A hygiene station will be established at the entry and exit point of the hygiene risk area.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 37	The requirement for hygiene stations shall apply at all times whilst topsoil is present (i.e. prioir to clear and grade and post rehabilitation).	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 38	All construction machinery, including handheld tools, and vehicles shall be cleaned down at the hygiene management stations.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 39	The transport of soil shall be avoided where practicable.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 40	All topsoil within identified hygiene risk areas shall be stockpiled within the high risk area and not with topsoil from lower risk areas.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 41	Any imported soil/fill shall be certified as weed and pathogen free.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 42	Construction Contractor will conduct Hygiene station integrity checks to check the Integrity of hygiene stations and hygiene risk area demarcation and document on the Weekly Field Report	Construction: Weekly	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 43	Construction Contractor will conduct Random vehicle inspections (opportunistic observation for evidence of appropriate weed clean down practices) and document on the Weekly Field Report.	Construction: Random, Ongoing	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 44	Bushfire: To prevent fires occurring as a result of construction activities Measurement Criteria: No construction related fires	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 45	All construction activities shall be conducted in accordance with the requirements of regulatory and local fire authorities. In particular, operations shall comply with relevant fire restrictions, notification requirements and permitting procedures.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 46	Fire weather warnings will be monitored daily through local government sources and other relevant authorities and communicated to construction crews daily during toolbox meetings.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 47	Regular liaison shall be initiated and maintained with local emergency service organisations and stakeholders, including advising them of the nature and schedule of construction activities.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 48	All welding and grinding shall be undertaken with facilities in place to prevent any sparks contacting any flammable material.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 49	During hot works, dedicated assistants (spotters) shall be alert for evidence of spot fires.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 50	Machinery and vehicles not in use shall be parked in areas of low fire risk (e.g. not parked over shrubs, tall grass or cleared vegetation residue).	Overall	M07_MS1117 Information Request Response E07_Site Inspection 20230523	Vehicles park on the cleared pipeline easement and cleared metering and compressor station areas. There were no recorded incidents of machinery and vehicles parking over shrubs, tall grass or cleared vegetation residue.	Conformant
CEMP 51	All vehicles shall be fitted with dry chemical extinguishers (light vehicles with 1 kg units, trucks etc 9 kg units). All extinguishers shall be tagged by an approved inspector prior to mobilisation.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 52	Service trucks shall be fitted with both a 9 kg foam extinguisher and a 9 kg chemical extinguisher.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 53	All fires must be immediately reported to a supervisor.	Overall	M06_MS1117 Information Request Response	There were no fires in the reporting period.	Conformant
CEMP 54	Fire prevention and response equipment shall be organised and checked prior to construction in any area, such that access to pump, hose and associated fire fighting equipment shall be available at all times.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 55	Relevant personnel shall be trained in the use of fire fighting equipment.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 56	The following is prohibited in hazardous areas: • smoking • the presence of matches, lighters and naked flame • the access of any sources of ignition to the area (e.g. spark-ignition engines, motor vehicles etc.).	Overall	R06_PNI OEP Rev 2 E04_PNI Site Specific Induction	The Pluto EP (R06) requires: • Smoking areas to be in place and maintained • Prohibited items to be kept away from hazardous areas The PNI site specific induction states that no lighters or matches are allowed within any operational areas.	Conformant
CEMP 57	Vegetation shall not be burned.	Overall	M06_MS1117 Information Request Response	There were no fires in the reporting period.	Conformant
CEMP 58	Construction Contractor shall conduct Site Inspections (Opportunistic observation for evidence of fire hazards) documented on the Weekly Field Reports	Construction: Daily	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 59	Direct fauna impacts: To minimise the direct impacts on fauna through impacts with vehicles, entrapment in excavation works, or extraordinary exposure to predators. Measurement Criteria: No conservation significant fauna deaths as a consequence of construction activities	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 60	Fauna habitat decline: To minimise the temporary and permanent reduction or fragmentation of existing fauna habitat. Measurement Criteria: Conformance with the conditions of the native vegetation clearing permit or other approval where relevant.	Overall	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 61	Trained fauna handlers holding a relevant licence issued specifically for the purposes of fauna capture and release on the project shall be available at all times during construction to respond to fauna interactions.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 62	Habitat trees shall be pruned preferentially and not be felled except where they materially interfere with construction of the pipeline, or are a safety concern. Pruning of trees is to employ the three-cut method.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 63	Welded pipeline sections shall be capped at end of shifts to prevent fauna entry.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 64	Fauna shall not be fed and direct contact with fauna shall be avoided.	Overall	M07_MS1117 Information Request Response	There were no incidents involving feeding or direct contact with fauna in the reporting period.	Not applicable
CEMP 65	Domestic waste shall be maintained within sealed bins and collected for appropriate disposal.	Construction	R06_PNI OEP Rev 2	Domestic waste is removed from site by personnel with no receptacles on site.	Conformant
CEMP 66	Pets shall be prohibited on site.	Construction	E04_PNI Site Specific Induction M07_MS1117 Information Request Response	Slide 28 of the PNI induction (E04) specifies that no pets are allowed on site. There were no incidents reported regarding pets on site in the reporting period.	Conformant
CEMP 67	No part of the trench, other than “bell holes”, shall remain open for more than 14 days unless such an exceedance can be demonstrated as being unavoidable under the prevailing circumstances.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 68	Bell holes will be fenced to exclude fauna	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 69	In areas where rock breaking measures are required to excavate the trench, trenches may remain open for a maximum of 21 days.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 70	Fauna shelters/refuges (eg: cardboard boxes, hessian bags, commercial egg cartons) shall be placed in open trenches at intervals not exceeding 50 m.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 71	Trench plugs and fauna exit ramps shall be installed at both ends of trenches and ramp slopes are not to exceed a 1:2 ratio of rise.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 72	Open trenches shall be inspected and cleared by fauna handling teams within 3 hours of sunrise (2.5 hours where temperatures exceed 35º c) again between 2.00 and 3.00pm, again prior to sunset (no earlier than 4 pm). Inspections by personnel shall also occur immediately prior to lowering in and backfill operations.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 73	The occurrence of water in trenches shall be managed by taking action to avoid the development of any individual water bodies longer than 100 m in length. Use of soil 'islands' or floating refuges is an acceptable method of managing effective water body lengths.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 74	Sumps or containment ponds shall be risked assessed to consider depth, gradient and content viscosity to establish if fauna egress is required.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 75	Records shall be kept of all trapped, deceased or injured fauna interactions to document the date, location (KP), species, habitat, and any notes such as the form of encounter and details regarding release.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 76	Report and respond to all conservation significant fauna fatalities as an incident.	Overall	M07_MS1117 Information Request Response	There were no conservation significant fauna fatalities reported in the reporting period.	Not applicable
CEMP 77	Translocation of fauna shall be immediate, to suitable habitat at a suitable distance from disturbance and done in a manner to minimise stress to the animal and completed by a trained fauna handler.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 78	Injured and orphaned animals shall be transferred to a wildlife carer where possible or euthanized where care is not available. Injured animals shall not be left to suffer.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 79	Construction activities will be scheduled for daylight hours where practicable.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 80	Construction Contractor shall monitor open trench length and location to observe and record the open trench KP start and end points to demonstrate compliance with time limits on trench open times.	Construction: Daily	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 81	Construction Contractor shall conduct trench inspections to rescue trapped fauna: • Daily, within 3 hours of sunrise (2.5 hours where temperatures exceed 35º c) again between 2.00 and 3.00pm, again prior to sunset (no earlier than 4 pm). • immediately prior to lowering in and backfill operations.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 82	Known (recorded) Aboriginal heritage sites: To avoid disturbance to Aboriginal heritage sites identified for protection near the pipeline corridor. Measurement Criteria: No disturbance to Aboriginal heritage sites identified for protection.	Overall	M06_MS1117 Information Request Response	No Aboriginal heritage sites were disturbed in the reporting year.	Conformant

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 83	Known (recorded) Aboriginal heritage sites: To avoid disturbance to Aboriginal heritage sites identified for protection near the pipeline corridor. Measurement Criteria: Avoidance of culturally and socially valuable granophyre outcrops found within and around the Proposal.	Overall	M06_MS1117 Information Request Response	No granophyre outcrops were disturbed in the reporting year.	Conformant
CEMP 84	New (unrecorded) Aboriginal heritage sites: To manage new Aboriginal heritage sites/artifacts uncovered or identified in accordance with the requirements of the Aboriginal Heritage Act 1972. Measurement Criteria: All new Aboriginal heritage sites managed in accordance with the Aboriginal Heritage Act 1972.	Overall	M06_MS1117 Information Request Response	No new Aboriginal heritage sites were identified in the reporting year.	Conformant
CEMP 85	All personnel working on or near an Aboriginal site shall be made aware of their responsibilities under the Aboriginal Heritage Act 1972.	Overall	E04_PNI Site Specific Induction E05_Induction Register 15.02.24	Slide 29 of the Induction for PNI (E04) outlines personnel heritage responsibilities. The induction register (E05) records personnel that have completed the PNI induction in the reporting period.	Conformant
CEMP 86	No ground disturbing activity shall be conducted outside the spatial limits of the approved disturbance corridor.	Overall	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 87	Heritage surveys shall be undertaken of the disturbance footprint prior to works commencing.	Overall	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 88	Maintain a GIS Environmental Database to present the location of all identified sites in the vicinity of the construction footprint.	Overall	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 89	Aboriginal heritage sites to be protected shall be recorded on the Environmental Line List (ELL).	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 90	Identified sites shall be avoided where possible.	Overall	M06_MS1117 Information Request Response	All activities during the reporting period occurred within the pipeline easement.	Not applicable
CEMP 91	Identified sites near construction activities identified for protection shall be clearly demarcated for avoidance.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 92	The installation of physical barriers when constructing within 10 m of a heritage site.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 93	Identified sites that cannot be avoided shall be disturbed only in accordance with a valid S18 consent.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 94	Qualified site heritage monitors shall be invited to be onsite to monitor clear and grade activities for areas considered to have a high potential to contain additional surface or sub-surface archaeological material.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 95	Any flagging and fencing used to identify and protect heritage sites shall be removed post construction.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 96	If a previously unidentified cultural site is identified, the following must be undertaken: • stop all work within 30 m of potential Heritage site • report the location and nature of the site to the Senior Advisor – Environment and Heritage • establish a 30 m buffer around the site, outside which work may continue.	Overall	Refer to CEMP 84	Refer to CEMP 84	Not applicable
CEMP 97	Notify the relevant regulatory body and Aboriginal group regarding any previously unidentified potential sites encountered during works, as soon as practicable.	Overall	Refer to CEMP 84	Refer to CEMP 84	Not applicable
CEMP 98	All personnel shall be inducted regarding the cultural significance of the construction corridor.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 99	HSE Manager shall conduct Event Reporting - Analysis of Trends (Analyse events reported for identification of disturbance to areas or artefacts of cultural significance).	Annually	R09_2021-22 PNI DMIRS AER R10_2022-23 PNI DMIRS AER	The 2021-22 PNI DMIRS AER (R09) includes a trend analysis of HSE events in Section 5.4. There were no incidents of disturbance to areas or artefact of cultural significance in the period 2015 to 2021. There were no additional incidents in 2022-23.	Conformant
CEMP 100	Dust impact on public/ residents: To minimise the temporary impact of dust emissions from construction activities, machinery and vehicles. Measurement Criteria: Compliance with statutory regulations.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 101	Dust impact on public/ residents: To minimise the temporary impact of dust emissions from construction activities, machinery and vehicles. Measurement Criteria: No reasonable substantiated complaints.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 102	Blast impacts: To minimise any offsite impacts from blasting (either normal or chemical) Measurement Criteria: Compliance with statutory regulations	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 103	Blast impacts: To minimise any offsite impacts from blasting (either normal or chemical) Measurement Criteria: No reasonable substantiated complaints	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 104	BOM forecasts shall be consulted during construction planning to avoid undertaking earthworks during high wind events or when prevailing winds are toward sensitive receptors.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 105	The construction schedule shall be planned to minimise the elapsed time between clearing, grading and restoration.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 106	All blast operations shall be undertaken by trained, competent and licensed personnel.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 107	All blast operations shall be conducted with landholder notification, during daytime and with appropriate exclusion zones in place.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 108	Blast operations shall be minimised at all times. Vibration monitoring shall be in place.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 109	Blast operations shall not impact offsite sensitive receptors	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 110	All blast materials shall be locked and secured at all times. This includes segregation from other chemicals, signage and security fencing where required.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 111	Third parties undertaking any activities within 200 m of construction area shall be advised of the likely duration, impacts, potential health risks and mitigation measures to be undertaken whilst construction is occurring in their vicinity. This include potential traffic management on Burrup Road if required.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 112	Vehicle movements shall be restricted to remain within dedicated access tracks and the construction footprint.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 113	Stockpiles shall be at a maximum height of 2 m unless otherwise agreed in consultation with DMIRS.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 114	Grit blasting shall be undertaken to comply with the Environmental Protection (Abrasive Blasting) Regulations 1998, as per Regulation 6, (i.e. away from public places) and under appropriate conditions (i.e. prevailing wind direction) such that no visible dust shall escape onto any place to which the public has access.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 115	All registered complaints regarding dust nuisance shall be reported as an environmental incident.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 116	Where excessive airborne dust is generated or a substantiated landholder complaint received, any combination of one or more of the following shall be implemented as required: • application of water or stabilisers via water trucks and sprayers to dampen down soil. No run-off should be generated from application. Applications shall be frequent enough to provide persistent dust suppression. • cover vehicles with dust emitting loads (except when loading and unloading). • use of dust stabilisers, tarps or geo-textile materials to suppress dust generated from stockpiles. • Spray on chemical dust stabilisers shall be non-hazardous, non- toxic and biodegradable.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 117	Construction Contractor shall continually conduct dust monitoring (visual inspection to monitor dust generation and determine if dust suppression is required).	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 118	Noise nuisance: To minimise the impact of noise and vibration emissions from construction activities, machinery and vehicles Measurement Criteria: No reasonable substantiated landholder complaints	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 119	Equipment shall be selected in consideration of its noise emissions. Where practicable, equipment should be selected that is likely to result in the lowest noise impact whilst still completing the required task.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 120	Blasting shall only occur within daytime operations and meet Blasting Operations – Noise Resulations requirements.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 121	Equipment shall be fitted with appropriate noise abatement devices (e.g. mufflers, silencers and screens).	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 122	All equipment shall be regularly and efficiently maintained to ensure that noise-attenuating measures are operating efficiently.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 123	Semi-fixed noise generating equipment (e.g. generators, compressors and campsite equipment) shall be located as far as practicable from surrounding premises.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 124	Report and respond to all noise complaints as an environmental incident.	Overall	M07_MS1117 Information Request Response R10_2022-23 PNI DMIRS AER	There were no noise complaints reported in the reporting period.	Not applicable
CEMP 125	If location is sensitive to vibration, to minimise vibration impacts, compaction rollers shall be used in preference to plate or other vibratory based compactors.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 126	HSE Manager shall conduct Analysis of Incident Trends (Analyse incidents reported for identification of noise complaints).	Construction: Annually	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 127	Project Manager shall conduct Noise Monitoring to Monitor noise at adjacent sensitive receptors in response to complaints or in high risk work programs (i.e. those with nearby sensitive receptors where noisy works are required outside standard hours).	As required	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 128	Surface and Ground Water quality: To prevent contamination of surface and ground water Measurement Criteria: No at fault contamination of surface or ground water quality to below background or guideline levels (whichever is deemed relevant)	Overall	M07_MS1117 Information Request Response R10_2022-23 PNI DMIRS AER E06_DWER Contaminated Sites Database 20240216	There were no leaks or spills in the reporting period. The site is not a known contaminated site (E06).	Conformant
CEMP 129	Erosion control measures shall be installed as required to protect sites near the pipeline corridor.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 130	When surface water is present, diversion berms or drains shall be installed to divert water away from the construction area.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 131	Backfilled Construction Corridor shall be graded and shaped as closely as practicable to pre-existing contours.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 132	Disposal of hydrostatic test water shall comply with Department of Water (DoW) requirements as set out in Water Quality Protection Note 13 Dewatering of Soils at Construction Sites (DoW 2012).	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 133	Potable water used for hydrostatic testing shall be assumed to already meet water quality guidelines and hence, shall not require chemical analysis or treatment prior to discharge, provided there has been no chemical added to water during testing.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 134	Should addition of chemicals be required in hydrostat testing, details of these chemicals shall be submitted to DMIRS for approval prior to use.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 135	Disposal of hydrostatic test water to ground shall occur in a manner that ensures that standing water does not remain present for a period of more than 3 days.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 136	This will involve consideration of the volume to be discharged, aquifer capacity and the permeability of the receiving medium. Discharge to ground should include use of diffusers to reduce discharge stream energy and prevent erosion, and filters to remove sediment particles, if present	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 137	Disposal of hydrostatic test water to surface water shall not be undertaken.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 138	Records shall be kept of the dates of discharge for hydro-testing water, volumes and location of disposal.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 139	Construction Contractor shall monitor discharged water quality (hydrostatic testing) that is relevant physical and chemical parameters (after treatment), including pH, electrical conductivity, dissolved oxygen and turbidity NOTE: If chemical is added only.	Construction: Weekly during discharge	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 140	Contamination: Prevent the contamination of groundwater, surface water and soil due to accidental spills of hazardous materials. Measurement Criteria: • No significant spills or leaks of hazardous materials (in excess of 80 litres). • No spills or leaks within 100 m of watercourses.	Overall	M07_MS1117 Information Request Response R10_2022-23 PNI DMIRS AER	No leaks or spills were reported in the reporting period.	Conformant
CEMP 141	All sites shall maintain a Material Safety Data Sheet Manifest and the MSDS for all stored hazardous materials shall be readily accessible.	Overall	R06_PNI OEP Rev 2	There is no permanent storage of hazardous goods on PNI. SDS are readily available online ChemAlert.	Conformant
CEMP 142	All chemicals used during operations shall be transported, stored, handled and disposed of in accordance the requirements of the relevant legislation and industry standards.	Operations	E07_Site Inspection 20230523	The HSE site inspection undertaken by operations personnel checks that the following is in place: • Specific contents in spill kit • Hazardous material stored appropriately • All bunds clean, empty and valve closed The checklist does not verify the implementation of the following hazardous substances controls: • Ensuring secondary containment is in place; • Use of drip trays; • No refuelling and • The availability of a current SDS to personnel onsite. There is a field for items to be actioned however it does not specify that hazardous substances controls must be actioned within one week. <u>OFI</u> Update the Site inspection checklist to meet the Standard and Measurement Criteria of the EP: **Performance Standard** All chemicals used shall be transported, stored, handled and disposed of in accordance the requirements of the relevant legislation and industry standards. This includes: • Ensuring secondary containment is in place; • Use of drip trays; • No refuelling and • The availability of a current SDS to personnel onsite. **Measurement Criteria** • Facility HSE Inspections verify the implementation of hazardous substances controls with any non-conformances actioned within one week. • All corrective actions relating to hazardous substances are closed out within the due date.	Potentially non-conformant
CEMP 143	A licensed contractor shall be sourced for the transport of Dangerous Goods where required.	Overall	R06_PNI OEP Rev 2	Dangerous goods (other than the gas in the pipeline) are not usually transported as part of operations.	Not applicable
CEMP 144	Chemical use shall be minimised where practicable.	Overall	R06_PNI OEP Rev 2	There is no permanent storage of hazardous materials as part of PNI operations. Use is in minor volumes (grease, lubricant).	Conformant

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 145	The minimum practicable volume of chemicals shall be stored on-site.	Overall	R06_PNI OEP Rev 2	There is no permanent storage of hazardous materials as part of PNI operations.	Conformant
CEMP 146	Hazardous materials shall be stored in containment facilities (e.g. bunded areas, leak proof trays) designed to hold 110% of the capacity of the largest tank or 25% of the total combined volume of stored materials (whichever is greater) and be impervious to prevent the release of spilt substances to the environment.	Overall	R06_PNI OEP Rev 2	There is no permanent storage of hazardous materials as part of PNI operations.	Not applicable
CEMP 147	Additional spill containment facilities such as compacted pads or drip trays are to be provided at refuelling stations, oil and chemical storage sites and vehicle maintenance areas.	Construction	R06_PNI OEP Rev 2	There are no refuelling stations, oil and chemical storage sites and vehicle maintenance areas at PNI operations.	Not applicable
CEMP 148	Spill kits are to be provided as follows: • all refuelling vehicles carry 250 L spill kits • all vehicles fitted with hydraulic hoses have immediate access to 20 L spill kits • all crews handling hazardous chemicals have immediate access to 20 L spill kits • all supervisors will carry 20 L spill kits.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 149	The location of on-site fuel/chemical storage areas shall be clearly signed and designated.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 150	Hazardous materials are to be provided, stored and maintained in a sealed condition, without leaks.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 151	Hazardous materials shall be stored in labelled and lidded containers.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 152	Fuel powered dewatering pumps shall be bunded to contain spills, using an impermeable liner. The bund shall be a large enough to contain the contents of the pump's fuel tank.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 153	Fuels and chemicals shall not be stored or handled within 100 m of natural or built waterways or water storage areas (e.g. streams, canals, dams, lakes etc.).	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 154	Servicing of plant and equipment shall be undertaken off-site in appropriately equipped areas.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 155	A drip tray or absorbent material to intercept inadvertent spillage will be used at all times when re-fuelling or lubricating.	Overall	Refer to CEMP 147	Refer to CEMP 147	Not applicable
CEMP 156	Refuelling vehicles shall be equipped with the following to enable quick response to spillages: • 250 L spill kits • spill tray(s) • shovel • containers for temporary storage and transport of contaminated soil.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 157	Prior to commencement of works thrust boring equipment shall be inspected to ensure it is in good working order.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 158	No drilling fluids shall be used during thrust boring.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 159	Only water based drilling fluids shall be used during HDD and shall be contained in mud tanks or pits and de-sanded and recirculated during drilling.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 160	The area shall be continuously monitored during drilling for potential fracturing out of drilling mud.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 161	HSE Manager shall monitor Event Reporting - Analysis of Trends (analyse events reported for identification of spills).	Overall: Annually	R09_2021-22 PNI DMIRS AER R10_2022-23 PNI DMIRS AER	The 2021-22 PNI DMIRS AER (R09) includes a trend analysis of HSE events in Section 5.4. This included identified spills. There were no additional incidents in 2022-23.	Conformant
CEMP 162	Manager Engineering and Operational Projects shall conduct Liquid Emissions Monitoring (Continually monitor for the occurrence of planned and unplanned hazardous liquid emissions)	Overall: Continually	R11_2023 Q2 PNI Quarterly E&Ds Report C01_DMIRS Emissions Reporting Submission - Q2 2023	Reporting under the CEMP to DEMIRS is no longer required. The commitment for reporting emissions and discharges is now undertaken under the DEMIRS approved PNI Operations EP (R06). E&Ds reports (R11) are being submitted to DEMIRS quarterly (C01).	Conformant
CEMP 163	Contamination: Minimise the residual impacts to groundwater, surface water and soil associated with accidental spills Measurement Criteria: No offsite migration of localised contamination associated with accidental spills	Overall	Refer to CEMP 140	Refer to CEMP 140	Not applicable
CEMP 164	Contamination: Minimise the residual impacts to groundwater, surface water and soil associated with accidental spills Measurement Criteria: Remediation of all contamination associated with accidental spills	Overall	Refer to CEMP 163	Refer to CEMP 163	Not applicable
CEMP 165	Appropriate spill response equipment, including containment and recovery equipment, shall be available on site and in vehicles undertaking work where there is the potential for fuel or chemical spillage.	Overall	E07_Site Inspection 20230523	Site inspections (E07) confirm that spill kits are maintained with specified containment equipment.	Conformant
CEMP 166	All spills must be addressed immediately in accordance with the Spill Prevention and Response Procedure (DBP 2012).	Overall	Refer to CEMP 163	Refer to CEMP 163	Not applicable
CEMP 167	Spills shall be stopped at source as soon as practicable.	Overall	Refer to CEMP 163	Refer to CEMP 163	Not applicable
CEMP 168	Spilt material shall be contained to the smallest possible area.	Overall	Refer to CEMP 163	Refer to CEMP 163	Not applicable
CEMP 169	Spilt material shall be recovered as soon as possible, using appropriate equipment.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 170	All spills shall be recorded as an incident requiring reporting on the: • date, time, location • quantity and material spilled • circumstances that caused the spill • size and type of affected area • damage / harm caused • description of clean-up activities	Overall	Refer to CEMP 163	Refer to CEMP 163	Not applicable
CEMP 171	All contaminated material must be removed and disposed of at a licensed facility.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 172	Construction Contractor shall conduct Hazardous Material Storage Area Inspections (Inspection of adequacy of on site hazardous material storage).	Construction: Weekly	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 173	Waste management: Prevent contamination or environmental harm due to inappropriate disposal of waste Measurement Criteria: No complaints associated with litter by DBP staff	Overall	M07_MS1117 Information Request Response	No complaints associated with litter were received in the reporting period.	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 174	Waste management: Prevent contamination or environmental harm due to inappropriate disposal of waste Measurement Criteria: No contamination associated with inappropriate disposal of waste	Overall	M07_MS1117 Information Request Response R10_2022-23 PNI DMIRS AER E06_DWER Contaminated Sites Database 20240216 E07_Site Inspection 20230523	There was no reported waste disposed inappropriately in the reporting period. The site is not a known contaminated site (E06).	Conformant
CEMP 175	All waste shall be disposed of in accordance with signage and site specific procedures. If unsure consult your supervisor.	Overall	E04_PNI Site Specific Induction E05_Induction Register 15.02.24 E07_Site Inspection 20230523	Slide 32 of the induction (E04) outlines the requirements for waste disposal. The site inspection (E07) includes checks for correct waste disposal.	Conformant
CEMP 176	All waste shall be disposed of in dedicated, labelled and lidded bins.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 177	Do not overfill waste bins.	Overall	Refer to CEMP 65	Refer to CEMP 65	Not applicable
CEMP 178	All waste will be transported to a licensed waste disposal facility.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 179	All general wastes, including materials such as wood, vegetation, rags, paper and domestic scraps shall be properly disposed of at a Shire or other approved waste facility.	Overall	Refer to CEMP 65	Refer to CEMP 65	Not applicable
CEMP 180	Good housekeeping shall be maintained at all times.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 181	Disposal of any chemical shall be in compliance with approved industry codes of practice, relevant safety guidelines and Australian Standards.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 182	Chemical wastes, waste oils and solvents and other toxic material shall be stored in a labelled, lidded container within a bunded area for collection and offsite disposal by a licensed contractor.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 183	Dry cuttings from thrust boring (where no drill fluids are used) shall be disposed over via backfilling/respreading of over the source location.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 184	Provided groundwater is not present, HDD muds will be disposed to the base of the entry or exit pit (or where necessary trench) excavation and covered with residual excavation spoil and subsequently topsoil.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 185	Seed, soil and organic matter removed during clean-down activities shall be collected for disposal at a licenced waste facility.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 186	Scrap metal shall be stockpiled separately for salvaging or recycling.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 187	Temporary portable sanitary or ablution facilities may be provided on- site where existing facilities are not present.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 188	Ablution facilities shall be regularly cleaned and maintained.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 189	Sewage collected within portable sanitary or ablution facilities shall be removed by a licensed contractor and disposed of to a licensed facility.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 190	Construction Contractor shall conduct Waste Management Inspections (Inspection of adequacy of housekeeping and waste management on site).	Construction: Weekly	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 191	Vegetation Rehabilitation: To re-establish vegetation cover and diversity in line with pre disturbance cover Measurement Criteria: Site specific established completion criteria	Rehabilitation	R07_PNI Rehabilitation Monitoring 2023	Table 1 of the Annual Rehabilitation Monitoring Report outlines the established completion criteria.	Conformant
CEMP 192	Site Reinstatement: To re-establish site conditions in line with pre disturbance conditions Measurement Criteria: No substantiated landholder complaints regarding site reinstatement	Rehabilitation	M07_MS1117 Information Request Response	No landholder complaints regarding site reinstatement were received in the reporting period.	Not applicable
CEMP 193	All waste materials (e.g. bags, pegs, skids, pillows) and equipment shall be removed from the construction areas once backfilling and tie-ins are completed.	Rehabilitation	R07_PNI Rehabilitation Monitoring 2023 P01_051121 KP0.1 - KP0.4 P02_311021 KP5 4 P03_301021 Pluto Access Rd - Burrup Rd 3	All waste materials and equipment was removed from the construction areas once backfilling and tie-ins are completed.	Conformant
CEMP 194	All flagging and bunting installed for other than environmental or safety reasons shall be removed from the construction areas once backfilling and tie-ins are completed.	Rehabilitation	R07_PNI Rehabilitation Monitoring 2023	The 2023 Rehabilitation Report (R07) reports no flagging and bunting.	Conformant
CEMP 195	Rocks will be returned and placed on the right-of-way.	Rehabilitation	P01_051121 KP0.1 - KP0.4 P02_311021 KP5 4 P03_301021 Pluto Access Rd - Burrup Rd 3	Rocks were returned and placed on the right-of-way (P01, P02, P03).	Conformant
CEMP 196	Any infrastructure disturbed during construction shall be restored to the landholder's satisfaction.	Rehabilitation	R07_PNI Rehabilitation Monitoring 2023	Rehabilitation monitoring in accordance with completion criteria is in progress. Rehabilitation areas have satisfied two of the four minimum standards outlined in the completion criteria (native plant species density and native species richness)..	Conformant
CEMP 197	Upon completion of works, material within any turkeys nests, containment ponds and HDD sumps shall be recovered (in accordance with Section 6.13) and the soil profile shall be reinstated (in accordance with Section 6.1).	Rehabilitation	P01_051121 KP0.1 - KP0.4 P02_311021 KP5 4 P03_301021 Pluto Access Rd - Burrup Rd 3 E09_Civils Completion Signoff PNI-C-CER-400-01_3 E10_Practical Completion Signoff PNI-C-CER-400-01_4	Site closure sign off (E09, E10) confirms that site has been reinstated.	Conformant
CEMP 198	Salvaged topsoil shall be respread across the rehabilitation area, followed by salvaged vegetation.	Rehabilitation	P04_291021 Topsoil Spread 1 P05_291021 Topsoil Spread 2	Topsoil and salvaged vegetation was respread across the rehabilitation area.	Conformant
CEMP 199	Construction Contractor shall conduct a Site Closure Inspection (Inspect the suitability of reinstatement and rehabilitation efforts.	Once, upon construction completion.	E09_Civils Completion Signoff PNI-C-CER-400-01_3 E10_Practical Completion Signoff PNI-C-CER-400-01_4	Inspections undertaken by construction contractor and completion certificates signed off by construction manager.	Conformant
CEMP 200	Senior HSE Advisor shall conduct Rehabilitation Monitoring including establishing rehabilitation monitoring sites within representative rehabilitated areas and adjacent control areas to monitor specified aspects against set criterion (refer Table 6-49).	Annually for a minimum of 2 years and until the rehabilitated areas have regenerated to a stable condition.	R07_PNI Rehabilitation Monitoring 2023	The Annual Rehabilitation Monitoring Report (R07) includes details of the monitoring and control sites and reports on the results of the monitoring in comparison with the completion criteria.	Conformant

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 201	Senior HSE Advisor shall undertake Photo Monitoring at photo monitoring sites established every 5 km within the disturbance footprint. For each round of monitoring, two photographs shall be taken at each photo monitoring site – one in each direction along the corridor.	Prior to clear and grade; immediately following reinstatement; and during rehabilitation monitoring.	P01_051121 KP0.1 - KP0.4 P02_311021 KP5 4 P03_301021 Pluto Access Rd - Burrup Rd 3	Photo monitoring was undertaken at sites along the disturbance footprint immediately following reinstatement. However rehabilitation monitoring does not include two photographs shall be taken every 5 km within the disturbance footprint.	Potentially non-conformant
	Environmental Management System				
CEMP 202	All staff and contractors shall be required to undertake an environmental awareness induction prior to commencement of the Project.	Overall	E05_Induction Register 15.02.24 R07_PNI Rehabilitation Monitoring 2023	The induction register (E05) records show that the two personnel undertaking the Rehabilitation monitoring in 2023 (R07) (Jeni Morris and Jeff Cargill) had completed the DBNGP induction however contractors are not required to complete the environmental awareness module of this induction. OFI Ensure contractors on the PNI pipeline undertake the environmental awareness module of the induction.	Potentially non-conformant
CEMP 203	The environmental awareness induction covers off on the following key topics: • Flora • Fauna • Weeds and pathogens • Acid sulphate soils • Cultural heritage • Community and landholders • Spill response and • Waste management • implementing the JHA process to identify and manage risks	Overall	E04_PNI Site Specific Induction	The environmental awareness induction covers off on the following key topics: • Flora and Fauna (Slide 30) • Weeds and pathogens • Acid sulphate soils (Slide 10) • Cultural heritage (Slide 29) • Community and landholders (Slide 27) • Spill response and Waste management (Slide 31 and 32) • implementing the JHA process to identify and manage risks (Slide 7)	Conformant
CEMP 204	All personnel are required to undergo refresher induction training once every three years.	Overall	E05_Induction Register 15.02.24	Personnel visiting site in the reporting were not revisiting after three years. Pipeline has not been operating for three years.	Not applicable
CEMP 205	All visitors receive a site-specific induction appropriate in length and content for the type of work being undertaken.	Overall	Refer to CEMP 202	Refer to CEMP 202	Potentially non-conformant
CEMP 206	DBP will maintain a record of training for all personnel.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 207	The requirements for external reporting of incidents is summarised in Table 7-1.	Overall		There were no incidents reported in the reporting period: • an incident causes or threatens to cause serious or material environmental harm • recordable incident • reportable incident • Death or injury to individual(s) from a Listed Species during an activity • Unplanned impact caused to a matter of national environmental significance • Known contaminated sites • Suspected contaminated sites	Not applicable

Commitment	Commitment	Timeframe	Evidence	Assessment	Status
CEMP 208	Emergency exercises are conducted annually to assess the emergency response capabilities of the various teams by providing exercises at levels up to and including crisis. The level of escalation may vary from one exercise to another. All exercises include at least activation of the IMT and EMT.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 209	In accordance with Section 33 of the Regulations DBP shall conduct monitoring of the emissions and discharges defined in Table 7-3.	Overall	Refer to CEMP 162	Refer to CEMP 162	Conformant
CEMP 210	DBP shall conduct regular inspections of the Construction Contractor to monitor compliance against this CEMP. All open items from previous inspections will be checked during the next inspection to ensure remedial action has been taken, and to determine if that action has been effective.	Construction	Refer to CEMP 02	Refer to CEMP 02	Not applicable
CEMP 211	Records of all works including inspections will be maintained to demonstrate compliance with the requirements of the CEMP.	Overall	R01_2023 CAR Appendix D	Appendix D of this report lists the records that demonstrate compliance with the CEMP in the reporting period.	Conformant
CEMP 212	At a minimum of one environmental compliance audit shall be conducted to ensure that the systems and controls detailed within this CEMP are implemented.	Overall	R12_HSE-AUD-088 PNI Compliance Audit	A compliance audit was conducted July 2021. No non-conformances with the CEMP were identified.	Conformant
CEMP 213	A review of the CEMP shall: • assess the appropriateness of the EP to the construction activities based on audit information; and determine if any changes to the CEMP are required as a result of scope, legislative or organisational changes.	In response to a material change to the activities and/or the use of equipment or in response to actions arising from any audit taken.	R06_PNI OEP Rev 2	There will be no further revisions to the CEMP. The project has moved into operations stage and is now managed under the DEMIRS approved PNI Operations EP (R06).	Conformant
CEMP 214	All revisions of the CEMP shall be submitted to DMIRS for approval.	Overall	Refer to CEMP 217	Refer to CEMP 217	Conformant
CEMP 215	Senior Advisor – Environment and Heritage will submit the Recordable Incident Report which details the cause, impacts and corrective actions associated with any incident arising from the activity that breaches a performance objective or standard identified in the CEMP to DMIRS each calendar month	Not later than 15 days after the reporting month	R06_PNI OEP Rev 2 R13_202310 PNI Monthly Recordable Incident Report C02_Monthly Recordable Incident Submission - October 2023	Reporting under the CEMP to DEMIRS is no longer required. The commitment for reporting recordable incidents is now undertaken under the DEMIRS approved PNI Operations EP (R06). Evidence of recordable incident submissions was provided (R13, C02).	Conformant
CEMP 216	Senior Advisor – Environment and Heritage will submit the Emissions and Discharge Report which details all emissions and discharges to any land, air, marine, seabed, sub-seabed, groundwater, sub-surface or inland waters environment that occur in the course of the activity to DMIRS each three calendar months (Jan – Mar; Apr – June; Jul – Sept; Oct – Dec).	Not later than 15 days after the reporting quarter	Refer to CEMP 162	Refer to CEMP 162	Conformant
CEMP 217	Senior Advisor – Environment and Heritage will submit the Annual Environmental Report (AER) which demonstrates environmental performance objectives and standards within the CEMP are being met to DMIRS each calendar year (commencing 1 November and concluding 31 October).	Not later than 3 months after the reporting year	R06_PNI OEP Rev 2 R10_2022-23 PNI DMIRS AER C03_DMIRS AER Submission 2022-2023	Reporting under the CEMP to DEMIRS is no longer required. The commitment for annual environmental reporting is now undertaken under the DEMIRS approved PNI Operations EP (R06). Evidence of AER submissions was provided (R10, C03).	Conformant

Appendix D Evidence Register

Code	Reference	Author	Electronic	Hard-copy	Topic
C01	C01_DMIRS Emissions Reporting Submission - Q2 2023	AGIG	X		Email from AGIG submitting E&Ds reports for Q2 2023 14/07/2023
C02	C02_Monthly Recordable Incident Submission - October 2023	AGIG	X		Email from AGIG submitting recordable incident reports for October 2023 07/11/2023
C03	C03_DMIRS AER Submission 2022-2023	AGIG	X		Email from AGIG submitting AERs for 2022/23 22/09/2023
E01	E01_Activity List 1	AGIG	X		List of maintenance activities undertaken in the reporting period (Snapshot 1)
E02	E02_Activity List 2	AGIG	X		List of maintenance activities undertaken in the reporting period (Snapshot 2)
E03	E03_Activity List 3	AGIG	X		List of maintenance activities undertaken in the reporting period (Snapshot 3)
E04	E04_PNI Site Specific Induction	AGIG	X		PNI site specific induction
E05	E05_Induction Register 15.02.24	AGIG	X		Register of inductions undertaken in the reporting period
E06	E06_DWER Contaminated Sites Database 20240216	DWER	X		Snapshot of the DWER contaminated sites database mapper showing no reported contaminated sites along the PNI development envelope
E07	E07_Site Inspection 20230523	AGIG	X		Site inspection record for site inspection undertaken 23/05/2023
E08	E08_AGIG Environment Policy 6 June 2023	AGIG	X		AGIG Environmental Policy
E09	E09_Civils Completion Signoff PNI-C-CER-400-01_3	AGIG	X		Civils Completion Signoff for the construction stage of the project 02/11/2021

Code	Reference	Author	Electronic	Hard-copy	Topic
E10	E10_Practical Completion Signoff PNI-C-CER-400-01_4	AGIG	X		Practical Completion Signoff for the construction ready for commissioning stage of the project 03/11/2021
E11	E11_Pluto Interconnector Screenshot 2024-01-30	AGIG	X		Screenshot of PNI documents available for download on AGIG website
M06	M06_MS1117 Information Request Response	AGIG	X		Summary of information requested from AGIG to undertake compliance assessment and provided 07/02/2024
M07	M07_MS1117 Information Request Response	AGIG	X		Summary of information requested from AGIG to undertake compliance assessment and provided 14/02/2024
P01	P01_051121 KP0.1 - KP0.4	AGIG	X		Photo of pipeline easement following completion of construction at KP0.1 to KP0.4
P02	P02_311021 KP5 4	AGIG	X		Photo of pipeline easement following completion of construction at KP5.4
P03	P03_301021 Pluto Access Rd - Burrup Rd 3	AGIG	X		Photo of pipeline easement following completion of construction at Pluto access road
P04	P04_291021 Topsoil Spread 1	AGIG	X		Photo of topsoil spread on construction corridor rehabilitation
P05	P05_291021 Topsoil Spread 2	AGIG	X		Photo of topsoil spread on construction corridor rehabilitation
R02	R02_2022 CAR	AGIG	X		Compliance Assessment Report for the period 21/11/2021 to 20/11/2022
R03	R03_20200429 PNI Compliance Assessment Plan Rev 1	AGIG	X		PNI Compliance Assessment Plan Rev 1 dated 01/05/2020
R04	R04_PNI CHMP 210219	AGIG	X		Pluto – NWS Interconnector Pipeline Project Cultural Heritage Management Plan Rev 1 dated 11/12/2018

Code	Reference	Author	Electronic	Hard-copy	Topic
R05	R05_CEMP - EPA Rev B 20190402	AGIG	X		Pluto-North West Shelf Interconnector Construction Environmental Management Plan Revision B dated 02/04/2019
R06	R06_PNI OEP Rev 2	AGIG	X		Pluto-North West Shelf Interconnector Operations Environment Plan [E-PLN-038] Revision 2 November 2021
R07	R07_PNI Rehabilitation Monitoring 2023	Eco logical	X		Burrup Pluto-NWS Interconnector Pipeline (PNI) Rehabilitation Monitoring 2023 V2 28/06/2023
R08	R08_Interconnector Pipeline Flora & Fauna Survey	astron	X		Burrup Peninsula Interconnector Pipeline Flora and Fauna Survey June 2018 [21244-18-BISR-1Rev0_180803]
R09	R09_2021-22 PNI DMIRS AER	AGIG	X		DMIRS Annual Environmental Report for 2021/22
R10	R10_2022-23 PNI DMIRS AER	AGIG	X		DMIRS Annual Environmental Report for 2022/23
R11	R11_2023 Q2 PNI Quarterly E&Ds Report	AGIG	X		Emissions and Discharges report for Q2 2023
R12	R12_HSE-AUD-088 PNI Compliance Audit	AGIG	X		PNI Compliance Audit [HSE-AUD-088] Rev 1 dated 03/08/2021
R13	R13_202310 PNI Monthly Recordable Incident Report	AGIG	X		Recordable incident report for October 2023

Appendix E Rehabilitation Monitoring Report 2023

Burrup Pluto-NWS Interconnector Pipeline (PNI) Rehabilitation Monitoring 2023

AGI Operations Pty Ltd

ecological AUSTRALIA
A TETRA TECH COMPANY

1300 646 131
www.ecoaus.com.au

DOCUMENT TRACKING

Project Name	Burrup Pluto-NWS Interconnector Pipeline (PNI) Rehabilitation Monitoring 2023
Project Number	23PER4922
Project Manager	Jeni Morris
Prepared by	Jeni Morris
Reviewed by	Jeff Cargill
Approved by	Jeff Cargill
Status	**Final**
Version Number	**V2**
Last saved on	**28 June 2023**

This report should be cited as 'Eco Logical Australia 2023. *Burrup Pluto-NWS Interconnector Pipeline (PNI) Rehabilitation Monitoring 2023*. Prepared for AGI Operations Pty Ltd.'

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from AGI Operations Pty Ltd.

Template 2.8.1

Contents

List of Figures

List of Tables

Abbreviations

Abbreviation	Description
AGIG	Australian Gas Infrastructure Group
Astron	Astron Environmental Services Pty Ltd
BAM Act	State Biosecurity and Agriculture Management Act 2007
BC Act	State Biodiversity Conservation Act 2016
BoM	Bureau of Meteorology
CEMP	Construction Environmental Management Plan
DAWE	Department of Agriculture, Water and the Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DBNGP	Dampier to Bunbury Natural Gas Pipeline
DPaW	Department of Parks and Wildlife
DPIRD	Department of Primary Industries and Regional Development
DWER	Department of Water and Environmental Regulation
ELA	Eco Logical Australia
EN	Endangered
EPA	Environmental Protection Authority
EP Act	State Environmental Protection Act 1986
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
ESA	Environmentally Sensitive Area
GPS	Global position system
ha	Hectares
IBRA	Interim Biogeographic Regionalisation for Australia
km	Kilometres
m	Meters
m^2	Meters squared
mm	Millimetres
MNES	Matter of National Environmental Significance
PEC	Priority Ecological Community
PNI	Pluto-NWS Interconnector Pipeline
TEC	Threatened Ecological Community
VU	Vulnerable
WA	Western Australia
WAH	Western Australian Herbarium
WoNS	Weed of National Significance

Executive Summary

Eco Logical Australia was engaged by the Australian Gas Infrastructure Group to undertake the 2023 revegetation monitoring program for the Pluto-NWS Interconnector Pipeline. The Pluto-NWS Interconnector Pipeline is an approximately 3.6 kilometre steel buried natural gas pipeline located between the Woodside Energy Limited operated Karratha Gas Plant and the Pluto Liquefied Natural Gas plant on the Burrup Peninsula in the Pilbara region of Western Australia.

Vegetation monitoring sites were selected and established within three broad vegetation complexes, these being: Scattered low mixed open shrubland over *Triodia* spp. hummock grassland on undulating rocky slopes; Low open woodland over *Triodia* spp. hummock grassland on undulating rocky slopes; and *Eucalyptus victrix* mid sparse woodland and mixed low open woodland on drainage. One vegetation monitoring site was established within each broad vegetation complex, with an additional four photo monitoring sites also established along the survey corridor.

No Threatened flora species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* Act or State *Biodiversity Conservation Act 2016*, or Priority flora listed by the Department of Biodiversity, Conservation and Attractions were recorded within vegetation monitoring sites.

Three introduced (weed) species were recorded within the vegetation monitoring sites, namely **Aerva javanica*, **Cenchrus ciliaris* and **Malvastrum americanum*. These species are not listed as a Weed of National Significance or as a Declared Pest and have either a low or negligible environmental weed ranking. Weed species density and foliage cover was higher in rehabilitation plots compared to the controls, with this result primarily driven by the prevalence of **C. ciliaris*.

Burrup Pluto-NWS Interconnector rehabilitation areas satisfied two of the four minimum standards outlined in the completion criteria, these being: native plant species density and native species richness. Native species foliage cover and weed foliage cover failed to meet minimum requirements outlined in the completion criteria. Similarly, when separated by broad vegetation complexes, all sites satisfied minimum standards for native plant species density and native species richness but did to meet requirements for native species foliage cover and weed foliage cover.

The following recommendations have been made:

- Continue monitoring to establish a stable and/or positive development trajectory across specified rehabilitation values in view of minimum standards outlined in the completion criteria;
- Undertake targeted weed control within the survey corridor to reduce populations of recorded weed species; and
- The northern section of the survey corridor could not be accessed due to fencing and restriction zones associated with the Woodside Northwest Shelf Operations project area. The facilitation of access to this area by Australian Gas Infrastructure Group would be beneficial to enable assessment of rehabilitation values in this area.

Introduction

Project background

Eco Logical Australia (ELA) was engaged by the Australian Gas infrastructure Group (AGIG) to undertake the 2023 revegetation monitoring program for the Pluto-NWS Interconnector Pipeline (PNI). The PNI is an approximately 3.6 km steel buried natural gas pipeline located between the Woodside Energy Limited operated Karratha Gas Plant and the Pluto Liquefied Natural Gas plant on the Burrup Peninsula in the Pilbara region of Western Australia (WA; herein referred to as the 'survey corridor'; **Figure 1**).

AGIG has recently completed construction of the PNI, which involved an initial temporary impact to approximately 8.2 hectares (ha) of native vegetation, with rehabilitation required for all areas cleared for construction purposes that are not required for operational use (AGIG 2019). The Construction Environmental Management Plan (CEMP; AGIG 2019) states that effective rehabilitation will 'minimise the risk of introducing weed species, minimise disturbance of fauna through re-establishing habitat and stabilising disturbed areas; reducing the potential for erosion and sedimentation of surrounding water bodies'.

A biological flora and fauna survey was undertaken by Astron Environmental Services Pty Ltd (Astron) in 2018, comprising a desktop study, a Reconnaissance level flora and vegetation survey and a Basic (then 'Level 1') fauna survey. A total of nineteen vegetation associations (eight disturbed and eleven undisturbed) and three broad fauna habitats were identified across the survey area, with approximately 33% of the survey area recorded as cleared for infrastructure and classed as 'Completely Degraded'. The 11 vegetation communities delineated by Astron Environmental Services Pty Ltd (Astron 2018) were grouped into three broad vegetation complexes for the purposes of rehabilitation monitoring.

Objectives

The purpose of this project was to monitor the progress of revegetated areas towards rehabilitation objectives and completion criteria following construction of the Burrup Interconnector Pipeline, with a longer-term aim of indicating that reinstatement has been undertaken to the appropriate standard and that rehabilitation has been successful.

This monitoring report addresses the items in the Scope of Works listed below:

- Undertake a desktop assessment to review climatic data, site biological information, completion criteria and any other additional site-specific revegetation/rehabilitation implementation information;
- Undertake a field survey to evaluate the success of rehabilitation within the survey corridor against the current flora and vegetation completion criteria;
- Compare the values of the rehabilitated areas against control areas and the completion criteria in order to determine progress of the revegetation programme;
- Prepare a monitoring survey report; and
- Provide all spatial/mapping data collected during the survey.

Completion criteria

The CEMP (AGIG 2019) states that in order to determine the progress and success of rehabilitation, rehabilitation monitoring sites should be established within representative rehabilitated areas and adjacent control areas to monitor specified aspects against set criterion. Annual monitoring of rehabilitation sites should be carried out for a minimum of two years and until the rehabilitated areas have regenerated to a stable condition. Photo monitoring sites are also to be established within the survey corridor and revisited during rehabilitation monitoring.

Rehabilitation will be assessed against completion criteria as outlined in Table 6-40 of the CEMP (AGIG 2019; **Table 1**).

Table 1: Rehabilitation completion criteria (AGIG 2019)

Aspect	Criterion
Native Plant Species Density (plants per m^2)	Native plant density equals or exceeds 40% of that of the adjacent control area at 36 months
Native Species Richness (per plot)	Perennial native species richness equals or exceeds 40% of that of the adjacent control area at 36 months
Native Species Foliage Cover (%)	Percentage Foliage Cover of perennial native species indigenous to each plant community is greater than or equal to 40% at 36 months
Weed Foliage Cover (%)	Foliage Cover of Declared and Environmental Weeds is not greater than that of the adjacent control area at 24 months (excluding extensive populations i.e., buffalo grass and cape weed)

Figure 1: Project Location

Pluto-NWS Interconnector Pipeline (PNI)

N

0 100 200 400

Metres

Datum/Projection:
GDA 1994 MGA Zone 50

23PER4922-ED Date: 16/06/2023

ecological AUSTRALIA
A TETRA TECH COMPANY

Environmental setting

Climate

The survey corridor is located within the Roebourne subregion which experiences an arid (semi-desert) tropical climate with highly variable rainfall, falling mainly in summer (Kendrick and Stanley 2001). Based on climate data from the nearby Bureau of Meteorology (BoM) Karratha Aero weather station (station number 4083; rainfall data 1972-2023; temperature data 1993-2023) the region receives an annual average rainfall of 287.9 millimetres (mm), with most rainfall occurring during the summer months of January to March (BoM 2023; **Figure 2**). Mean maximum air temperatures range from 26.5°C in June and July to 36.2°C in March, and mean minimum temperatures range from 13.9°C in July to 26.9°C in January (BoM 2023).

In the 12 months preceding the field survey, Karratha Aero weather station received a total of 358.4 mm of rainfall which is more than the long-term average for the area (287.9 mm). A total of 96.6 mm was recorded in the three months prior to the field survey, which is significantly lower than the long-term average for the same period (168.4 mm) though rainfall in the month directly preceding the field survey (70.6 mm) was higher than average (46.3 mm; **Figure 2**).

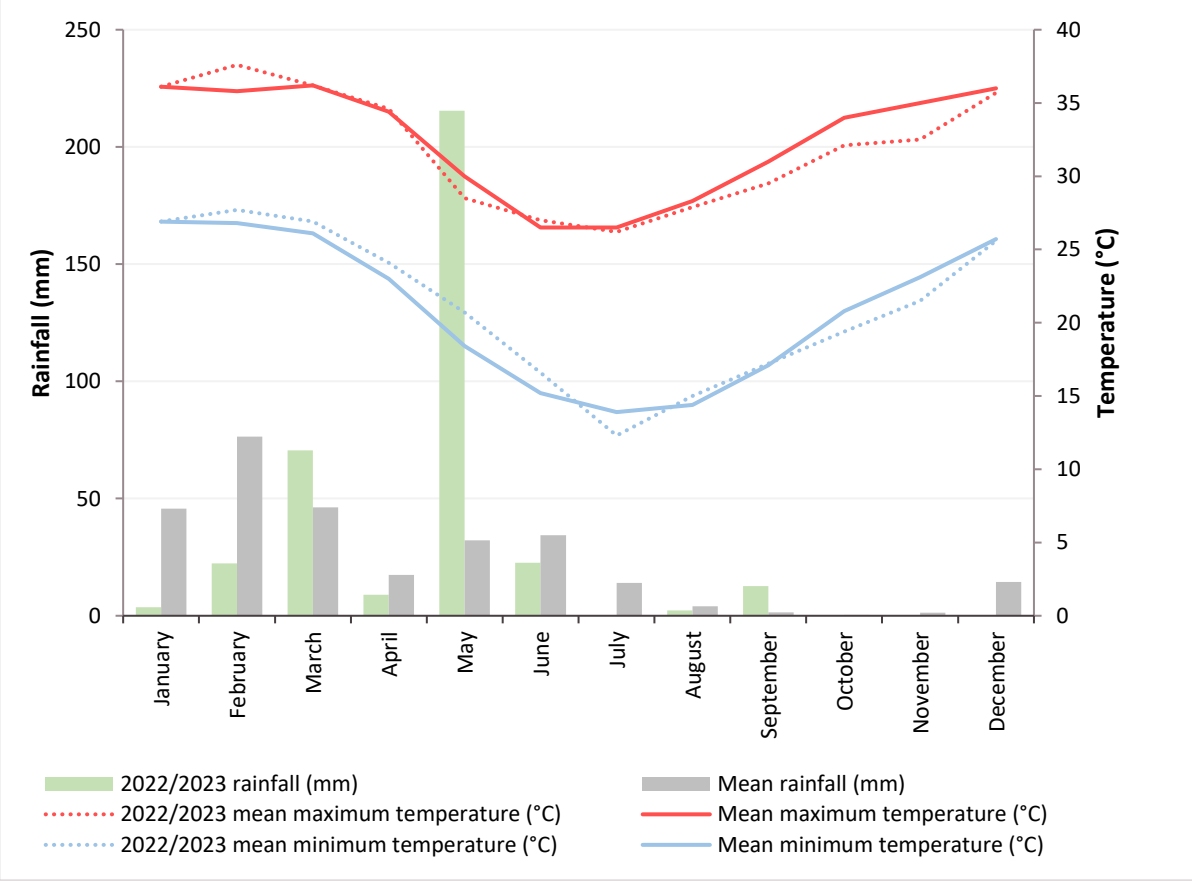

Figure 2: Climate data (BoM 2023)

Regional context

Interim Biogeographic Regionalisation for Australia

The Interim Biogeographic Regionalisation for Australia (IBRA) currently classifies 89 bioregions across Australia, based on a range of biotic and abiotic factors such as climate, vegetation, fauna, geology and landform (Thackway and Cresswell 1995; Department of Agriculture, Water and the Environment [DAWE] 2012). These bioregions are currently further refined into 419 sub-regions representing more localised and homogenous geomorphological units in each bioregion. IBRA divides Western Australia into 26 biogeographic regions and 53 subregions based on dominant landscape characteristics of climate, lithology, geology, landform and vegetation.

The survey corridor is situated within the Pilbara bioregion, and more specifically in the Roebourne (PIL04) subregion, which is described as Coastal and sub-coastal plains with a grass savannah of mixed bunch and hummock grasses, and dwarf shrub steppe of *Acacia stellaticeps* or *A. pyrifolia* and *A. inaequilatera*. Uplands are dominated by *Triodia* hummock grasslands. Ephemeral drainage lines support *Eucalyptus victrix* or *Corymbia hamersleyana* woodlands. Samphire, *Sporobolus* and mangal occur on marine alluvial flats and river deltas' (Kendrick and Stanley 2001).

Regional landscape and vegetation

Soil landscape mapping, prepared by the Department of Primary Industries and Regional Development (DPIRD), provides an inventory and condition survey of lands at a 1: 250 000 scale (DPIRD 2023a). The survey corridor lies within the Granitic land system, as described in **Table 2**.

Table 2: Land systems of the survey corridor (DPIRD 2023a)

Land system	Land system description	Total extent within Pilbara bioregion (ha)	Extent within the survey corridor (ha)	Proportion of total within the survey corridor (%)
Granitic	Rugged granitic hills supporting shrubby hard and soft spinifex grasslands	4,020	8.2	0.20

Vegetation type and extent have been mapped at a regional scale by Beard (1975) who categorised vegetation into broad vegetation associations. Based on this mapping at a scale of 1:1,000,000, DPIRD has compiled a list of vegetation extent and types across WA (Shepherd *et al*. 2002).

One vegetation association, Abydos Plain-Roebourne 117, overlaps the survey corridor (DPIRD 2023b; **Table 3**). This association has more than 50% of its Pre-European extent remaining within the Roebourne IBRA subregion, and so is considered to be of 'Least Concern' (Shepherd *et al*. 2002).

Table 3: Beard's (1975) vegetation associations of the survey corridor

Vegetation association	Description	Pre-European extent in PIL04 subregion (ha)	Current extent in PIL04 subregion (ha)	% Remaining in PIL04 subregion	Extent (ha) within the survey corridor	% total remaining extent within the survey corridor
Abydos Plain-Roebourne 117	Hummock grasslands, grass steppe; soft spinifex	50,963	46,902	92.0	8.2	0.02

Environmental values

Environmentally Sensitive Areas (ESAs) are defined in the Environmental Protection (Environmentally Sensitive Areas) Notice 2005 under s. 51B of the State *Environmental Protection Act 1986* (EP Act). ESAs include areas declared as World Heritage, included on the Register of the National Estate, defined wetlands, Bush Forever sites, vegetation containing rare (Threatened) flora and/or Threatened Ecological Communities (TECs).

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the State *Biodiversity Conservation Act 2016* (BC Act) provide for the statutory listing of TECs, either by the Australian Government's Environmental Minister or the Environment Minister of WA. TECs are also defined as ESAs. Priority Ecological Communities (PECs) are those biological communities that are recognised by the Environment Minister of WA to be of significance, but which do not meet the criteria for a TEC or ESA. There are five categories of PECs, none of which are currently protected under State or Commonwealth legislation.

The western boundary of Murujuga National Park lies approximately 300 m to the east of the survey corridor. There are several nature reserves listed under sections 5(1)(d) and 5(1)(h) of the CALM Act 1984, all representing offshore islands in the Dampier Archipelago, within 20 km of the survey corridor (DBCA 2023). These reserves are recognised as ESAs, with the nearest being Conzinc Island, approximately 5 km north of the survey corridor (Department of Water and Environmental Regulation [DWER] 2021).

There are no Ramsar listed wetlands or Nationally Important wetlands within 100 km of the survey corridor (DBCA 2018). Several minor, ephemeral watercourses intersect the survey corridor; these eventually drain into the Mermaid Sound to the north and west or internally within the Burrup Peninsula to the south and east (DWER 2018).

There are known occurrences of three PECs within 10 km of the survey corridor. These comprise:

- Burrup Peninsula rock pool communities (listed as P1 by DBCA) - occurrences northeast and southwest, with the nearest record approximately 500 m east;
- Burrup Peninsula rock pile communities (listed as P1 by DBCA) – occurrences northeast and southwest, with the nearest record approximately 500 m east; and
- Coastal dune tussock grassland dominated by *Whiteochloa airoides* (listed as P3 by DBCA) - the nearest record is approximately 6 km northeast.

None of the mapped extents of the PECs overlap the survey corridor; however, buffer zones (500 m width) of known occurrences of both the Burrup Peninsula rockpile and rockpool PECs lie within 50 m of the corridor.

Astron (2018) recorded two Priority flora species listed by DBCA within the survey corridor, namely:

- *Terminalia supranitifolia* (P3); and
- *Rhynchosia bungarensis* (P4).

Methodology

Field survey

Survey team and timing

The field survey was conducted by Dr. Jeff Cargill (Principal Botanist) and Jeni Morris (Ecologist) on 4-5 April 2023. Field staff had valid scientific licences to conduct flora and vegetation surveys at the time of the survey (Jeff Cargill FB62000138-2; Jeni Morris FB62000070-2). The survey timing was consistent with the Environmental Protection Authority (EPA) recommendations for undertaking flora and vegetation surveys in the Eremaean climatic region i.e., 6-8 weeks post wet season (March to June; EPA 2016).

Rehabilitation monitoring

The primary survey methodology reflected that used for rehabilitation monitoring along the Dampier to Bunbury Natural Gas Pipeline (DBNGP; northern sections) and followed objectives and completion criteria outlined in the PNI Construction Environmental Management Plan (AGIG 2019).

The 11 vegetation communities delineated by Astron Environmental Services Pty Ltd (Astron 2018) were grouped into three broad vegetation complexes for the purposes of monitoring, as outlined in **Table 4**. One monitoring site was established in each of these broad vegetation complexes (Appendix A). It is noted that the northmost section of the survey corridor was inaccessible (refer to limitations in **Table 5**).

Table 4: Broad vegetation complexes for rehabilitation monitoring

ELA broad vegetation complex	Vegetation monitoring site	Description	Astron (2018) vegetation communities	Area (ha)
1	ELA01	Scattered low mixed open shrubland over *Triodia* spp. hummock grassland on undulating rocky slopes	4a, 4b, 6a, 6b, 9a, 9b	3.3
2	ELA02	Low open woodland over *Triodia* spp. hummock grassland on undulating rocky slopes	1a, 1b, 2a, 2b	2.7
3	ELA03	*Eucalyptus victrix* mid sparse woodland and mixed low open woodland on drainage	3a, 3b, 5a, 5b, 7a, 7b, 10	1.7
		Completely Degraded		0.5
		Total		**8.2**

Each vegetation monitoring site consisted of two adjoining 20 x 20 metre (m) plots, established within representative rehabilitated areas within the right-of-way (ROW) and within adjacent, undisturbed vegetation (control areas; **Figure 3, Figure 4**). The northwest corner of each control site was permanently demarcated with a metal fence dropper. Rehabilitation plots were not permanently demarcated with metal fence droppers, but rather demarcated with GPS coordinates and reference

photos only, due to safety reasons associated with the nature and depth of the high-pressure gas pipeline.

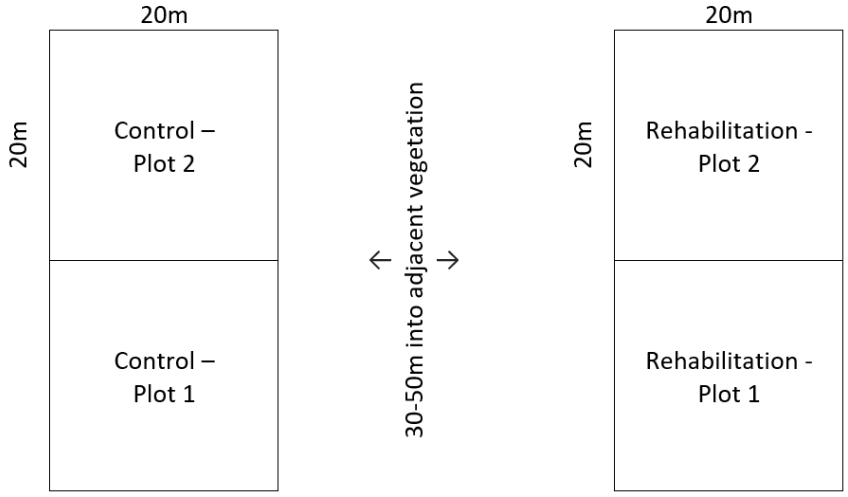

Figure 3: Design of individual vegetation monitoring sites

For each vegetation monitoring site, photographs (photo monitoring points) were taken within the northwest and southeast corner (e.g., northwest of Control Plot 2, southeast of Control Plot 1).

Within each plot the following data were recorded:

- Site number;
- Native flora species density (plants per m^2);
- Native flora species richness (per plot);
- Native flora species foliage cover (%);
- Weed foliage cover (%)
- Indicators of the presence of fauna (e.g., scats, burrows, tracks); and
- General observations (i.e., feral animal disturbance, erosion, fire occurrence, presence of Weeds of National Significance (WoNS) and Declared Pests listed under the State *Biosecurity and Agriculture Management Act 2007*).

For each vascular plant species within the plot, the number (alive and dead), average height and percentage cover (live and dead material) was recorded.

Photo monitoring points

Four photo monitoring sites were established along the corridor, where accessible along the pipeline in view of the PNI Construction Environmental Management Plan (AGIG 2019; Figure 4). Photo monitoring sites consisted of photographs taken facing along survey corridor. All photos were date stamped and the photo number recorded with appropriate details (monitoring site number and direction of photo). It is noted that PNI Construction Environmental Management Plan (AGIG 2019) states that 'photographs shall be established every 5 km', however the survey corridor is only 3.6 km in length. Noting issues with access (refer to **Table 5**), photographs were therefore taken at the start (facing north), middle (facing north and south) and end (facing south) of the survey corridor.

Figure 4: Location of vegetation monitoring sites and photo monitoring points

Pluto-NWS Interconnector Pipeline (PNI)

Photo location

Vegetation monitoring points

Control

Rehabilitation

0 100 200 400

Metres

Datum/Projection:
GDA 1994 MGA Zone 50

23PER4922-ED Date: 19/06/2023

N

eco logical AUSTRALIA
A TETRA TECH COMPANY

Flora identification and nomenclature

Flora species able to be identified in the field were recorded, and specimens of unfamiliar species were collected for later identification. All collections were assigned a unique collecting number. For conservation significant identified in the field, the following was recorded:

- A colour photograph;
- GPS location;
- Population size estimate;
- Location of population boundaries;
- Associated habitat/landscape element;
- Time and date observed;
- Observer details; and
- A voucher specimen suitable for use as a reference specimen (if appropriate to do so for conservation significant flora).

Flora specimen identification following the field survey was undertaken by ELA taxonomic specialists at the Western Australian Herbarium (WAH). Suitable material that meets WAH specimen lodgement requirements, such as flowering material and range extensions, will be submitted along with Threatened and Priority flora report forms to DBCA, as required by conditions of collection licences issued under the BC Act.

Nomenclature used for the flora species within this report follows the WA Plant Census as available on FloraBase (WAH 1998-).

Data analysis

To assess completion criteria as specified in AGIG (2019) the mean and standard error values for native plant species density (m^2), perennial native species richness (per plot), percentage foliage cover of perennial native species (per plot) and percentage weed foliage cover (per plot) were calculated for control and rehabilitation areas within each site, broad vegetation complex and total area.

It is noted that where criterion did not specify scale, data were analysed at the plot level. In addition, where criterion did not specifically state 'perennial native flora', annual and perennial native flora data were combined and analysed. In relation to the weed foliage cover (%) aspect, no Declared Pest (plant) species were recorded. However, three Environmental Weeds were recorded with all having Low or Negligible Rankings (DPaW 2014). The criterion states that Foliage Cover of Declared and Environmental Weeds is not greater than that of the adjacent control area at 24 months (excluding extensive populations i.e., buffalo grass and cape weed). Noting the ambiguity of wording in this criterion, these three weed species, although having Low or Negligible Environmental Weed Rankings did not as stated in the criterion, comprise 'extensive populations' within control plots (an indicator of population extent[s] within the local area) and were therefore all included in the analysis. Rehabilitation areas were then compared against controls in view of the completion criteria.

Survey limitations and constraints

The EPA Technical Guidance document (EPA 2016) recommends including a discussion of the constraints and limitations of the survey methods used. An assessment of potential constraints and limitations of this survey are summarised in **Table 5** below. Three potential limitations were identified, all relating to access issues in the northernmost section of the survey corridor.

Table 5: Survey limitations

Potential survey limitation	Impact on survey
Sources of information and availability of contextual information (i.e., pre-existing background versus new material).	**Not a limitation**. Land system mapping (DPIRD 2023a) and broad-scale vegetation mapping (DPIRD 2023b) were available at a scale of 1:250,000. Available information was sufficient to provide context at varying scales and therefore was not considered a limitation. A pre-impact biological flora and fauna survey undertaken by Astron (2018) was made available by AGIG.
Scope (i.e., what life forms, etc., were sampled).	**Not a limitation**. The survey requirement flora and vegetation rehabilitation survey were adequately met.
Proportion of flora collected and identified (based on sampling, timing and intensity).	**Not a limitation**. Adequacy of sampling effort was considered acceptable to achieve the scope of works and outcomes required to assess rehabilitation values as per the specific completion criteria (AGIG 2019).
Completeness and further work which might be needed (i.e., was the relevant survey area fully surveyed).	**Potential limitation**. Accessible sections of the survey corridor were covered to meet requirements outlined in the scope of works. Site selection and replication was considered adequate in these areas. The northernmost section of the survey corridor, however, was unable to be accessed. As a result, an assessment to determine whether additional vegetation monitoring sites should be established was unable to be undertaken in this area.
Mapping reliability.	**Not a limitation**. High quality aerial maps and pre-impact vegetation mapping layers were used to determine the location of rehabilitation and control sites.
Timing, weather, season, cycle.	**Not a limitation.** The survey was undertaken in the appropriate season, i.e., 6-8 weeks post wet season (March to June), as specified by EPA Technical Guidance (EPA 2016). The majority of flora species recorded had reproductive material present (e.g., flowers, fruit) to allow for positive identification.
Disturbances (fire, flood, accidental human intervention, etc.).	**Not a limitation.** Disturbances within the survey corridor include previous clearing and weeds. This did not negatively impact the ability to meet objectives outlined in the scope of works.
Intensity (in retrospect, was the intensity adequate).	**Potential limitation**. Three vegetation monitoring sites were established in representative vegetation within accessible portions of the survey corridor. It is noted however, that the northernmost section of the survey corridor was unable to be accessed. As a result, the requirement for additional vegetation monitoring sites to be established was unable to be undertaken in this area.
Resources (i.e., were there adequate resources to complete the survey to the required standard).	**Not a limitation**. The number of personnel conducting this field survey in the given time was adequate to undertake the required level of survey. Additional resources, including equipment available, additional support and personnel were adequate.
Access problems (i.e., ability to access survey area).	**Potential limitation**. The northern section of the survey corridor could not be accessed due fencing and restriction zones associated with the Woodside Northwest Shelf Operations project area. This limited the ability to assess rehabilitation in this area and the potential need to establish vegetation monitoring sites.
Experience levels (e.g., degree of expertise in plant identification to taxon level).	**Not a limitation**. The personnel conducting this field survey were all suitably qualified to identify specimens, having previously undertaken multiple flora and weed surveys in both the local area and Pilbara bioregion of Western Australia.

Results

Flora

Vegetation monitoring sites recorded a combined total of 67 vascular plant taxa (64 native and three introduced), representing 52 plant genera and 25 plant families. The majority of taxa recorded represented the Fabaceae (15 taxa), Malvaceae (eight taxa) and Poaceae (seven taxa) families (Appendix B).

Control plots recorded a total of 50 vascular plant taxa (48 native and two introduced) were recorded, representing 42 plant genera and 21 plant families. The majority of taxa recorded represented the Fabaceae (13 taxa), Poaceae (six taxa) and Malvaceae (five taxa) families. Rehabilitation plots recorded a total of 45 vascular plant taxa (42 native and three introduced) were recorded, representing 33 plant genera and 18 plant families. The majority of taxa recorded represented the Fabaceae (11 taxa), Malvaceae (eight taxa) and Amaranthaceae (four taxa) families. Species lists and a species by site matrix are presented in Appendix C and Appendix D respectively.

Broad vegetation complexes

1: Scattered low mixed open shrubland over Triodia spp. hummock grassland on undulating rocky slopes

Control plots recorded a total of 32 vascular plant taxa (31 native and one introduced) were recorded, representing 28 plant genera and 15 plant families. The majority of taxa recorded represented the Fabaceae (nine taxa), Poaceae (five taxa) and Malvaceae (three taxa) families.

Rehabilitation plots recorded a total of 33 vascular plant taxa (31 native and two introduced) were recorded, representing 26 plant genera and 15 plant families. The majority of taxa recorded represented the Fabaceae (eight taxa), Malvaceae (five taxa) and Poaceae (three taxa) families.

2: Low open woodland over Triodia spp. hummock grassland on undulating rocky slopes

Control plots recorded a total of 21 vascular plant taxa (19 native and two introduced) were recorded, representing 20 plant genera and 12 plant families. The majority of taxa recorded represented the Fabaceae (five taxa), Convolvulaceae (three taxa) and Malvaceae (three taxa) families.

Rehabilitation plots recorded a total of 27 vascular plant taxa (25 native and two introduced) were recorded, representing 24 plant genera and 14 plant families. The majority of taxa recorded represented the Fabaceae (seven taxa), Malvaceae (four taxa) and Poaceae (three taxa) families.

3: Eucalyptus victrix mid sparse woodland and mixed low open woodland on drainage

Control plots recorded a total of 29 vascular plant taxa (28 native and one introduced) were recorded, representing 25 plant genera and 13 plant families. The majority of taxa recorded represented the Fabaceae (seven taxa), Malvaceae (five taxa) and Poaceae (four taxa) families.

Rehabilitation plots recorded a total of 31 vascular plant taxa (28 native and three introduced) were recorded, representing 27 plant genera and 14 plant families. The majority of taxa recorded represented the Fabaceae (seven taxa), Malvaceae (seven taxa) and Poaceae (three taxa) families.

Flora of significance

No Threatened flora species listed under the Commonwealth EPBC Act or State BC Act, or Priority flora listed by DBCA were recorded within vegetation monitoring sites.

Introduced (weed) species

A total of three introduced (weed) species were recorded within the vegetation monitoring sites, namely **Aerva javanica*, **Cenchrus ciliaris* and **Malvastrum Americanum* (**Table 6**). **A. javanica* was recorded between 0.02% and 1% cover within all rehabilitation areas, and within site 2 control. **C. ciliaris* was recorded between 0.01% and 18% cover within all rehabilitation and control areas. **M. americanum* was recorded at 0.01% cover within site 3 rehabilitation. Noting wording in completion criteria, weed species did not comprise extensive populations within control plots, an indicator of presence and extent across the broader area.

None of these three weed species are listed as a WoNS or as a Declared Pest (s22(2)) under the BAM Act (Western Australian Organism List, with all species listed as Permitted – s11 (DPIRD 2023c).

**A. javanica*, **C. ciliaris* and **M. americanum* are all listed in the Ecological Impact and Invasiveness Ratings from the DBCA Pilbara Region Species Prioritisation Process (DPaW 2014). This prioritisation process rates weeds based firstly on the ecological impact of species within the region, from low impact (causes minimal disruption to ecological processes or loss of biodiversity) to high (causes acute disruption of ecological processes, dominates and/or significantly alters vegetation structure, composition and function of ecosystems). Secondly it rates the invasiveness of a species based on spread of a weed in native vegetation, encompassing factors of establishment, reproduction and long-distance dispersal (>100 m).

The *Environmental Weed Strategy for WA* (DPaW 2013) assesses, and rates weeds in terms of their environmental impact on biodiversity using the same criteria as those used in the *National Weed Strategy* (ARMCANZ 1997), as follows:

- Very High – Objective is eradication;
- High – Objective is eradication or control to reduce;
- Medium – Objective is control to reduce or containment;
- Low – Objective is containment at key sites only; and
- Negligible – No action to be undertaken but may include monitoring only.

Table 6: Introduced (weed) species recorded within the survey corridor

Species	WoNS	Declared pest rating[1]	Weed species rating[2]		Pilbara environmental weed ranking[3]
			Ecological	Invasiveness	
**Aerva javanica*	No	Permitted – s11	High	Rapid	Low
**Cenchrus ciliaris*	No	Permitted – s11	High	Rapid	Low
**Malvastrum americanum*	No	Permitted – s11	High	Rapid	Negligible

[1]DPIRD 2023c; [2]DPaW (2014): Ecological Impact and Invasiveness Ratings for Pilbara Region Species Prioritisation Process; [3]DPaW (2013): Environmental Weed Strategy for WA.

Fulfillment of completion criteria

Burrup PNI rehabilitation areas satisfied two of the four minimum standards outlined in the completion criteria (**Table 7**). These being: native plant species density (Control: 1.01 ± 0.05 plants/m^2; Rehabilitation: 0.79 ± 0.09 plants/m^2) and native species richness (Control: 17.83 ± 1.08 species/plot; Rehabilitation: 16.17 ± 1.54 species/plot). Native species foliage cover (Control: 71.10 ± 11.96 %/plot; Rehabilitation: 10.36 ± 2.32 %/plot) and weed foliage cover (Control: 0.02 ± 0.01 %/plot; Rehabilitation: 8.21 ± 2.85 %/plot) failed to meet minimum requirements outlined in the completion criteria.

Table 7: Assessment of Burrup PNI rehabilitation against the completion criteria; sites combined.

Aspect	Criterion	Control	Rehabilitation	Pass/Fail
Native Plant Species Density (plants per m^2)	Native plant density equals or exceeds 40% of that of the adjacent control area at 36 months.	1.01 ± 0.05	0.79 ± 0.09	PASS
Native Species Richness (per plot)	Perennial native species richness equals or exceeds 40% of that of the adjacent control area at 36 months.	17.83 ± 1.08	16.17 ± 1.54	PASS
Native Species Foliage Cover (%)	Percentage Foliage Cover of perennial native species indigenous to each plant community is greater than or equal to 40% at 36 months.	71.10 ± 11.96	10.36 ± 2.32	FAIL
Weed Foliage Cover (%)	Foliage Cover of Declared and Environmental Weeds is not greater than that of the adjacent control area at 24 months (excluding extensive populations i.e., buffalo grass and cape weed).	0.02 ± 0.01	8.21 ± 2.85	FAIL

Native plant species density satisfied minimum standards outlined in the completion criteria across all three vegetation complexes (**Table 8**). These being: scattered low mixed open shrubland over *Triodia* spp. hummock grassland on undulating rocky slopes (Control: 0.94 ± 0.02 plants/m^2; Rehabilitation: 1.02 ± 0.05 plants/m^2); low open woodland over *Triodia* spp. hummock grassland on undulating rocky slopes (Control: 1.16 ± 0.01 plants/m^2; Rehabilitation: 0.79 ± 0.06 plants/m^2); and *Eucalyptus victrix* mid sparse woodland and mixed low open woodland on drainage (Control: 0.93 ± <0.01 plants/m^2; Rehabilitation: 0.55 ± 0.12 plants/m^2).

Native species richness satisfied minimum standards outlined in the completion criteria across all three vegetation complexes (**Table 8**). These being: scattered low mixed open shrubland over *Triodia* spp. hummock grassland on undulating rocky slopes (Control: 18.50 ± 0.50 species/plot; Rehabilitation: 19.50 ± 0.47 species/plot); low open woodland over *Triodia* spp. hummock grassland on undulating rocky slopes (Control: 15.00 ± <0.01 species/plot; Rehabilitation: 13.50 ± 0.47 species/plot); and *Eucalyptus victrix* mid sparse woodland and mixed low open woodland on drainage (Control: 20.00 ± 2.00 species/plot; Rehabilitation: 15.50 ± 1.11 species/plot).

Native species foliage cover failed to satisfy minimum standards outlined in the completion criteria across all three vegetation complexes (**Table 8**). These being: scattered low mixed open shrubland over *Triodia* spp. hummock grassland on undulating rocky slopes (Control: 49.84 ± 1.02 %/plot; Rehabilitation: 13.06 ± 0.88 %/plot); low open woodland over *Triodia* spp. hummock grassland on undulating rocky slopes (Control: 54.88 ± 0.94 %/plot; Rehabilitation: 13.68 ± 5.01 %/plot); and *Eucalyptus victrix* mid sparse woodland and mixed low open woodland on drainage (Control: 108.59 ± 0.77 %/plot; Rehabilitation: 4.33 ± 0.46 %/plot).

Weed foliage cover failed to satisfy minimum standards outlined in the completion criteria across all three vegetation complexes **(Table 8**). These being: scattered low mixed open shrubland over *Triodia* spp. hummock grassland on undulating rocky slopes (Control: 0.01 ± <0.01 %/plot; Rehabilitation: 1.55 ± 0.45 %/plot); low open woodland over *Triodia* spp. hummock grassland on undulating rocky slopes (Control: 0.02 ± <0.01 %/plot; Rehabilitation: 16.58 ± 1.48 %/plot); and *Eucalyptus victrix* mid sparse woodland and mixed low open woodland on drainage (Control: 0.03 ± 0.01 %/plot; Rehabilitation: 6.52 ± 1.52 %/plot).

Table 8: Assessment of Burrup PNI rehabilitation against the completion criteria; per vegetation complex.

Broad vegetation complex	Vegetation monitoring site	Native Plant Species Density (plants per m^2)	Native Species Richness (per plot)	Native Species Foliage Cover (%)	Weed Foliage Cover (%)
1. Scattered low mixed open shrubland over *Triodia* spp. hummock grassland on undulating rocky slopes.	ELA01	PASS	PASS	FAIL	FAIL
2. Low open woodland over *Triodia* spp. hummock grassland on undulating rocky slopes.	ELA02	PASS	PASS	FAIL	FAIL
3. *Eucalyptus victrix* mid sparse woodland and mixed low open woodland on drainage.	ELA03	PASS	PASS	FAIL	FAIL

Photo monitoring points

Four photo monitoring points were established along Burrup PNI rehabilitation areas (**Table 9**). Noting issues with access (refer to **Table 5**), photo monitoring points were located at the start (PM-01, facing north), middle (PM-02 facing south and PM—2 facing north) and end (PM-03, facing south).

Table 9: Details of photo monitoring points

Site Identifier	Direction facing	Easting	Northing	Photo
PM-01	North	476097	7720002	

Site Identifier	Direction facing	Easting	Northing	Photo
PM-02	South	476702	7720980	
PM-02	North	476720	7721026	
PM-03	South	476751	7721374	

Discussion and recommendations

Eco Logical Australia (ELA) was engaged by the Australian Gas infrastructure Group (AGIG) to undertake the 2023 revegetation monitoring program for the Pluto-NWS Interconnector Pipeline (PNI). The PNI is approximately 3.6 km steel buried natural gas pipeline located between the Woodside Energy Limited operated Karratha Gas Plant and the Pluto Liquefied Natural Gas plant on the Burrup Peninsula in the Pilbara region of Western Australia. Survey methodology reflected that used for rehabilitation monitoring along the DBNGP (northern sections) and followed objectives and completion criteria outlined in the PNI Construction Environmental Management Plan (AGIG 2019). The current report provided baseline data following establishment of vegetation monitoring sites.

Vegetation monitoring sites were selected in view of pre-impact flora and vegetation studies by Astron (2018), and in-field selection taking into consideration aspects such safety and accessibility. Vegetation communities delineated by Astron (2018) were grouped into three broad vegetation complexes, these being: Scattered low mixed open shrubland over *Triodia* spp. hummock grassland on undulating rocky slopes; Low open woodland over *Triodia* spp. hummock grassland on undulating rocky slopes; and *Eucalyptus victrix* mid sparse woodland and mixed low open woodland on drainage. One vegetation monitoring site was established within each broad vegetation complex. In addition, four photo monitoring sites were established taken at the start (facing north), middle (facing north and south) and end (facing south) of the survey corridor (noting accessibility issues).

No Threatened flora species listed under the Commonwealth EPBC Act or State BC Act, or Priority flora listed by DBCA were recorded within vegetation monitoring sites. Two priority flora species were recorded by Astron (2018) during the pre-impact flora and vegetation survey, namely *Terminalia supranitifolia* (P3) and *Rhynchosia bungarensis* (P4). Further monitoring will determine the capacity of these priority flora to colonise rehabilitation areas.

Three introduced (weed) species were recorded within the vegetation monitoring sites, namely **Aerva javanica*, **Cenchrus ciliaris* and **Malvastrum americanum*. These species are not listed as a WoNS or as a Declared Pest (s22(2)) under the BAM Act (Western Australian Organism List, with all three species listed as Permitted – s11 (DPIRD 2023c). *A. javanica* and **C. ciliaris* both have a low environmental weed ranking, while **M. americanum* has a negligible environmental weed ranking (DPaW 2013). Weed species density and foliage cover was far higher within rehabilitation plots when compared to the controls, with this result primarily driven by the prevalence of **C. ciliaris*.

Burrup PNI rehabilitation areas satisfied two of the four minimum standards outlined in the completion criteria. These being: native plant species density and native species richness. Native species foliage cover and weed foliage cover failed to meet minimum requirements outlined in the completion criteria. Rehabilitation areas followed a similar trend when separated by broad vegetation complexes, with individual areas all satisfying minimum standards for native plant species density and native species richness but failing to meet requirements for native species foliage cover and weed foliage cover.

Native plant density and native species richness within rehabilitation areas performed particularly well, recording comparable values the equivalent controls. Such a result can be partly attributed to the prevalence of disturbance specialist species, particularly within the Fabaceae and Malvaceae families. In addition, contour ripping has served to increase the soil's moisture holding capacity and thus provide a suitable regeneration niche for topsoil-stored seed. Poor native species foliage cover would be

expected for such early phase rehabilitation, and this is likely to gradually improve over time given the robust native species richness and native plant densities recorded.

The following recommendations have been made:

- Continue monitoring to establish a stable and/or positive development trajectory across specified rehabilitation values in view of minimum standards outlined in the completion criteria;
- Undertake targeted weed control within the survey corridor to reduce populations of recorded weed species; and
- The northern section of the survey corridor could not be accessed due to fencing and restriction zones associated with the Woodside Northwest Shelf Operations project area. The facilitation of access to this area by AGIG would be beneficial to enable assessment of rehabilitation values in this area.

References

Agriculture and Resources Management Council of Australia and New Zealand (1997). *The National Weeds Strategy: A Strategic Approach to Weed Problems of National Significance*. Agriculture and Resources Management Council of Australia and New Zealand, Canberra.

Astron Environmental Services Pty Ltd (Astron). 2018. *Burrup Peninsula Interconnector Pipeline Flora and Fauna Survey*. Prepared for DDG Operations Pty Ltd, June 2018.

Australian Gas Infrastructure Group (AGIG). 2019. *Pluto-North West Shelf Interconnector Construction Environmental Management Plan*. Rev B, April 2019.

Beard, J.S. 1975. *The vegetation of the Pilbara area, 1:1,000,000 vegetation series*. University of Western Australia Press, Nedlands, WA.

Bureau of Meteorology (BoM). 2023. *Climate Data Online.* Available: http://www.bom.gov.au/climate/data/. Accessed April 2023.

Department of Agriculture, Water and the Environment (DAWE). 2012. *Australia's bioregions (IBRA)*. Version IBRA7. Available from: https://www.environment.gov.au/land/nrs/science/ibra.

Department of Biodiversity, Conservation and Attractions (DBCA). 2023. *DBCA - Legislated Lands and Waters (DBCA-011).* Available: https://catalogue.data.wa.gov.au/dataset/dbca-legislated-lands-and-waters.

Department of Biodiversity, Conservation and Attractions (DBCA). 2018. *Directory of Important Wetlands in Australia – Western Australia (DBCA-045).* Available from: https://catalogue.data.wa.gov.au/dataset/directory-of-important-wetlands-in-western-australia.

Department of Parks and Wildlife (DPaW). 2013. *Environmental Weed Strategy for Western Australia.* https://www.dpaw.wa.gov.au/images/documents/plants-animals/plants/weeds/environmental_weed_strategy_wa.pdf

Department of Parks and Wildlife (DPaW). 2014. *Pilbara impact and invasiveness ratings*. https://www.dbca.wa.gov.au/management/threats/weeds. Accessed 16th June 2023.

Department of Primary Industries and Regional Development (DPIRD). 2023a. *Soil Landscape Mapping – Systems (DPIRD-064)*. Available from: https://catalogue.data.wa.gov.au/dataset/soil-landscape-mapping-systems.

Department of Primary Industries and Regional Development (DPIRD). 2023b. *Pre-European Vegetation (DPIRD-006)*. Available from: https://catalogue.data.wa.gov.au/dataset/pre-european-dpird-006.

Department of Primary Industries and Regional Development (DPIRD). 2023c. *Western Australian Organism List.* Available from: https://www.agric.wa.gov.au/organisms

Department of Water and Environmental Regulation (DWER). 2021. *Clearing Regulations – Environmentally Sensitive Areas (DWER-046).* Available from: https://catalogue.data.wa.gov.au/dataset/clearing-regulations-environmentally-sensitive-areas-dwer-046.

Department of Water and Environmental Regulation (DWER). 2018. *Hydrography, Linear (Hierarchy) (DWER-031).* Available from: https://catalogue.data.wa.gov.au/dataset/hydrography-linear-hierarchy.

Environmental Protection Authority (EPA). 2016. *Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment*. Perth, Western Australia.

Kendrick, P. and Stanley, F. 2001. Pilbara 4 (PIL4 - Roebourne subregion). In: (CALM (Ed) *A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002*, pp. 581 – 593. Department of Conservation and Land Management, Perth, Western Australia.

Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. 2002. *Native Vegetation in Western Australia – Extent, Type and Status.* Resource Management Technical Report 249, Department of Agriculture, Western Australia.

Thackway, R. and Cresswell, I. D. (Eds). 1995. *An Interim Biogeographic Regionalisation for Australia: a framework for establishing the national system of reserves*, Version 4.0. Australian Nature Conservation Agency, Canberra.

Western Australian Herbarium (WAH). 1998- . *Florabase – the Western Australian flora*. Department of Biodiversity, Conservation and Attractions. Available from: https://florabase.dpaw.wa.gov.au.

Appendix A Location of vegetation monitoring sites

Vegetation monitoring site	Type	Plot	Location of northwest corner		Associated vegetation complex
			mE	mN	
ELA01	Control	Plot 1 (A) Plot 2 (B)	476795	7721344	Scattered low mixed open shrubland over Triodia spp. hummock grassland on undulating rocky slopes.
	Rehabilitation	Plot 1 (A) Plot 2 (B)	476745	7721348	
ELA02	Control	Plot 1 (A) Plot 2 (B)	476556	7720575	Low open woodland over Triodia spp. hummock grassland on undulating rocky slopes.
	Rehabilitation	Plot 1 (A) Plot 2 (B)	476469	7720636	
ELA03	Control	Plot 1 (A) Plot 2 (B)	476133	7720191	Eucalyptus victrix mid sparse woodland and mixed low open woodland on drainage.
	Rehabilitation	Plot 1 (A) Plot 2 (B)	476165	7720155	

Appendix B Flora species list

Family	Species Name	Control	Rehabilitation
Amaranthaceae	**Aerva javanica*	x	x
	Ptilotus exaltatus		x
	Ptilotus fusiformis		x
	Gomphrena cunninghamii		x
Araliaceae	*Trachymene oleracea*		x
Asteraceae	*Pterocaulon* sp.		x
Boraginaceae	*Euploca cunninghamii*		x
	Trichodesma zeylanicum	x	x
Chenopodiaceae	*Rhagodia eremaea*	x	
Cleomaceae	*Arivela viscosa*		x
Commelinaceae	*Commelina ensifolia*	x	
Convolvulaceae	*Evolvulus alsinoides*	x	x
	Ipomoea muelleri	x	x
	Bonamia pilbarensis	x	
Cucurbitaceae	*Cucumis variabilis*	x	x
Cyperaceae	*Cyperus vaginatus*	x	
	Fimbristylis dichotoma	x	
Euphorbiaceae	*Euphorbia biconvexa*	x	x
	Euphorbia tannensis		x
	Euphorbia vaccaria		x
Fabaceae	*Acacia bivenosa*	x	x
	Acacia colei	x	x
	Acacia coriacea	x	
	Acacia synchronicia	x	
	Crotalaria medicaginea	x	x
	Crotalaria novae-hollandiae subsp. *novae-hollandiae*	x	x
	Dichrostachys spicata	x	
	Indigofera colutea		x
	Indigofera linifolia		x
	Indigofera monophylla	x	x
	Rhynchosia minima	x	x
	Senna venusta	x	x
	Swainsona formosa	x	x
	Tephrosia rosea	x	x
	Vigna sp. Hamersley clay (A.A. Mitchell PRP 113)	x	

Family	Species Name	Control	Rehabilitation
Goodeniaceae	*Goodenia lamprosperma*	x	
	Goodenia sp.	x	
	Scaevola spinescens	x	
Malvaceae	**Malvastrum americanum*		x
	Abutilon fraseri	x	x
	Abutilon lepidum	x	x
	Corchorus crozophorifolius		x
	Corchorus trilocularis		x
	Corchorus walcottii	x	x
	Triumfetta appendiculata	x	x
	Triumfetta clementii	x	x
Menispermaceae	*Tinospora smilacina*	x	
Molluginaceae	*Trigastrotheca molluginea*	x	
Myrtaceae	*Corymbia hamersleyana*	x	
	Eucalyptus victrix	x	x
Nyctaginaceae	*Boerhavia coccinea*	x	x
Phyllanthaceae	*Flueggea virosa* subsp. *melanthesoides*	x	
	Nellica maderaspatensis	x	x
	Notoleptopus decaisnei		x
Plantaginaceae	*Stemodia* sp.	x	x
Poaceae	**Cenchrus ciliaris*	x	x
	Cymbopogon ambiguus	x	
	Eriachne mucronata	x	
	Paspalidium tabulatum		x
	Themeda triandra	x	
	Triodia angusta	x	
	Triodia epactia	x	x
Portulacaceae	*Portulaca filifolia*		x
Proteaceae	*Grevillea pyramidalis*	x	
Solanaceae	*Solanum cleistogamum*	x	x
	Solanum sp.		x
Violaceae	*Afrohybanthus aurantiacus*	x	x

Appendix C Species by site matrix

Species	ELA01				ELA02				ELA03			
	Control		Rehabilitation		Control		Rehabilitation		Control		Rehabilitation	
	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)
**Aerva javanica*			x	x		x	x	x				x
**Cenchrus ciliaris*	x		x	x		x	x	x	x		x	x
**Malvastrum americanum*												x
Abutilon fraseri										x	x	
Abutilon lepidum	x	x	x	x	x	x	x		x	x	x	x
Acacia bivenosa			x	x			x	x		x		
Acacia colei		x									x	x
Acacia coriacea									x	x		
Acacia synchronicia		x										
Afrohybanthus aurantiacus	x		x	x	x	x						
Arivela viscosa			x	x			x	x			x	x
Boerhavia coccinea			x	x	x	x	x	x	x		x	x
Bonamia pilbarensis	x	x			x	x						
Commelina ensifolia					x	x			x			
Corchorus crozophorifolius			x	x								
Corchorus trilocularis											x	
Corchorus walcottii	x	x	x	x			x	x	x	x	x	x
Corymbia hamersleyana	x	x							x	x		
Crotalaria medicaginea	x							x				

Species	ELA01				ELA02				ELA03			
	Control		Rehabilitation		Control		Rehabilitation		Control		Rehabilitation	
	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)
Crotalaria novae-hollandiae subsp. *novae-hollandiae*	x		x	x							x	
Cucumis variabilis	x		x	x	x					x	x	x
Cymbopogon ambiguus									x	x		
Cyperus vaginatus									x			
Dichrostachys spicata		x			x					x		
Eriachne mucronata		x										
Eucalyptus victrix									x	x	x	x
Euphorbia biconvexa	x		x	x			x					
Euphorbia tannensis			x				x	x			x	x
Euphorbia vaccaria			x	x								
Euploca cunninghamii	x											
Evolvulus alsinoides	x	x	x	x	x	x	x	x	x		x	x
Fimbristylis dichotoma	x	x			x	x			x			
Flueggea virosa subsp. *melanthesoides*									x			
Gomphrena cunninghamii											x	x
Goodenia lamprosperma	x											
Goodenia sp.	x	x										
Grevillea pyramidalis	x	x			x							
Indigofera colutea				x							x	
Indigofera linifolia				x			x					
Indigofera monophylla	x	x	x	x	x	x	x	x	x	x		x

Species	ELA01				ELA02				ELA03			
	Control		Rehabilitation		Control		Rehabilitation		Control		Rehabilitation	
	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)
Ipomoea muelleri			x	x		x						
Nellica maderaspatensis			x	x			x	x	x	x	x	x
Notoleptopus decaisnei											x	x
Paspalidium tabulatum			x	x			x	x			x	x
Portulaca filifolia			x	x								
Pterocaulon sp.							x					
Ptilotus exaltatus								x			x	
Ptilotus fusiformis			x									
Rhagodia eremaea		x										
Rhynchosia minima	x	x	x	x	x	x	x	x	x	x	x	
Scaevola spinescens									x	x		
Senna venusta	x		x	x			x					
Solanum cleistogamum			x	x			x	x	x		x	x
Solanum sp.				x								
Stemodia sp.	x			x				x				
Swainsona formosa							x			x	x	
Tephrosia rosea	x	x	x	x		x					x	
Themeda triandra		x										
Tinospora smilacina										x		
Trachymene oleracea							x	x			x	
Trichodesma zeylanicum	x	x	x	x	x	x	x	x				x

Species	ELA01				ELA02				ELA03			
	Control		Rehabilitation		Control		Rehabilitation		Control		Rehabilitation	
	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)	Plot 1 (A)	Plot 2 (B)
Trigastrotheca molluginea	x											
Triodia angusta		x							x	x		
Triodia epactia	x	x	x	x	x	x	x	x	x	x	x	x
Triumfetta appendiculata			x	x	x	x	x	x	x	x	x	
Triumfetta clementii	x	x	x	x	x	x	x	x	x		x	x
Vigna sp. Hamersley clay (A.A. Mitchell PRP 113)					x	x			x			

Appendix D Summary of introduced flora (weed) species present

Species	WoNS	Declared pest rating[1]	Pilbara environmental weed ranking[2]	Vegetation monitoring site	Control / Rehabilitation	Plot
**Aerva javanica*	No	Permitted – s11	Low	ELA01	Rehabilitation	Plot 1 (A) Plot 2 (B)
				ELA02	Rehabilitation	Plot 1 (A) Plot 2 (B)
					Control	Plot 2 (B)
				ELA03	Rehabilitation	Plot 2 (B)
**Cenchrus ciliaris*	No	Permitted – s11	Low	ELA01	Rehabilitation	Plot 1 (A) Plot 2 (B)
					Control	Plot 1 (A)
				ELA02	Rehabilitation	Plot 1 (A) Plot 2 (B)
					Control	Plot 2 (B)
				ELA03	Rehabilitation	Plot 1 (A) Plot 2 (B)
					Control	Plot 1 (A)
**Malvastrum americanum*	No	Permitted – s11	Negligible	ELA03	Control	Plot 2 (B)

[1] DPIRD 2023c

[2] DPaW (2013): Environmental Weed Strategy for WA

Appendix E Assessment of individual monitoring sites against minimum standards outlined in approved completion criteria

Site	Native Plant Species Density (plants per m²) Native plant density equals or exceeds 40% of that of the adjacent control area at 36 months			Native Species Richness (per plot) Perennial native species richness equals or exceeds 40% of that of the adjacent control area at 36 months			Native Species Foliage Cover (%) Percentage Foliage Cover of perennial native species indigenous to each plant community is greater than or equal to 40% at 36 months			Weed Foliage Cover (%) Foliage Cover of Declared and Environmental Weeds is not greater than that of the adjacent control area at 24 months (excluding extensive populations i.e., buffalo grass and cape weed)		
	Control	Rehabilitation	Pass (y/n)	Control	Rehabilitation	Pass (y/n)	Control	Rehabilitation	Pass (y/n)	Control	Rehabilitation	Pass (y/n)
ELA01	0.94 ± 0.02	1.02 ± 0.05	y	18.50 ± 0.50	19.50 ± 0.47	y	49.84 ± 1.02	13.06 ± 0.88	n	0.01 ± <0.01	1.55 ± 0.45	n
ELA02	1.16 ± 0.01	0.79 ± 0.06	y	15.00 ± <0.01	13.50 ± 0.47	y	54.88 ± 0.94	13.68 ± 5.01	n	0.02 ± <0.01	16.58 ± 1.48	n
ELA03	0.93±<0.01	0.55 ± 0.12	y	20.00 ± 2.00	15.50 ± 1.11	y	108.59 ± 0.77	4.33 ± 0.46	n	0.03 ± 0.01	6.52 ± 1.52	n
Total	1.01 ± 0.05	0.79 ± 0.09	y	17.83 ± 1.08	16.17 ± 1.54	y	71.10 ± 11.96	10.36 ± 2.32	n	0.02 ± 0.01	8.21 ± 2.85	n

Appendix F Vegetation monitoring site photographs

Vegetation monitoring site	Control / Rehabilitation	Photograph from NW corner of Plot 1 (A)
ELA01	Control	
	Rehabilitation	
ELA02	Control	

Vegetation monitoring site	Control / Rehabilitation	Photograph from NW corner of Plot 1 (A)
	Rehabilitation	
ELA03	Control	
	Rehabilitation	

ecological AUSTRALIA
A TETRA TECH COMPANY

1300 646 131
www.ecoaus.com.au

Appendix F Ministerial Statement 704

Published on: 21 November 2019 Statement No. 1117

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(Environmental Protection Act 1986)

PLUTO NORTH WEST SHELF INTERCONNECTOR PIPELINE

Proposal: Clearing and development for the purpose to construct and operate the Pluto North West Shelf Interconnector (PNI), a 3.3 kilometre (km) long steel buried natural gas pipeline, in the industrialised section of the Burrup Peninsula in the Pilbara Region in Western Australia (WA).

The Project will commence at the Pluto Compressor Station (PCS) within the Dampier Bunbury Natural Gas Pipeline (DBNGP) corridor and connect the Pluto Liquefied Natural Gas (LNG) Plant with the Karratha Gas Plant (KGP).

Proponent: DDG Operations Pty Ltd
Australian Company Number 166 900 170

Proponent Address: Level 6, 12-14 The Esplanade, Perth WA 6000

Assessment Number: 2192

Report of the Environmental Protection Authority: 1639

Pursuant to section 45 of the *Environmental Protection Act 1986,* it has been agreed that the proposal described and documented in Table 1 of Schedule 1 may be implemented and that the implementation of the proposal is subject to the following implementation conditions and procedures:

1 Proposal Implementation

1-1 When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Table 2 of Schedule 1, unless amendments to the proposal and the authorised extent of the proposal have been approved under the EP Act.

2 Contact Details

2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

3-1 The proponent shall not commence implementation of the proposal after five (5) years from the date of this Statement, and any commencement, prior to this date, must be substantial.

3-2 Any commencement of implementation of the proposal, on or before five (5) years from the date of this Statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five (5) years from the date of this Statement.

4 Compliance Reporting

4-1 The proponent shall prepare, and maintain a Compliance Assessment Plan which is submitted to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation of the proposal, whichever is sooner.

4-2 The Compliance Assessment Plan shall indicate:

(1) the frequency of compliance reporting;

(2) the approach and timing of compliance assessments;

(3) the retention of compliance assessments;

(4) the method of reporting of potential non-compliances and corrective actions taken;

(5) the table of contents of Compliance Assessment Reports; and

(6) public availability of Compliance Assessment Reports.

4-3 After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 4-2, the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 4-1.

4-4 The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 4-1 and shall make those reports available when requested by the CEO.

4-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of that non-compliance being known.

4-6 The proponent shall submit to the CEO the first Compliance Assessment Report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then annually from the date of submission of the first Compliance Assessment Report, or as otherwise agreed in writing by the CEO.

The Compliance Assessment Report shall:

(1) be endorsed by the proponent's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer's behalf;

(2) include a statement as to whether the proponent has complied with the conditions;

(3) identify all potential non-compliances and describe corrective and preventative actions taken;

(4) be made publicly available in accordance with the approved Compliance Assessment Plan; and

(5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.

5 Public Availability of Data

5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)), management plans and reports relevant to the assessment of this proposal and implementation of this Statement.

5-2 If any data referred to in condition 5-1 contains particulars of:

(1) a secret formula or process; or

(2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make these data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publicly available.

6 Cultural Heritage Management Plan Implementation

6-1 The proponent shall implement the proposal to meet the following environmental objective:

(1) Avoid, where possible, and minimise direct and indirect impacts so that the proposal does not cause long term impacts on Aboriginal heritage values.

6-2 In order to meet the requirements of condition 6-1, the proponent shall implement the *Pluto - NWS Interconnector Cultural Heritage Management Plan* (version 1, December 2018).

6-3 The proponent shall implement the most recent version of the Cultural Heritage Management Plan which the CEO has confirmed by notice in writing, addresses the requirements of condition 6-1.

6-4 The proponent shall continue to implement the Cultural Heritage Management Plan (version 1, December 2018), or any subsequent revisions as approved by the CEO in condition 6-3, until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 6-1.

7 Construction Environmental Management Plan Implementation

7-1 The proponent shall implement the proposal to meet the following environmental objective:

(1) Avoid, where possible, and minimise direct and indirect impacts as far as practicable to Priority flora; *Terminalia supranitifolia* (P3) and *Rhynchosia bungarensis* (P4).

(2) Avoid, where possible, and minimise direct and indirect impacts as far as practicable to significant fauna; *Dasyurus hallucatus* (Northern Quoll) and *Liasis olivaceus barroni* (Pilbara Olive Python).

7-2 In order to meet the requirements of condition 7-1, the proponent shall implement the *Pluto North West Shelf Interconnector Construction Environmental Management Plan* (Rev B, April 2019).

7-3 The proponent shall implement the most recent version of the Construction Environmental Management Plan which the CEO has confirmed by notice in writing, addresses the requirements of condition 7-1.

7-4 The proponent shall continue to implement the Construction Environmental Management Plan (Rev B, April 2019), or any subsequent revisions as approved by the CEO in condition 7-3, until the CEO has confirmed by notice in writing that the plan meets the objective specified in condition 7-1.

[signed on 21 November 2019]

Hon Stephen Dawson MLC
MINISTER FOR ENVIRONMENT

Schedule 1

Table 1: Summary of the Proposal

Proposal Title	Pluto North West Shelf Interconnector Pipeline
Short Description	Clearing and development for the purpose to construct and operate the Pluto - North West Shelf Interconnector (PNI), a 3.3 kilometre (km) long steel buried natural gas pipeline, in the industrialised section of the Burrup Peninsula in the Pilbara Region in Western Australia (WA). The Project will commence at the Pluto Compressor Station (PCS) within the Dampier Bunbury Natural Gas Pipeline (DBNGP) corridor and connect the Pluto Liquefied Natural Gas (LNG) Plant with the Karratha Gas Plant (KGP).

Table 2: Location and authorised extent of physical and operational elements

Column 1	Column 2	Column 3
Element	**Location**	**Authorised Extent**
Pipeline construction and associated infrastructure	Figure 1	Clearing of no more than 10.69 ha of which 3.26 ha is within the Karratha Gas Plant (KGP) Lease and Buffer Zone Lease and 7.43 ha within Dampier Bunbury Natural Gas Pipeline (DBNGP) Corridor and Dampier facilities area.

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986*, or his delegate.
DBNGP	Dampier Bunbury Natural Gas Plant
EP Act	*Environmental Protection Act 1986*
Ha	Hectare
KGP	Karratha Gas Plant
Km	Kilometre
LNG	Liquefied Natural Gas
NWS	North West Shelf
PCS	Pluto Compressor Station
PNI	Pluto to North West Shelf Interconnector

Figure 1 (attached)

Figure 1 Pluto North West Shelf Interconnector Pipeline Development Envelope and Indicative Footprint

Figure 1: Pluto North West Shelf Interconnector Pipeline development envelope and indicative disturbance footprint

Schedule 2

Co-ordinates defining areas shown in Figure 1 are held by the Department of Water and Environmental Regulation under the following reference number:

- Pluto North West Shelf Interconnector Pipeline Development Envelope and Indicative Footprint – 2019 – 1552445756786

Document Distribution

Rev No.	Copies	Recipient	Date
2	1: Electronic	DWER Compliance Branch	21/02/2024
2	1: Electronic	Melanie Kenny, AGIG	21/02/2024

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
2	A. Wills	A. Winzer	A. Winzer		21/02/2024

www.jbsg.com.au

JBS&G

Adelaide
Kaurna Country | 100 Hutt St,
Adelaide, SA 5000
T: 08 8431 7113

Brisbane
Turrbal/Yuggera Country | Level 37, 123
Eagle Street, Brisbane, QLD 4000
T: 07 3211 5350

Bunbury
Wardandi Noongar Country | 177
Spencer Street Bunbury, WA 6230
T: 08 9792 4797

Canberra
Ngunnawal Country | Level 1, The Realm
18 National Circuit Barton, ACT 2600
T: 02 6198 3278

Darwin
Larrakia Country | Suite G1, Level 1
48-50 Smith Street, Darwin NT 0800
T: 08 8943 0600

Hobart
Muwununa/Nuenon Country | Level 6,
111 Macquarie Street Hobart, TAS 7000
T: 03 6108 9054

Melbourne
Kulin Country | Level 5, 10 Queen
Street, Melbourne, VIC 3000
T: 03 9642 0599

Newcastle
Awabakal/Worimi Country | 61 / 63
Parry Street Newcastle West, NSW 2302
T: 02 8245 0300

Perth
Whadjuk Nyoongar Country | Allendale Square,
Level 9, 77 St Georges Terrace, WA 6000
T: 08 9380 3100

Sydney
Gadigal Country | Level 1, 50
Margaret Street, Sydney, NSW 2000
T: 02 8245 0300

Wollongong
Dharawal Country | Suite 1A, 280 - 286
Keira Street, Wollongong, NSW 2500
T: 02 4225 2647