

Annual Compliance Report Ichthys LNG Project (EPBC 2008/4208): 2022–2023

Report

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Date	11 Oct 2023

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Abbreviations, terms and acronyms

Abbreviation, term or acronym	Meaning
ALR Act	<i>Northern Territory Aboriginal Land Rights Act 1976</i>
AOC	accidentally oily contaminated
COS	Coastal Offset Strategy (X075-AH-STR-0001)
CPF	central processing facility
CCPP	combined cycle power plant
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth; formally the Department of Agriculture, Water and the Environment)
EPBC 2008/4208	the Ichthys LNG Project Commonwealth approval
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
EPL228 (as varied)	The Ichthys LNG environment protection licence issued by the NT EPA to operate the Ichthys LNG facility.
FPSO	floating production, storage and offloading (facility)
GEP	gas export pipeline
Ichthys LNG	the Ichthys LNG onshore plant
INPEX	INPEX Operations Australia Pty Ltd
LDMP	Ichthys Onshore LNG Facilities: Liquid Discharge Management Plan: Operations (L060-AH-PLN-60050)
LDMP Addendum	Onshore Operations Environmental Plan and Liquid Discharge Management Plan: Addendum 1 Firefighting training (L790-AH-PLN-70000)
LNG	liquified natural gas
LPG	liquified petroleum gas
Maintenance DSDMP	Maintenance Dredging and Spoil Disposal Management Plan (L060-AH-PLN-60010)
NATA	National Association of Testing Authorities
NCW	non-contaminated water

Abbreviation, term or acronym	Meaning
Nearshore OPEP	Nearshore Oil Pollution Emergency Plan (X060-AH-PLN-60003)
NLC	Northern Land Council
NT	Northern Territory
NT EPA	Northern Territory Environment Protection Authority
OEMP	Onshore Operations Environmental Management Plan
OSMP	Operational and Scientific Monitoring Program
PFAS	per- and polyfluoroalkyl substance
QA/QC	Quality Assurance and Quality Control
the delegated Operator	INPEX Operations Australia Pty Ltd
the Project	the Ichthys LNG Project
this Compliance Report	Annual Compliance Report Ichthys LNG Project (EPBC 2008/4208): 2022—2023 (0000-AH-REP-70108)
TN	Total nitrogen
TPH	total petroleum hydrocarbons
TRH	total recoverable hydrocarbons
TSS	total suspended solids
cfu/100 mL	colony forming units per 100 millilitres
L	litres
mg/kg	milligram per kilogram
Mt	million tonnes
mV	millivolts
µg/L	micrograms per litre
µg N/L	micrograms of nitrogen per litre
µg P/L	micrograms of phosphorus per litre

Abbreviation, term or acronym	Meaning
μS/cm	microSeimens per centimetre
°C	degrees Celsius
%	percent

1 INTRODUCTION

INPEX Operations Australia Pty Ltd (INPEX) as proponent for the Ichthys LNG Project (the Project), was issued with an approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act; approval EPBC 2008/4208) on 27 June 2011. The EPBC 2008/4208 approval was subsequently amended by variations to conditions 1, 3, 4, 5, 7, 8, 9, 11, 13, 15, 16 and 19 made pursuant to Section 143 of the EPBC Act.

Condition 13 of EPBC 2008/4208 requires INPEX to submit a Compliance Report to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) within 15 months from commencement of operation¹, with each subsequent report submitted within 12 months from the date of the previous report. This is the fifth Compliance Report to be submitted following commencement of operations on 27 July 2018.

Specific Project details are provided in Table 1-1, with an overview and status of activities described in Section 2.

Table 1-1: Ichthys LNG Project details

Item	Project details
EPBC number	EPBC 2008/4208
Project name	Ichthys LNG Project
Approval holder	INPEX Operations Australia Pty Ltd
Approval holder ABN	ABN 48 150 217 262
Approved Action	To develop the Ichthys Field in the Browse Basin to produce liquefied natural gas, liquefied petroleum gas and condensate and including the installation and operation of offshore extraction facilities in Ichthys Field, onshore processing facilities at Bladin Point and 850-935km pipeline from Ichthys Field to Bladin Point, Northern Territory, as described in the referral (EPBC 2008/4208) and the variation to the action dated 11 May 2011.

1.1 Purpose and scope

The purpose of this Compliance Report is to meet the requirements of EPBC 2008/4208 Condition 13 (as varied 27 May 2015), which states:

The person taking the action must submit a Compliance Report detailing compliance with any plan, report, strategy, or program (however described) referred to in relation to this approval. The date of the first Compliance Report must be submitted to the Minister within 15 months from the commencement of operation with each subsequent report submitted within 12 months from the date of the previous report. The Compliance Report must be made publicly available on the person taking the action's Australian website for the operational life of the action.

¹ The Ichthys LNG Project approval (EPBC 2008/4208) defines operations as "the commencement of gas extraction and transfer from subsea wells to the floating liquefied natural gas facility and liquefied natural gas facility and liquefied natural gas tankers". The date reflected is the date the wells were first opened offshore. Onshore operations did not commence until 14 September 2018.

The Compliance Report is not required to include activities conducted within the Commonwealth Marine Area.

The person taking the action may cease complying with Condition 13 if they have written agreement from the Minister.

DCCEEW representatives have advised that the scope of the Compliance Report is limited to the demonstration of compliance with the following EPBC 2008/4208 conditions (as varied) and their associated plans, programs or strategies:

- Condition 1 - Oil Spill Contingency Plan (as varied on 03 February 2015)
- Condition 2 - Operational and Scientific Monitoring Program
- Condition 5 - Decommissioning Management Plan (as varied on 27 May 2015)
- Condition 8 - Liquid Discharge Management Plan (as varied on 03 February 2015)
- Condition 9 - Noise Management Plan (as varied on 06 March 2014)
- Condition 10 - Dredging and Spoil Disposal Management Plan (as varied on 05 April 2013)
- Condition 11 - Offsets (Coastal Offset Strategy) (as varied on 23 June 2021).

This Compliance Report addresses compliance with above conditions and associated plans, programs or strategies during the 27 July 2022 to 26 July 2023 reporting period.

As per EPBC 2008/4208 Condition 13, this report does not address activities occurring in the Commonwealth Marine Area. These activities are regulated by the National Offshore Petroleum Safety and Environment Authority under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* and associated regulations.

1.1.1 Variations to EPBC 2008/4208 approval conditions

No variations to EPBC 2008/4208 approval conditions have been approved during the reporting period.

1.1.2 DCCEEW approved plans or strategies

Table 1-2 provides an overview of relevant DCCEEW approved plans or strategies, which were in effect during the 27 July 2022 to 26 July 2023 reporting period.

Table 1-2: DCCEEW approved plans or strategies

Title	Description
Ichthys Onshore LNG Facilities: Liquid Discharge Management Plan: Operations (LDMP; L060-AH-PLN-60050)	The LDMP describes the measures in place to mitigate the potential environmental effect of liquid discharges associated with onshore Ichthys LNG operations activities. The LDMP (Rev 4) was submitted in accordance with EPBC 2008/4208 Condition 8 and approved on 24 November 2022.
Onshore Operations Environmental Plan and Liquid Discharge Management Plan: Addendum 1 Firefighting Training (LDMP Addendum; L790-AH-PLN-70000)	The LDMP Addendum (Rev 1) was approved by DCCEEW on 23 June 2021. The LDMP Addendum was prepared, in lieu of a full revision to the LDMP, to address the requirement to undertake portable/mobile firefighting training utilising PFAS-free training foam at Ichthys LNG. The Addendum includes a description of the activity and controls and monitoring that will be undertaken. The LDMP Addendum forms part of the approved LDMP. No updates to the LDMP Addendum occurred during the 2022–2023 reporting period.

Title	Description
Nearshore Oil Pollution Emergency Plan (Nearshore OPEP; X060-AH-PLN-60003)	<p>The Nearshore OPEP describes the activities, arrangements, and framework for response to oil spills, which may occur within Northern Territory waters as a result of Ichthys LNG activities (EPBC 2008/4208, Condition 1) and the operational scientific monitoring program (EPBC 2008/4208, Condition 2), which would be implemented in the event of a spill.</p> <p>The Nearshore OPEP (Rev 1) was submitted in accordance with EPBC 2008/4208 Conditions 1 and 2 and was approved by DCCEEW on 23 February 2017. Subsequent to this, the Nearshore OPEP was updated in October 2018 (Rev 2) to incorporate administrative amendments. These amendments did not result in a new or increased risk, and as such was submitted to DCCEEW for information only in accordance with Condition 15.</p> <p>No updates to the Nearshore OPEP occurred during the 2022–2023 reporting period.</p>
Maintenance Dredging and Spoil Disposal Management Plan (Maintenance DSDMP; L060-AH-PLN-60010)	<p>The Maintenance DSDMP describes the measures in place to mitigate impacts associated with maintenance dredging. It allows for a maximum volume of 1.5 Mm³ to be dredged within an approved 5-year period.</p> <p>The Maintenance DSDMP (Rev 1) was submitted in accordance with EPBC 2008/4208 Condition 10 and was approved by DCCEEW on 21 June 2018.</p> <p>No updates to the Maintenance DSDMP occurred during the 2022–2023 reporting period.</p> <p>The Maintenance DSDMP ceased to be in effect as of 31 January 2023.</p>
Coastal Offset Strategy (COS; X075-AH-STR-0001)	<p>The COS provides high-level details of INPEX’s environmental offset programs.</p> <p>The COS (Rev 8) was submitted in accordance with EPBC 2008/4208 Condition 15c and was approved by DCCEEW on 22 July 2021.</p> <p>No updates to the COS occurred during the 2022–2023 reporting period.</p>

2 DESCRIPTION OF ACTIVITIES

2.1 Ichthys Project overview

The Ichthys LNG Project (the Project) is a joint venture between INPEX Operations Australia Pty Ltd (as the delegated Operator), major partner TotalEnergies, and the Australian subsidiaries of CPC Corporation Taiwan, Tokyo Gas, Osaka Gas, Kansai Electric Power, JERA and Toho Gas. Drawing on the hydrocarbon resources of the Ichthys gas and condensate field in the Browse Basin at the western edge of the Timor Sea offshore Western Australia, the Project is expected to produce 9.3 Mt of liquefied natural gas (LNG) and 1.65 Mt of liquefied petroleum gases (LPGs) per annum, along with approximately 100,000 barrels of condensate per day at peak. The Project has an expected operational life of at least 40 years.

The Ichthys Field covers an area of around 800 km² and drilling studies suggest that its hydrocarbon resources are 12.8 trillion cubic feet of sales gas and around 527 million barrels of condensate.

The extraction of natural gas and condensate is carried out via a floating semisubmersible central processing facility (CPF) at the Ichthys Field. This removes water and most of the condensate from the reservoir fluids and the separated condensate is transferred to a floating production, storage and offloading (FPSO) facility moored approximately 3.5 km from the CPF. After further processing on the FPSO, the condensate is exported directly from the field at an average rate of up to 85,000 barrels per day.

The dehydrated gas and the remainder of the condensate is compressed and exported through an approximately 890 km long gas export pipeline (GEP) to the Project's onshore processing plant at Bladin Point in Darwin Harbour in the Northern Territory (NT; see Figure 2-1).

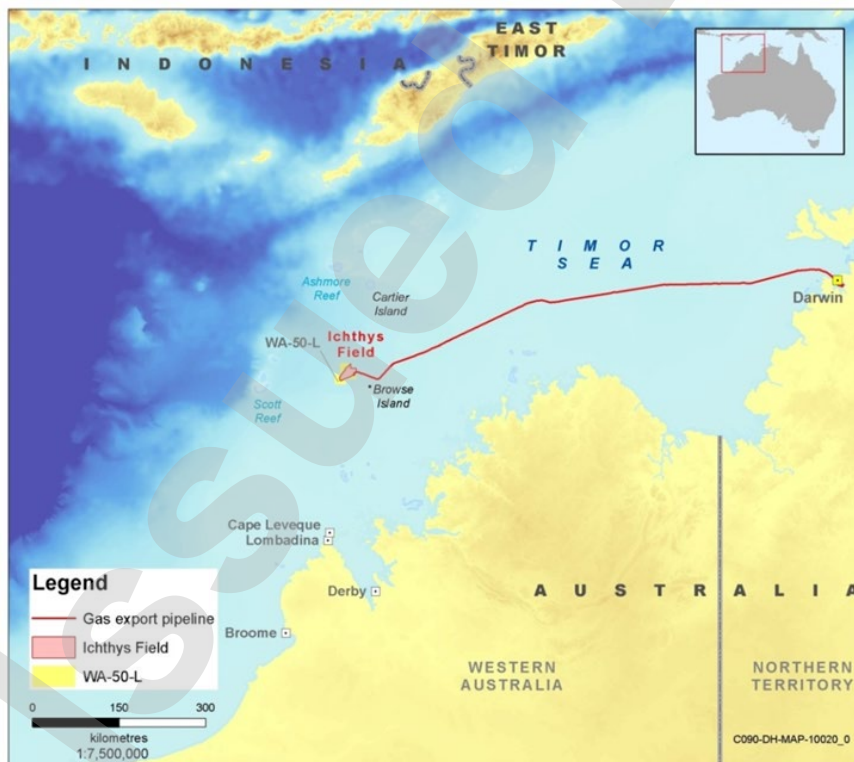


Figure 2-1: Project location

2.2 Current status of activities

Key operations activities undertaken at Ichthys LNG onshore plant (Ichthys LNG) during the reporting period were as follows:

- activities associated with the product (LNG, LPG and condensate) processing, storage, loading and offtake.
- activities associated with routine and shutdown maintenance of the onshore facilities.
- environment monitoring activities.

3 COMPLIANCE WITH EPBC 2008/4208 APPROVAL CONDITIONS

As per the requirements of DoE (2014) the terms and definitions provided in Table 3-1 have been used to indicate the status of compliance with relevant EPBC 2008/4208 approval conditions.

A summary of the compliance status with relevant EPBC 2008/4208 approval conditions (Section 1.1), applicable timeframes and reference to evidence supporting the compliance status (as applicable) is provided in Table 3-3.

Table 3-1: Compliance status terms, acronyms and definitions

Term	Acronym	Definition
Compliant	C	"Compliance" is achieved when all the requirements of a condition have been met, including the implementation of management plans or other measures required by those conditions.
Non-compliant	NC	A designation of "non-compliance" should be given where the requirements of a condition or elements of a condition, including the implementation of management plans and other measures, have not been met.
Not applicable	NA	A designation of "not applicable" should be given where the requirements of a condition or elements of a condition fall outside of the scope of the current reporting period. For example, a condition which applies to activity that has not yet commenced.

3.1 Audit, reviews and exercises

A summary of the audits, reviews and exercises, as relevant to EPBC 2008/4208 conditions, undertaken during the reporting period is provided in Table 3-2. Outcomes of audits as applicable to EPBC 2008/4208 conditions are presented in Table 3-3.

Table 3-2: Summary of audits, reviews and exercises

Audit/review/exercise title	Scope	Date
Annual Onshore Operations Environmental Compliance Audit (External third-party audit – Jacobs on behalf of Northern Territory Environment Protection Authority (NT EPA))	The audit assessed compliance with the Onshore Operations Environmental Management Plan (OEMP; inclusive of liquid discharge management relevant to the LDMP) and NT EPA issued operations environmental protection licence (EPL228 (as varied)).	06 – 08 October 2022
Annual Onshore Operations Environmental Compliance Audit (Internal audit)	The audit assessed compliance with the LDMP.	25 – 27 July 2023

Audit/review/exercise title	Scope	Date
First strike response exercise and training.	Deployment of the oil spill response booms, skimmer and boats for exercise and training purposes. The training involved participants from INPEX, Bhagwan Marine, Response Resource Management and Northern Territory Government officials.	28 June 2023

Table 3-3: EPBC 2008/4208 approval conditions compliance table

Condition No.	Condition	Timing	Status	Evidence/Comments
1.	<p>Oil Spill Contingency Plan</p> <p>The person taking the action must develop and submit to the Minister for approval, an Oil Spill Contingency Plan that demonstrates the response preparedness of the person taking the action for any hydrocarbon spills, including the capacity to respond to a spill and mitigate the environmental impacts on the Commonwealth marine area and listed species habitat within offshore areas and Darwin Harbour. The Plan must include, but is not limited to:</p> <ol style="list-style-type: none"> Oil spill trajectory modelling for potential spills from the action. This should include consideration of a well blow out or uncontrolled release. The modelling should be specific to the characteristics of the hydrocarbons contained in the Ichthys gas field, the likely volumes released in a worst case scenario spill, and the potential time over which the oil may be released in a worst case scenario spill, including a scenario of a minimum eleven (11) week uncontained spill; A description of resources available for use in containing and minimising impacts in the event of a spill and arrangements for accessing them; A demonstrated capacity to respond to a spill at the site, including application of dispersants, if required and appropriate, and measures that can feasibly be applied within the first 12 hours of a spill occurring; Identification of sensitive areas that may be impacted by a potential spill, in particular, Browse Island, specific response measures for those areas and prioritisation of those areas during a response; Details of the insurance arrangements that have been made in respect of paying the costs associated with operational and scientific monitoring, as outlined in the Operational and Scientific Monitoring Program required under condition 2 and repairing any environmental damage arising from potential oil spills, as determined necessary from the results of the Operational and Scientific Monitoring Program; Training of staff in spill response measures and identifying roles and responsibilities of personnel during a spill response; and Procedures for reporting oil spill incidents to the Department. <p>The person taking the action must not commence drilling activities until the Oil Spill Contingency Plan is approved. The approved Oil Spill Contingency Plan must be implemented.</p>	Ongoing	Compliant	<p>During the reporting period there was no oil spill event which triggered the activation of the Plan.</p> <p>An oil spill response training and exercise activity was conducted on 28 June 2022 (Table 3-2). This exercise/training involved the access, mobilisation and deployment of containment boom and skimmer in from there storage location. No adverse findings were reported.</p> <p>Incident Management Team oil spill training courses were conducted 8-10 November 2022, 21-23 March 2023 and 2-4 May 2023. Within the training course there were six oil spill exercises where the participants were competency tested, with 32 participants trained and deemed competent.</p> <p>Insurance arrangements were maintained in accordance with the Insurance Plan described in the Nearshore OPEP during the reporting period.</p> <p>Note, the Nearshore OPEP is still undergoing a comprehensive revision due to the following influences:</p> <ul style="list-style-type: none"> changes to Northern Territory oil spill response regulatory arrangements findings from periodic risk and capability review findings from the level 2 exercise conducted in September 2021 re-structuring to align with other internal oil spill emergency plan arrangements and expectations. <p>Revision to the Nearshore OPEP has been delayed as INPEX is awaiting the finalisation of the Northern Territory oil spill response regulatory arrangements (e.g. confirmation of Control Agency). The plan will be re-issued to DCCEEW for approval once this is finalised.</p>
2.	<p>Operational and Scientific Monitoring Program</p> <p>The person taking the action must develop and submit to the Minister for approval, an Operational and Scientific Monitoring Program that will be implemented in the event of an oil spill to determine the potential extent and ecosystem consequences of such a spill, including, but not limited to:</p> <ol style="list-style-type: none"> Triggers for the initiation and termination of the Operational and Scientific Monitoring Program, including, but not limited to, spill volume, composition, extent, duration and detection of impacts; A description of the studies that will be undertaken to determine the operational response, potential extent of impacts, ecosystem consequences and potential environmental reparations required as a result of the oil spill; 	Ongoing	Compliant	<p>The Operational and Scientific Monitoring Program (OSMP) is incorporated into the Nearshore OPEP, which address the requirements of EPBC 2008/4208 Conditions 1 and 2 (refer above).</p> <p>During the reporting period there were no spill events which required activation of the OSMP. INPEX continues to maintain a contract with an external contractor to ensure OSMP readiness, in the event this is required to be implemented.</p>

Condition No.	Condition	Timing	Status	Evidence/Comments
	<p>c. Details of the insurance arrangements that have been made in respect of paying the costs associated with operational and scientific monitoring, as outlined in the Operational and Scientific Monitoring Program, and repairing any environmental damage arising from potential oil spills, as determined necessary from the results of the Operational and Scientific Monitoring Program;</p> <p>d. Inclusion of sufficient baseline information on the biota and the environment that may be impacted by a potential hydrocarbon spill, to enable an assessment of the impacts of such a spill;</p> <p>e. A strategy to implement the Operational and Scientific Monitoring Program, including timelines for delivery of results and mechanisms for the timely peer review of studies;</p> <p>f. In the event of an oil spill the person taking the action must pay all costs associated with all operational and scientific monitoring undertaken in response to the spill, as outlined in the approved Operational and Scientific Monitoring Program and any environmental remediation determined necessary by the results of the approved Operational and Scientific Monitoring Program; and</p> <p>g. Provision for periodic review of the program.</p> <p>The Operational and Scientific Monitoring Program must be submitted at least three months prior to the commencement of drilling activities.</p> <p>The person taking the action must not commence drilling activities until the Operational and Scientific Monitoring Program is approved. The approved Operational and Scientific Monitoring Program must be implemented.</p>			
5.	<p>Decommissioning Management Plan</p> <p>The person taking the action must submit for the Minister's approval a Decommissioning Management Plan to mitigate the environmental effects of decommissioning the proposal within the Commonwealth marine area. The Decommissioning Management Plan must include a detailed risk assessment to justify leaving any infrastructure on the seafloor of the Commonwealth marine area and must be consistent with any published Commonwealth Government policy or legislation prevailing at the time. Decommissioning cannot commence until the plan is approved. The approved plan must be implemented.</p>	Prior to decommissioning activities	Not applicable	This condition was not applicable during the reporting period.
8.	<p>Liquid Discharge Management Plan</p> <p>The person taking the action must submit for the Minister's approval a Liquid Discharge Management Plan or plans to mitigate the environmental effects of any liquid discharge from the proposal, including sewerage and surface water runoff. The Liquid Discharge Management Plan(s) must be for the protection of the Commonwealth marine area and habitat for listed species in Darwin Harbour and must:</p> <p>a. identify all sources of liquid discharge;</p> <p>b. describe any impacts associated with the discharge of liquids, including the cumulative impacts associated with the discharge of sewerage;</p> <p>c. clearly articulate the objectives of the plan and set measurable targets to demonstrate achievement of these;</p> <p>d. outline measures to avoid impacts;</p> <p>e. where impacts are unavoidable describe why they are unavoidable and measures to minimise impacts;</p>	Ongoing	Compliant	<p>During the reporting period, the following compliance monitoring activities were undertaken:</p> <ul style="list-style-type: none"> monthly commingled treated effluent (in-pipe) monitoring biannual groundwater quality monitoring <p>Results of monitoring programs demonstrate that liquid discharges associated with Ichthys LNG activities have not adversely affected the declared beneficial uses or objectives for Darwin Harbour. A description of the monitoring programs and locations is described in Section 7 of the LDMP, with a summary of the outcomes of each of these monitoring programs provided in Appendix A.</p> <p>There were changes to the frequency of the monitoring programs during the reporting period, in accordance with Revision 4 of the LDMP. These included:</p> <ul style="list-style-type: none"> change of harbour sediment sampling to biennial change in mangrove health and intertidal sediments monitoring to biennial

Condition No.	Condition	Timing	Status	Evidence/Comments
	<p>f. demonstrate how any discharges into Darwin Harbour are consistent with the guidelines for discharges, and the water quality objectives for Darwin Harbour, developed under the National Water Quality Management Strategy;</p> <p>g. identify all regulatory requirements relating to the discharge of liquids and how these will be met;</p> <p>h. include a monitoring regime to determine achievement of objectives and success of measures used;</p> <p>i. outline reporting and auditing arrangements; and</p> <p>j. describe how the plan will apply the principles of adaptive management.</p> <p>The plan(s) must be submitted prior to the commencement of the relevant activity to which they apply. The relevant activity may not commence until the plan is approved. Separate Liquid Discharge Management plans can be submitted for the management of liquid discharges in the Commonwealth Marine Area and Darwin Harbour. The approved plan(s) must be implemented.</p>			<p>To assess compliance with the LDMP both an external audit conducted by a third-party (Jacobs on behalf of the NT EPA) and an internal audit were undertaken during the reporting period (refer to Table 3-2). Non-conformance were recorded where specified commingled treated effluent (in-pipe) discharge limits had been exceeded. Note, in all cases discharge limit exceedances were investigated and corrective actions implemented at the time of the event, in accordance with the LDMP. All exceedances were minor in nature, and did not result in any environmental harm or impact. Appendix A provides a summary of these exceedances.</p> <p>There were no events during the reporting period, which resulted in a material non-compliance with the LDMP or a significant impact to matters of national environmental significance.</p>
9.	<p>Noise Management Plan</p> <p>The person taking the action must submit for the Minister's approval a Noise Management Plan (or multiple plans) to avoid and mitigate the noise impacts on marine fauna associated with construction activities in Darwin Harbour or the Commonwealth marine area. The Noise Management Plan/s must be for the protection of listed species in Darwin Harbour or the Commonwealth marine area (whichever area the construction activities are to be undertaken) and must:</p> <p>a. identify all sources of noise that may adversely impact fauna in Darwin Harbour or the Commonwealth marine area;</p> <p>b. describe any impacts associated with noise generated by pile driving and blasting;</p> <p>c. provide a schedule of expected pile driving and blasting activities;</p> <p>d. clearly articulate the objectives of the plan and set measurable targets to demonstrate achievement of these;</p> <p>e. outline measures to avoid impacts;</p> <p>f. where impacts are unavoidable describe why they are unavoidable and measures to minimise impacts;</p> <p>g. include a monitoring regime to determine achievement of objectives and success of measures used;</p> <p>h. provide for the involvement of an expert panel in the development of the plan and monitoring program required to detect and manage impacts;</p> <p>i. outline reporting and auditing arrangements; and</p> <p>j. describe how the plan will apply the principles of adaptive management.</p> <p>In addition, the person taking the action is not permitted to undertake any blasting unless it can be demonstrated that all prudent and feasible alternatives have been ruled out and the Minister has given specific permission to allow blasting. If permission is granted the person taking the action must not undertake blasting activities for more than 28 days in total, without written approval from the Minister, and must not undertake blasting before sunrise or after sunset on any of these days.</p> <p>The plan/s must be submitted at least three months prior to the commencement of any pile driving or blasting activities to which the plan applies. Pile driving or blasting activities may not commence until the plan is approved. The approved plan must be implemented.</p>	Construction phase	Not applicable	No construction activities requiring a noise management plan occurred during the reporting period.
10.	Dredging and Spoil Disposal Management Plan	Ongoing	Compliant	The approved Maintenance DSDMP is not yet activated, as there has been no requirement for a maintenance dredging campaign since the approval of the plan.

Condition No.	Condition	Timing	Status	Evidence/Comments
	<p>The person taking the action must submit for the Minister's approval a Dredging and Spoil Disposal Management Plan (DSDMP) for the protection of inshore dolphins, marine turtles and Dugong occupying Darwin Harbour. The DSDMP must include, but is not limited to, the following:</p> <ol style="list-style-type: none"> final methodologies for dredging including the method and timing of dredging activities; a schedule for dredging activities; a comparison of dredging methodologies proposed based on potential impacts on dolphins, turtles and Dugongs associated with individual methods, including noise and sediment plumes; justification of the dredging option/s chosen based on best practice at the time; mitigation measures, including measures for each type of dredge to avoid entrapment of marine turtles; methods to prevent, detect and respond to impacts on any number of marine turtles; measures that allow the alteration of dredging activities and/or implement mitigation methods in an adaptive management framework to ensure the protection of turtles, Dugongs and dolphins; the outcomes of hydrodynamic and sediment transport modelling required to predict impacts and finalise the design of the dredging campaign; contingencies to manage dredging if there is a significant departure from predicted impacts; an ecological monitoring program, which must exist either in full within the DSDMP, or as a standalone document (see Note 1 below) that is appropriately referenced in the DSDMP; the involvement of an expert panel in the development of the plan and monitoring program required to detect and manage impacts; and reporting and auditing arrangements. <p>The DSDMP must be submitted at least three months prior to the commencement of dredging. Dredging for which the DSDMP has been prepared must not commence until the DSDMP is approved. The approved DSDMP must be implemented.</p> <p>Note 1: Regarding condition 10(j); if the person taking the action wishes to prepare the ecological monitoring program as a standalone document, then the ecological monitoring program must be approved in writing by the Minister. The approved ecological program must be implemented.</p>			<p>The Maintenance DSDMP ceased to be in effect as of 31 January 2023.</p>
11.	<p>Offsets</p> <p>The person taking the action must submit for the Minister's approval a Coastal Offset Strategy for the protection of listed threatened species and listed migratory species impacted by the proposal in Darwin Harbour. The Coastal Offset Strategy must include:</p> <ol style="list-style-type: none"> High level details on the implementation of the following offsets outlined in the Northern Territory Government's letter to the Acting Secretary of the Department of Sustainability, Environment, Water, Population and Communities dated 23 May 2011, including a commitment and indicative schedule for the development of detailed sub-plans for each offset program <ul style="list-style-type: none"> publication of data collected for the Browse Basin and Kimberley coastline; an integrated monitoring and research program for Darwin Harbour; habitat mapping for Darwin Harbour Region (including Bynoe Harbour); funding of Australian Research Council Linkage projects; 	Ongoing	Compliant	<p>Condition 11a</p> <p>Condition 11a offset programs which have been completed and were reported on in previous Compliance Reports have been excluded from this Compliance Report. The following Condition 11a programs remain ongoing during the 2022/2023 reporting period:</p> <ul style="list-style-type: none"> Darwin Harbour integrated marine monitoring and research program Conservation management of dugongs, cetaceans and threatened marine matters of national environmental significance in the Top End. <p><u>Darwin Harbour integrated marine monitoring and research program</u></p> <p>During the reporting period a number of field activities and reports were completed, including:</p> <ul style="list-style-type: none"> Sediment Monitoring: <ul style="list-style-type: none"> Benthic Sediment Monitoring Plan for Darwin Harbour finalised

Condition No.	Condition	Timing	Status	Evidence/Comments
	<ul style="list-style-type: none"> conservation management of dugongs, cetaceans and threatened marine matters of national environmental significance in the Top End; and research on the conservation status, distribution and habitat use of coastal dolphins. <p>b. Provision for the protection and management, for the life of the project, of approximately 2000 ha of terrestrial vegetation and mangroves, or of an area as otherwise agreed by the Minister;</p> <p>Note 1: Protection can include the acquisition and inclusion of an area in the conservation estate, covenanting arrangements on private land, other formal agreements with private landholders, or permanent changes to management regimes on Crown or Aboriginal land.</p> <p>Note 2: This condition does not limit the provision of these offsets in synergy with any conditions of any other approving party.</p> <p>c. Provision for the protection and management, for the life of the project, of marine habitat for inshore dolphins, marine turtles and Dugong that is preferably, but not necessarily, adjacent to the protected mangrove vegetation.</p> <p>Note 1: Protection can include the acquisition and inclusion of an area in the conservation estate, covenanting arrangements on private land, other formal agreements with private landholders, or changes to management regimes on Crown or Aboriginal land.</p> <p>Note 2: This condition does not limit the provision of these offsets in synergy with any conditions of any other approving party.</p> <p>The Coastal Offset Strategy must include commitments to timeframes and funding arrangements and be made available on the proponent's website. The strategy must be submitted for approval at least three months before construction activities commence in Darwin Harbour. No construction activities may commence in Darwin Harbour until the Coastal Offset Strategy is approved.</p>			<ul style="list-style-type: none"> Baseline sampling and analysis for per- and polyfluoroalkyl substance (PFAS) in Darwin Harbour sediments completed Annual sediment sampling and reporting completed and reported in Darwin Harbour Integrated Marine Monitoring and Research Program Benthic Sediment Monitoring Report 2022-23 and Ambient Per- and Polyfluoroalkyl Substance (PFAS) Study Rod Surface Elevation Table – Marker Horizon monitoring completed Pressure Monitoring: <ul style="list-style-type: none"> 2021/22 report on Anthropogenic Pressures on Darwin Harbour completed. 2022/23 report on Anthropogenic Pressures on Darwin Harbour completed. Report on the association between pressures and stressors in Darwin Harbour completed Mangrove Monitoring: <ul style="list-style-type: none"> Report on Mangrove Health monitoring between 2016 and 2021 completed Annual mangrove health monitoring and report for 2022 completed Darwin Harbour Integrated Monitoring and Research Coordination Committee meetings held 18 Oct 2022 and 20 Apr 2023. <p><u>Conservation management of dugongs, cetaceans and threatened marine matters of national environmental significance in the Top End</u></p> <p>The second year of funding was provided during the reporting period, with applications through the Northern Territory Governments Aboriginal Ranger Grants Program. Following review of applications, the Northern Territory Government awarded four new grants in the reporting period, with ongoing funding also provided to four existing multi-year projects awarded in the previous year. Total grant funding for the reporting period was \$919,730.</p> <p>The four new grants comprised three conservation projects and one capital grant, which are summarised below:</p> <p>New Conservation Projects:</p> <ul style="list-style-type: none"> <i>Drones to identify, count and monitor nesting sea turtles</i> – three year project in which Rangers will be training to undertake routine aerial surveys of significant turtle nesting beaches and other research (e.g. recording nest temperatures). <i>Understanding olive ridley turtle mortality on Tiwi Islands</i> – two year project to monitor olive Ridley turtle nesting and hatching success and mortality patterns at the most significant nesting area for this species in the Northern Territory and be the first survey to quantify the impacts of pig predation at this site. <i>Planning for culturally and ecologically appropriate management of feral pigs on the Tiwi Islands</i> – Two year project aimed at understanding the extent of feral pigs on Tiwi Islands so a management and eradication plan can be developed to reduce their impact on biodiversity values, such as predation of turtle nests. <p>Capital:</p> <ul style="list-style-type: none"> <i>Manufacture and installation of moorings at Junction Bay</i> – manufacture and installation of four moorings to allow rangers to safely secure vessel while undertaking land and sea conservation activities. <p>Condition 11b and 11c</p> <p>During the reporting period, Steps 7-9 were progressed in accordance with Section 4.3 and 4.5 (Table 4-1) of the approved COS. Specifically:</p>

Condition No.	Condition	Timing	Status	Evidence/Comments
				<ul style="list-style-type: none"> • <i>Step 7: Select Terrestrial and Marine Conservation sites</i> – a number of field surveys (land-based, marine and aerial) were undertaken during the reporting period. A proposed conservation area has been identified, which informed the Northern Land Council (NLC) stakeholder consultation process through the <i>Northern Territory Aboriginal Land Rights Act 1976</i> (ALR Act). The proposed conservation area location has been provided to DCCEEW for approval, and this process is ongoing. • <i>Step 8 – Develop Management Plans</i>: Drafting of a Plan of Management and consultations with Traditional Owners, the Northern Territory Government, Bawinanga Rangers and INPEX has commenced and is ongoing. • <i>Step 9 – Establish Legally Binding Agreement with Landowners</i>: Drafts of the covenant (under Section 19 of the ALR Act) and the conservation agreement (under Section 305 of the EPBC Act) have been provided to all parties, and initial comments from Bawinanga Aboriginal Corporation and the NLC (on behalf of Traditional Owners) have been received. <p>In addition, free, prior and informed consent for the conservation area was provided at an on country meeting between Traditional Owners and NLC on 12 July 2023. This consent will now be formalised through the NLC full council meeting in late 2023.</p> <p>Delays to the proposed deadlines in Section 4.3 of the COS have occurred due to Traditional Owner availability, access to country and knock-on effects from COVID restrictions. INPEX continues to proactively work to implement the conservation area in a timely manner. INPEX advised DCCEEW of these delays on 15 August 2023. DCCEEW provided revised, proposed deadlines via email on 30 August 2023 (C075-DEE-IPX-EM-70010). These dates are:</p> <ul style="list-style-type: none"> • Step 7 – 4 to 6 weeks following submission of INPEX letter requesting DCCEEW approval of sites. • Step 8 – December 2023. • Step 9 – March 2024. <p>Project information related to this offset condition is available at https://www.inpex.com.au/projects/ichthys-lng/our-commitments/.</p>

4 REFERENCES

Department of the Environment. 2014. *Annual Compliance Report Guidelines*. Commonwealth of Australia, Canberra, ACT.

DoE—see Department of the Environment

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APPENDIX A: SUMMARY OF OPERATIONS MONITORING PROGRAM RESULTS

A.1 Commingled treated effluent (in-pipe) monitoring

Commingled treated effluent (in-pipe) sampling was undertaken on a monthly basis throughout the reporting period. Where an exceedance was detected, additional sampling was undertaken where this was determined to be required. In addition to routine monthly sampling, ad hoc sampling was undertaken as part of the onsite laboratory National Association of Testing Authorities (NATA) Australia accreditation Quality Assurance and Quality Control (QA/QC) processes.

The results for in-pipe monitoring at sample location 750-SC-003 for the reporting period are presented in Table 4-1. Results that exceeded discharge limits are shown in bold text.

During the reporting period, there were 10 occurrences where wastewater quality was above discharge limits, which are further discussed in Section A.1.1.

Overall, there was generally little variability of the wastewater quality, with the majority of results below discharge limits described in the LDMP. This demonstrates the wastewater treatment systems were operating effectively.

A.1.1 Limit exceedance assessment outcomes

Throughout the reporting period, there were ten discharge limit exceedances (refer to Table 4-1). A summary table of all discharge limit exceedances, including corrective actions is provided in Table 4-2.

In general, the total nitrogen discharge limit exceedances reported in Table 4-2, have been related to maintenance issues associated with chemical dosing pumps and trips of the gas turbine generator equipment. The original manufacturer of the dosing pumps is no longer available which has contributed to the challenges of introducing the proposed replacement pumps.

The main consideration relating to the five faecal coliforms exceedance events has been focusing on the subsequent *Escherichia coli* sample results to ensure ongoing compliance. The faecal coliforms exceedance events have provided a platform to review and improve existing controls measures to ensure *E. coli* mitigation measures are adequate. The primary source of faecal coliforms exceedance(s) has been identified as the accidentally oily contaminated (AOC) holding basin.

Initial corrective actions looked at implementing a chlorine float to mitigate and treat the AOC holding basin; however, subsequent testing identified the issue is intermittent and the introduction of a chlorine float would impact on other EPL228 discharge parameters. The implementation of a chlorine float will not address the source of the exceedance, which is likely to be matter such as weed growth which, following further investigations, is likely to be related to presence of vegetation within the drain system. This will be managed through drain clearance preventative maintenance work. Aligning the testing schedule for AOC basin (L-750-SU-403) and sewage treatment plant (L-750-SU-009) for a period of six months (January - July 2023) has clarified that the *E. coli* parameter exceedance has not been at risk for the sewage treatment plant, despite the exceedance of indicator parameters such as faecal coliforms.

Further clarification was sought from ALS Testing laboratory which provided the following:

"If the client is looking for the best species in the coliform group for faecal indicators, this would be E. coli. The test of faecal coliforms (thermotolerant) does report some species that may not be of faecal origin"

This identifies the challenges in using faecal coliform parameters as an indicator for *E. coli*, which has been experienced during the recent testing period.

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Table A-1: Monthly sampling results for 750-SC-003 (shaded bold values indicate an exceedance)

Date	LIMS Sample ID	pH	Electrical conductivity	Temperature	Turbidity	Dissolved oxygen	TPH as oil & grease	TRH (C6-C10)	TRH (C10-C40)	TSS	BOD	COD	Free Chlorine	Ammonia	Total nitrogen	Total phosphorus	Filterable Reactive Phosphorus	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc	Enterococci	E coli	Faecal coliforms	Anionic surfactants	aMDEA	Glycol (MEG)	Glycol (TEG)
Unit		pH units	µS/cm	°C	NTU	%	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	µg N/L	mg N/L	mg P/L	mg P/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	cfu/100mL	cfu/100mL	cfu/100mL	mg/L	mg/L	mg/L	mg/L
Discharge limit		6-9	n/a	35	n/a	n/a	6	n/a	n/a	10	20	125	2	n/a	10	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100	400	n/a	n/a	n/a	n/a
12/07/2022	L2203006001	8.1	337	23.2	0.5	90	< 1	<20	<100	< 5	6	13	< 0.02	< 2	3	< 0.5	< 0.5	<0.1	<1	2	<1	<0.1	<1	<1	48	20	4	4	0.4	< 5	< 5	< 5
09/08/2022	L2203420001	8.0	156	28.3	1.0	79	3	<20	<100	< 5	<2	14	0.02	< 2	2	< 0.5	< 0.5	<0.1	<1	2	<1	<0.1	<1	<1	136	5	<1	60	<0.1	< 5	< 5	< 5
13/09/2022	L2203978001	8.4	241	30.3	<0.5	87	< 1	<20	<100	< 5	6	11	< 0.02	8	7	0.6	< 0.5	<0.1	<1	2	<1	<0.1	1	<1	281	6	20	92	<0.1	< 5	< 5	< 5
10/10/2022	L2204500001	8.9	369	31.3	2.0	91	< 1	<20	<100	< 5	<2	7	< 0.02	12	12	< 0.5	< 0.5	<0.1	<1	2	<1	<0.1	1	<1	409				<0.1	< 5	< 5	< 5
14/10/2022	L2204570001														4																	
16/10/2022	L2204571001														4																	
20/10/2022	L2204698001																								10	1	2800					
25/10/2022	L2204760001																								<1	<1	<1					
08/11/2022	L2204965001	8.3	330	31.7	2.0	98	< 1	<20	<100	< 5	<2	13	0.04	8	8	< 0.5	< 0.5	<0.1	<1	2	<1	<0.1	2	<1	286	5	13	50	<0.1	< 5	< 5	< 5
14/12/2022	L2205542001	8.8	394	31.1	1.0	92	< 1	<20	<100	< 5	3	11	< 0.02	11	12	< 0.5	< 0.5	<0.1	<1	3	<1	<0.1	3	<1	300	9	11	37000	<0.1	< 5	< 5	< 5
16/12/2022	L2205605001														<2	3																
18/12/2022	L2205606001														<2	<2																
20/12/2022	L2205677001																											8				
10/01/2023	L2300171001	8.8	128	29.8	6.0	105	3	<20	<100	22	4	18	0.03	3	5	< 0.5	< 0.5	<0.1	<1	<1	<1	<0.1	<1	<1	261	3	1	31	<0.1	< 5	< 5	< 5
12/01/2023	L2300229001				2.0					<5																						
14/01/2023	L2300234001				1.5					< 5																						
18/01/2023	L2300236001				1.0					< 5																						
24/01/2023	L2300126001																									40	1500					
08/02/2023	L2300556001																											23				
14/02/2023	L2300676001	8.8	317	30.2	1.0	86	< 1	<20	<100	< 5	<2	15	0.02	13	11	< 0.5	< 0.5	<0.1	<1	2	<1	<0.1	<1	<1	162		4		<0.1	< 5	< 5	< 5
16/02/2023	L2300709001													14	13											<1	4	18				
20/02/2023	L2300808001													17	17																	

Date	LIMS Sample ID	pH	Electrical conductivity	Temperature	Turbidity	Dissolved oxygen	TPH as oil & grease	TRH (C6-C10)	TRH (C10-C40)	TSS	BOD	COD	Free Chlorine	Ammonia	Total nitrogen	Total phosphorus	Filterable Reactive Phosphorus	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc	Enterococci	E coli	Faecal coliforms	Anionic surfactants	aMDEA	Glycol (MEG)	Glycol (TEG)	
24/02/2023	L2300865001													6	6																		
14/03/2023	L2301251001	7.9	426	30.2	2.0	90	< 1	<20	<100	< 5	<2	9	0.04	18	16	< 0.5	< 0.5	<0.1	<1	3	<1	<0.1	2	<1	260	200	44	760	<0.1	< 5	< 5	< 5	
15/03/2023	L2301326001														10																		
18/03/2023	L2301339001													16	16																		
21/03/2023	L2301412001													20	21																		
23/03/2023	L2301413001													< 2	< 2											2	10						
25/03/2023	L2301414001													12	12																		
27/03/2023	L2301579001																									40	980						
28/03/2023	L2301579001													17	18																		
30/03/2023	L2301585001														10																		
04/04/2023	L2301651001														< 2																		
07/04/2023	L2301702001														17																		
11/04/2023	L2301799001	8.3	312	28.2	0.5	88	< 1	<20	<100	< 5	3	14	0.04	6	8	< 0.5	< 0.5	<0.1	<1	3	<1	<0.1	1	<1	481	30	<2	70	<0.1	< 5	< 5	< 5	
09/05/2023	L2302242001	7.9	354	28.0	1.0	79	< 1	<20	<100	< 5	11	15	0.04	3	4	< 0.5	< 0.5	0.1	<1	6	<1	<0.1	1	<1	297	5	1	570	<0.1	< 5	< 5	< 5	
18/05/2023	L2302358001																									5	890						
13/06/2023	L2302816001	8.5	200	27.0	0.5	82	2	<20	<100	< 5	<2	11	0.03	7	8	< 0.5	< 0.5	<0.1	<1	2	<1	<0.1	<1	<1	98	9	2	84	<0.1	< 5	< 5	< 5	

Table A-2: Summary of commingled treated effluent sample point exceedance events

Date sampled	Exceedance reported	Parameter	Result	Limit	Cause and/or contributing factors	Corrective actions																				
10-October -2022	11-October-2022	Total nitrogen (TN)	12 mg/L	10 mg/L	<p>The investigation considered whether the elevated TN was originating from the steam plant within the combined cycle power plant (CCPP), due to the TN comprising mostly of ammonia. Sampling up-stream in the steam plant of the CCPP confirmed the off-specification wastewater was originating from this location. The investigation team subsequently noted, that in late September 2022 (prior to exceedance event) the location of ammonia dosing in the steam system changed from the dosing pumps located at the steam condensate manifolds, to the boiler feedwater manifold. This occurred due to faults on chemical injection pumps located in the condensate manifolds, which required them to be taken offline for maintenance.</p> <p>Following the change in the dosing location, the investigation identified that there was a moderate increase in the amount of ammonia being consumed in the steam system, compared to chemical injection into the condensate manifold. An inspection of the boiler feedwater chemical injection pump subsequently identified that the pump was faulty and overdosing ammonia into the steam system, during a draw down test the dosing rate did not reduce with a reduction of stroke. The change in the ammonia dosing location combined with the impact of the faulty injection pump, resulted in increased TN levels in the wastewater stream being discharged from the CCPP steam system</p>	INPEX was able to undertake a maintenance campaign on all ammonia injection pumps at the site to improve the reliability of the pumps.																				
20-October-2022	24-October -2022	Faecal Coliforms	2,800 CFU/100ml	400 CFU/100ml	<p>A discharge limit exceedance for treated wastewater was detected above the limit specified in column 5 of Table 3 in Appendix 2 of the EPL228. A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Thursday 20 October 2022. The NATA accredited interim testing results issued on Monday 24 October 2022 reported a Faecal Coliform value of 2800 CFU/100mL, which exceeds the discharge limit of 400 CFU/100mL.</p>	<p>INPEX conducted further sampling on 25 October 2022, at both the sewage treatment plant (sample location 750-SC-009) and the combined jetty outfall stream (sample location 750-SC-003). All results from the sampling conducted on 25 October were below the EPL 228 limits for Faecal Coliforms and <i>E. coli</i>.</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th><i>E. coli</i></th> <th>Faecal Coliform</th> <th>Enterococci</th> </tr> </thead> <tbody> <tr> <td>Units</td> <td>cfu/100ml</td> <td>cfu/100ml</td> <td>cfu/100ml</td> </tr> <tr> <td>Discharge Limit</td> <td>100</td> <td>400</td> <td>N/A</td> </tr> <tr> <td>750-SC-009</td> <td>1</td> <td>17</td> <td>3</td> </tr> <tr> <td>750-SC-003</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Parameter	<i>E. coli</i>	Faecal Coliform	Enterococci	Units	cfu/100ml	cfu/100ml	cfu/100ml	Discharge Limit	100	400	N/A	750-SC-009	1	17	3	750-SC-003	1	1	1
Parameter	<i>E. coli</i>	Faecal Coliform	Enterococci																							
Units	cfu/100ml	cfu/100ml	cfu/100ml																							
Discharge Limit	100	400	N/A																							
750-SC-009	1	17	3																							
750-SC-003	1	1	1																							

Date sampled	Exceedance reported	Parameter	Result	Limit	Cause and/or contributing factors	Corrective actions										
					<p>Inspections and a further review of the performance of the sewage treatment plant (including additional sampling) confirmed that the plant is operational and producing on-specification treated effluent. INPEX considers that the Faecal Coliform contamination was likely due to a species of Faecal Coliform (not present in domestic sewage) entering into the combined jetty outfall, most likely via the open drain AOC wastewater system, as both the <i>E. coli</i> and Enterococci levels were very low in the original sample collected on 20 October 2022 (1 and 10 CFU/100mL), both faecal coliform and Enterococci are used as indicators of human faecal contamination which is not the case in this scenario as confirmed by subsequent testing for <i>E. coli</i>.</p>	<p>INPEX considers that there was no risk of environmental harm associated with Faecal Coliform exceedance, as the source of contamination was not originating from the sewage treatment plant, nor were there direct indicators of human domestic sewage contamination (<i>E. coli</i> and Enterococci). Further sampling was unable to verify the Faecal Coliform result from 20 October 2022 or locate a source.</p> <p>No further additional actions are proposed to be undertaken as the treated wastewater is now back in specification, at the jetty outfall and the sewage treatment plant.</p>										
14-December-2022	20-December-2022	Faecal Coliforms	37,000 CFU/100ml	400 CFU/100ml	<p>A discharge limit exceedance for treated wastewater was detected above the limit specified in column 5 of Table 3 in Appendix 2 of the EPL228-05. A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Wednesday 14 December 2022. The NATA accredited interim testing results issued on Tuesday 20 December 2022 reported a Faecal Coliform value of 37,000 CFU/100mL, which exceeds the discharge limit of 400 CFU/100mL. Verification sampling was conducted by an external laboratory verified an <i>E. coli</i> result of 11 CFU/100ml and Enterococci result of 9 CFU/100ml. INPEX considers that the Faecal Coliform and <i>E. coli</i> values should be similar, as <i>E. coli</i> is the predominant species found in Faecal Coliform. The company who operates the sewage treatment plant for INPEX, Permeate Partners, has also been contacted, and the plant is processing effluent with no identified issues, they commented that if the plant was not processing effluent properly then the <i>E. coli</i> values would also be elevated.</p>	<p>INPEX determined that the Faecal Coliform exceedance, 14 December 2022, is considered an inaccurate result, which was unable to be replicated. Inspections and a further review of the performance of the sewage treatment plant (including additional sampling) confirmed that the plant was operational and producing on-specification treated effluent.</p> <p>INPEX considers that the result is inaccurate as the Faecal Coliform is extremely high (37,000 CFU/100mL), compared to both the <i>E. coli</i> and Enterococci levels, which were very low in the original sample collected on 14 December 2022 (11 and 9 CFU/100mL), both <i>E. coli</i> and Enterococci are used as indicators of human faecal contamination. In addition, both the turbidity and total suspended solid (TSS) values were low (1.0 NTU and < 5 mg/L respectively) indicating that there was very little material in the wastewater, for such a high Faecal Coliform result it would be expected that the sample would also return high turbidity and TSS results, which the sample did not.</p> <p>INPEX conducted further sampling on 20 December 2022, at both the sewage treatment plant (sample location 750-SC-009) and the combined jetty outfall stream (sample location 750-SC-003). With results coming within specification.</p> <table border="1" data-bbox="2166 1522 2647 1845"> <thead> <tr> <th>Parameter</th> <th>Faecal Coliform</th> </tr> </thead> <tbody> <tr> <td>Units</td> <td>cfu/100ml</td> </tr> <tr> <td>Discharge Limit</td> <td>400</td> </tr> <tr> <td>750-SC-009</td> <td><1</td> </tr> <tr> <td>750-SC-003</td> <td>8</td> </tr> </tbody> </table>	Parameter	Faecal Coliform	Units	cfu/100ml	Discharge Limit	400	750-SC-009	<1	750-SC-003	8
Parameter	Faecal Coliform															
Units	cfu/100ml															
Discharge Limit	400															
750-SC-009	<1															
750-SC-003	8															

Date sampled	Exceedance reported	Parameter	Result	Limit	Cause and/or contributing factors	Corrective actions
						INPEX considers that there was no risk of environmental harm associated with Faecal Coliform exceedance, as the source of contamination was not originating from the sewage treatment plant, nor were there direct indicators of human domestic sewage contamination (<i>E. coli</i> and Enterococci). Further sampling was unable to verify the Faecal Coliform result from 14 December 2022 or locate a source. The investigation also confirmed that the sample was collected and transported following standard practise, and no cross contamination occurred.
14-December-2022	20-December-2022	TN	12 mg/L	10 mg/L	<p>A discharge limit exceedance for treated wastewater was detected above the limit specified in column 5 of Table 3 in Appendix 2 of the EPL228-05. A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Wednesday 14 December 2022. The NATA accredited interim testing results issued on Wednesday 14 December 2022 reported a TN concentration of 12 mg/L, which exceeds the discharge limit of 10 mg/L.</p> <p>The investigation identified that several of the chemical injection dosing pumps were faulty, resulting in overdosing of ammonia into the system. To reduce the ammonia levels the following occurred:</p> <ul style="list-style-type: none"> • additional service water was added into the system, where possible, upstream of the neutralisation plant; and • the main faulty injection pump (L630-P-904-A) was taken offline, and dosing transferred to the standby injection pump (L630-P-904-B). 	<p>Dosing pump L630-P902-B was repaired and returned back to service. Following the addition of the flush, TN levels returned below the EPL228 limit. Maintenance works associated with the reliability improvement program are continuing and the program was completed Q1 2023.</p> <p>Through the incident investigation, INPEX identified that continued implementation of the reliability improvement program on all ammonia injection pumps at the site to improve the performance of the pumps, through maintenance works and replacement of pumps as an action. .</p>
10-Jan-2023	11-Jan-2023	Total Suspended Solids (TSS)	22 mg/L	10 mg/L	<p>A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Tuesday 10 January 2023. The NATA accredited interim testing results issued on Wednesday 11 January 2023 reported a TSS concentration of 22 mg/L, which exceeds the discharge limit of 10 mg/L. As standard practice, the INPEX laboratory collect a duplicate sample when undertaking the required monthly sampling from location 750-SC-003. The duplicate was collected approximately 15 minutes after the primary TSS sample (following the sample collection protocol) and reported a TSS value of <5 mg/L, which is below the discharge limit of 10 mg/L.</p>	<p>INPEX considers that there was no risk of environmental harm associated with the TSS exceedance, as:</p> <ul style="list-style-type: none"> • Further sampling reported TSS values below the EPL limit. • Any elevated concentration of TSS would have rapidly been dispersed following discharge within the mixing zone (The maximum expected concentration at the boundary of the 50 m mixing zone is ~0.26 mg/L, which is below the Darwin Harbour water quality objective trigger value of 10 mg/L). • Measured concentration is within the range of background concentrations that can occur naturally within Darwin Harbour

Date sampled	Exceedance reported	Parameter	Result	Limit	Cause and/or contributing factors	Corrective actions
24-Jan-2023	3-Feb-2023	Faecal Coliforms	1,500 CFU/100ml	400 CFU/100ml	A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Tuesday 24 January 2023. The NATA accredited testing results issued on Friday 3 February 2023 reported a Faecal Coliform value of 1500 CFU/100mL, which exceeds the discharge limit of 400 CFU/100mL. The sample reported an <i>E. coli</i> result of 40 CFU/100mL, which is below the EPL228-05 limit of 100 CFU/100mL. INPEX considers that the Faecal Coliform and <i>E. coli</i> values should be similar, as <i>E. coli</i> is the predominant species found in Faecal Coliform, in sewage treatment plants. Following the Faecal Coliform exceedance in December 2022, the sampling frequency was increased to fortnightly, sampling conducted on 10 January 2023 reported a Faecal Coliform value of 31 CFU/100mL, which is below the licence limit.	Through the incident investigation, INPEX identified the following actions: <ul style="list-style-type: none"> Initiate a six-month program of monthly sampling from locations upstream of the combined discharge, 750-SC-009 and 750-SU-403 Inlet, with testing for Faecal Coliforms (ongoing at time of writing of report)
14-Feb-2023	14-Feb-2023	TN	11 mg/L	10 mg/L	A discharge limit exceedance for treated wastewater was detected above the limit specified in column 5 of Table 3 in Appendix 2 of the EPL228-05. A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Tuesday 14 February 2023. The NATA accredited interim testing results issued on Tuesday 14 February 2023 reported a TN concentration of 11 mg/L, which exceeds the discharge limit of 10 mg/L.	Through the incident investigation the following actions were identified to prevent reoccurrence: <ul style="list-style-type: none"> The cause was identified as the unplanned trip of the gas turbine generator. A repair has been implemented to prevent the re-occurrence of the event.
14-March-2023	22-March-2023	Faecal Coliforms	760 CFU/100ml	400 CFU/100ml	A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Tuesday March 14 January 2023. The NATA accredited testing results issued on Wednesday 22 March 2023 reported a Faecal Coliform value of 760 CFU/100mL, which exceeds the discharge limit of 400 CFU/100mL. The sample reported an <i>E. coli</i> result of 44 CFU/100mL, which is below the EPL228-05 limit of 100 CFU/100mL. INPEX considers that the Faecal Coliform and <i>E. coli</i> values should be similar, as <i>E. coli</i> is the predominant species found in Faecal Coliform, in sewage treatment plants.	Based on the results of the additional sampling no further actions have been undertaken. The source of contamination is through the AOC drainage system, and not related to domestic sewage. Through the incident investigation, INPEX identified the following actions: <ul style="list-style-type: none"> Investigated if a simple pool chlorine float can be installed in the inlet of the AOC holding basins to treat the water. This suggestion was not implemented due to the additional issues that can be introduced. Following the recent Faecal Coliform exceedances in late 2022 and early 2023, sampling is now occurring of both the treated sewage stream and at the inlet of accidentally oily contaminated holding basin, at the same time as the monthly sample for 750-SC-003.

Date sampled	Exceedance reported	Parameter	Result	Limit	Cause and/or contributing factors	Corrective actions
14-March-2023	16-March-2023	TN	16 mg/L	10 mg/L	A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Tuesday 14 March 2023. The NATA accredited interim testing results issued on Thursday 16 March 2023 reported a TN concentration of 16 mg/L, which exceeds the discharge EPL228-05 limit of 10 mg/L.	Through the incident investigation the following actions were identified to prevent reoccurrence: <ul style="list-style-type: none"> • INPEX to investigate options to reduce the ammonia levels from the CCPP being treated at the neutralisation plant. • Implement a long-term ammonia monitoring program at the CCPP which is yet to be implemented at time of writing of report
9-May-2023	13-May-2023	Faecal Coliforms	570 CFU/100ml	400 CFU/100ml	A sample was taken from the combined jetty outfall discharge line, sampling location 750-SC-003 on Tuesday 9 May 2023. The NATA accredited interim testing results issued on Saturday 13 May 2023 reported a Faecal Coliform value of 570 CFU/100mL, which exceeds the discharge limit of 400 CFU/100mL. The sample reported an <i>E. coli</i> result of 1 CFU/100mL, which is below the EPL228-05 limit of 100 CFU/100mL. INPEX considers that the Faecal Coliform and <i>E. coli</i> values should be similar, as <i>E. coli</i> is the predominant species found in Faecal Coliform, in sewage treatment plants.	Based on the results of the additional sampling already carried out, no further actions have been undertaken. The source of contamination is through the AOC drainage system, and not related to domestic sewage. Through the incident investigation, INPEX identified the following actions: <ul style="list-style-type: none"> • Maintain current additional testing regime currently in place

A.2 Groundwater monitoring

As per the LDMP, two groundwater surveys were completed during the reporting period, in October 2022 (Survey 10) and April 2023 (Survey 11). A high-level summary of groundwater results is provided in the following sections, with data collected during the reporting period provided in Table 4-4. To date, groundwater monitoring during the operations phase of Ichthys LNG shows that there has been no change in groundwater quality.

Survey 10: October 2022

Thirty-one exceedances against both the trigger and background concentrations were recorded in the tenth groundwater monitoring event in October 2022. Exceedances include one for pH, 17 for nutrients and 13 for dissolved metals. No exceedances were recorded for hydrocarbons. This is less than the 47 exceedances recorded during the eighth groundwater monitoring event undertaken during October 2021.

All exceedances have been compared to data recorded during the dry season months of May to October between May 2016 and October 2021 using Mann-Kendall trend analysis.

A single exceedance of pH was recorded during the October 2022 monitoring event (VWP341). Whilst historic data indicates that pH fluctuates at VWP341, a decreasing trend in pH is apparent at this bore.

Visual assessment of time plotted data indicates that several of the nutrient analyte exceedances represent short-term spikes, potentially related to seasonal environmental variables, rather than increasing trends. Visual assessment of time plotted data has confirmed the following trends identified by the Mann-Kendall analysis for nutrient exceedances:

- Ammonia: Increasing trends at BPGW40, BPGW41 and VWP341.

Visual assessment of time plotted data for metal exceedances has confirmed the following trends that were also identified by the Mann-Kendall analysis:

- Arsenic: increasing trend at BPGW08
- Cobalt: Increasing trend at BPGW40 and VWP341
- Zinc: Increasing trend at VWP341.

The following historical maximum values were recorded during the October 2022 monitoring event:

- Phosphorus at BPGW18 (850 µg/L)
- Cadmium at BPGW08A (1.1 µg/L)
- Cobalt at BPGW07 (38 µg/L), BPGW08A (77 µg/L) and VWP341 (112 µg/L)
- Nickel at BPGW09 (17 µg/L)
- Zinc at VWP341 (145 µg/L).

Results of the investigation into each of the exceedances are described below.

Survey 11: April 2023

Thirty-two exceedances against both the trigger and background concentrations were recorded in the eleventh groundwater monitoring event in April 2023. Exceedances include five for pH, 13 for nutrients and 14 for dissolved metals. No exceedances were recorded for hydrocarbons and mercury.

The five pH exceedance recorded during the eleventh groundwater monitoring event represent an increase from the one trigger exceedance recorded during the April 2022 monitoring event. Overall, April 2023 monitoring event results showed a slight increase in pH (i.e. less acidic) across all sites when compared to April 2022.

A review of the 13 nutrient exceedances from April 2023 monitoring event found that six of the exceedances were consecutive for at least three surveys. Trend analysis completed by the monitoring contractor indicates:

- Ammonia:
 - Increasing trends for ammonia at VWP341, BPGW40 and BPGW41
 - Fluctuating trends for ammonia at BPGW20, BPGW27A and BPGW28
- Nitrogen: Fluctuating long-term trend for total nitrogen at BPGW40 and BPGW41
- Oxides of nitrogen: Consistent fluctuating trend of oxides of nitrogen, with concentrations increasing in the wet season and decreasing in the dry season at BPGW38A.
- Phosphorus: Stable and short-term spike in phosphorus concentrations at BPGW40, BPGW41 and VWP328.

Trend analysis of the 14 metals exceedances completed by the monitoring contractor indicates that:

- Arsenic: Increasing long-term trend at BPGW09 and VWP328.
- Cobalt: Stable but fluctuating at BPGW26; and increasing trend at WVP328, BPGW40 and VWP341.
- Zinc: Increasing trend at VWP341.
- Copper: Increasing trend at BPGW07.
- Manganese: Short-term spike at VWP341 and fluctuation at BPGW09.
- Nickel: Stable overall but fluctuate at VWP341.
- Zinc: Fluctuations at BPGW07 and VWP341 and short-term spike in concentrations at BPGW28.

The following historical maximum values were recorded during the April 2023 monitoring event:

- Cobalt (6.6 µg/L) and manganese (673 µg/L) at BPGW09
- Cobalt (1.6 µg/L) and FRP (11 µg/L) at BPGW40
- Cobalt (146 µg/L) at VWP341
- Nitrogen (500 µg/L) at BPGW26.

Results of the investigation into each of the exceedances are described below.

Trigger assessment outcomes

In accordance with the receiving environment adaptive management process outlined in Section 7.4 of the LDMP, groundwater trigger exceedances were investigated. A summary of the number of trigger exceedances by survey is provided in Table 4-3.

Investigation for all trigger exceedances using multiple lines of evidence concluded that the reported trigger exceedances were likely natural (e.g. represent seasonal trends and natural variability) and no further evaluation or management response was required.

Table A-3: Summary of groundwater trigger exceedances

Date	Month	Physio-chemical	Nutrients	Metals
Survey 10 [†]	Oct	1	17	13
Survey 11 [†]	April	5	13	14

[†] Includes multiple technical trigger exceedances, which occurred as a result of samples being analysed to limit of reporting higher than those required for the monitoring program, as well trigger exceedances resulting from the relative percentage difference of QA/QC samples above the performance criteria of <30%.

Table A-4: 2022-2023 LDMP Monitoring Period Groundwater Monitoring Results

Monitoring Round	Location	Sampled Date-Time	Ammonia as N	Nitrogen (Total)	Oxides of Nitrogen	Phosphate total (P)	Reactive Phosphorus as P	TSS	TDS	Aluminium (Filtered)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (hexavalent) (Filtered)	Chromium (Trivalent) (Filtered)	Cobalt (Filtered)	Copper (Filtered)	Lead (Filtered)	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Silver (Filtered)	Vanadium (Filtered)	Zinc (Filtered)	Benzene	Ethylbenzene	Toluene	Xylene Total	TRH C6-C40	Biological oxygen demand (BOD)	E. coli	Dissolved Oxygen (%)	EC (field)	pH (Field)	Redox	Temp
Units	n/a	n/a	mg/l																								MPN/100mL	% sat	uS/cm	pH_Units	mV	°C			
Operations Survey 10	BPGW01	24/10/2022	0.02	1.4	1.25	17	<0.01	-	103	0.02	<0.001	0.0004	<0.01	<0.01	<0.001	<0.001	<0.001	0.051	<0.0001	0.002	<0.001	<0.01	0.018	<1	<2	<2	<2	<100	-	-	-	360	4.82	5.7	31.1
	BPGW07	24/10/2022	0.35	<1	0.06	22	0.01	-	64,800	<0.1	0.016	<0.001	<0.01	<0.01	0.038	<0.01	<0.01	1.29	<0.0001	0.024	<0.01	<0.1	0.073	<1	<2	<2	<2	<100	-	-	-	143,777	4.47	5.4	31.0
	BPGW08A	24/10/2022	0.35	<0.5	0.01	15	0.03	-	17,800	0.22	<0.01	0.0011	<0.01	<0.01	0.077	<0.01	<0.01	6.28	<0.0001	0.043	<0.01	<0.1	0.092	<1	<2	<2	<2	<100	-	-	-	43,462	3.65	0.7	31.5
	BPGW09	24/10/2022	0.31	3.8	<0.1	24	<0.01	-	89,400	<0.1	0.051	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	0.37	<0.0001	0.017	<0.01	<0.1	<0.05	<1	<2	<2	<2	<100	-	-	-	182,567	4.95	9.9	31.2
	BPGW18	26/10/2022	0.8	<1	<0.1	50	<0.01	-	55,700	<0.1	0.015	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	0.081	<0.0001	<0.01	<0.01	<0.1	<0.05	<1	<2	<2	<2	<100	-	-	0.82	87,460	6.24	-242.0	30.3
	BPGW19A	25/10/2022	1.62	2.5	<0.01	44	<0.05	-	47,300	<0.1	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	0.024	<0.0001	<0.01	<0.01	<0.1	<0.05	<1	<2	<2	<2	<100	1.3	<1	1.44	78,804	6.00	-90.8	32.0
	BPGW20	26/10/2022	0.12	0.1	<0.01	5	<0.01	-	597	<0.01	0.002	<0.0001	<0.01	<0.01	0.001	<0.001	<0.001	0.026	<0.0001	0.001	<0.001	<0.01	0.006	<1	<2	<2	<2	<100	-	-	1.48	1,415	5.59	-218.0	33.0
	BPGW26	25/10/2022	0.32	0.3	<0.01	6	<0.01	-	6620	0.02	0.004	<0.0001	<0.01	<0.01	0.007	<0.001	<0.001	2.34	<0.0001	0.001	<0.001	<0.01	0.006	<1	<2	<2	<2	<100	-	-	1.21	14,010	5.40	-65.2	31.9
	BPGW27A	25/10/2022	0.26	0.3	<0.01	12	<0.01	-	1360	<0.01	<0.001	<0.0001	<0.01	<0.01	0.002	<0.001	<0.001	0.023	<0.0001	<0.001	<0.001	<0.01	0.008	<1	<2	<2	<2	<100	1.3	<1	1.62	2,960	5.17	-81.1	33.8
	BPGW28	26/10/2022	0.96	<1	<0.01	38	<0.01	-	82,200	<0.1	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	<0.0001	<0.01	<0.01	<0.1	<0.05	<1	<2	<2	<2	<100	-	-	1.25	123,785	6.57	-180.5	30.8
	BPGW38A	26/10/2022	0.11	0.2	0.01	5	0.01	-	1310	<0.01	<0.001	0.0038	<0.01	<0.01	<0.001	<0.001	<0.001	0.028	<0.0001	0.002	<0.001	<0.01	0.006	<1	<2	<2	<2	<100	-	-	2.83	2,775	6.01	-169.8	31.8
	BPGW40	25/10/2022	0.27	0.7	<0.01	6	<0.05	-	3070	<0.01	0.006	<0.0001	<0.01	<0.01	0.001	<0.001	<0.001	0.154	<0.0001	<0.001	<0.001	<0.01	0.005	<1	<2	<2	<2	<100	-	-	1.91	6,269	5.94	-90.9	30.6
	BPGW41	25/10/2022	0.56	<1	<0.01	13	<0.05	-	13,500	<0.01	0.004	<0.0001	<0.01	<0.01	<0.001	<0.001	<0.001	0.017	<0.0001	<0.001	<0.001	<0.01	<0.005	<1	<2	<2	<2	<100	-	-	1.31	24,944	6.40	-88.9	30.1
	VWP328	26/10/2022	0.04	<1	<0.1	47	<0.01	-	74,900	<0.1	0.47	<0.001	<0.01	<0.01	0.022	<0.01	<0.01	0.489	<0.0001	<0.01	<0.01	<0.1	<0.05	<1	<2	<2	<2	<100	-	-	3.22	111,778	6.06	-197.8	31.4
VWP341	25/10/2022	0.4	0.6	<0.01	<5.0	<0.01	-	1910	0.02	0.005	<0.0001	<0.01	<0.01	0.112	<0.001	<0.001	1.56	<0.0001	0.014	<0.001	<0.01	0.145	<1	<2	<2	<2	<100	-	-	1.84	4,046	5.16	-105.2	32.7	
Operations Survey 11	BPGW01	18/04/2023	0.023	0.163	<0.002	14	-	-	0.015	0.0042	<0.00005	<0.01 [^]	0.25	0.0033	<0.0005	0.0012	0.232	<0.00004	0.0009	<0.0001	<0.0002	0.013	<1	<2	<2	<2	<100	-	-	2.4	134.5	5.00	132.2	29.2	
	BPGW07	18/04/2023	0.035	0.723	0.046	26	-	-	0.007	0.0174	0.0004	0.002	0.5	0.0236	0.003	0.0021	0.987	<0.00004	0.0263	<0.0001	<0.0005	0.059	<1	<2	<2	<2	<100	-	-	10.7	85,805	5.69	81.4	30.6	
	BPGW08A	18/04/2023	0.083	0.132	<0.002	18	<0.01	-	2,640	<0.005	0.0296	<0.00005	<0.001	0.25	0.0453	<0.0005	0.0001	2.93	<0.00004	0.0187	<0.0001	<0.0002	0.011	<1	<2	<2	<2	<100	-	-	2.0	4,592	5.62	-12.1	31.3
	BPGW09	18/04/2023	<0.005	0.344	<0.002	26	-	-	0.005	0.0837	<0.0002	<0.001	0.5	0.0066	<0.001	0.001	0.673	<0.00004	0.0025	<0.0001	<0.0005	0.013	<1	<2	<2	<2	<100	-	-	270.2	6.15	-20.0	30.5		
	BPGW18	20/04/2023	0.501	0.672	<0.02	80	0.006	42	-	<0.005	0.0109	<0.0002	0.004	0.25	<0.0002	<0.001	<0.0002	0.0787	<0.0001	<0.0005	<0.0001	0.0007	0.011	<1	<2	<2	<2	<100	-	-	3.4	71,689	6.27	-30.3	29.5
	BPGW19A	20/04/2023	1.14	1.11	<0.02	<5.0	0.01	55	-	0.006	0.006	<0.0002	0.003	0.6	<0.0002	<0.001	<0.0002	0.0545	<0.0001	<0.0005	<0.0001	0.0031	0.007	<1	<2	<2	<2	<100	<1	<1	2.8	72,758	6.26	-38.3	30.6
	BPGW20	20/04/2023	0.111	<0.25	<0.02	<5.0	0.002	<5	-	<0.005	0.0017	<0.0002	<0.001	0.25	0.0015	<0.001	<0.0002	0.0252	<0.0001	0.0008	<0.0001	<0.0005	0.007	<1	<2	<2	<2	<100	-	-	2.3	1,041	5.47	43.2	32.7
	BPGW26	19/04/2023	0.24	0.5	<0.02	5	<0.01	-	5,110	0.006	0.0037	<0.0002	<0.01	0.25	0.0087	<0.001	<0.0002	3.01	<0.0001	0.001	<0.0001	<0.0005	0.005	<1	<2	<2	<2	<100	-	-	2.3	9,266	5.74	73.0	31.3
	BPGW27A	19/04/2023	0.292	0.329	<0.02	<5.0	0.003	-	1,430	<0.005	0.001	<0.0002	<0.001	0.25	0.0019	<0.001	<0.0002	0.0274	<0.0001	<0.0005	<0.0001	<0.0005	<0.005	<1	<2	<2	<2	<100	<1	<1	3.6	2,588	5.46	77.4	33.4
	BPGW28	20/04/2023	0.861	0.924	0.02	20	<0.001	57	-	<0.005	0.0033	<0.0002	0.002	0.25	<0.0002	<0.001	<0.0002	0.18	<0.0001	<0.0005	<0.0001	0.0006	0.019	<1	<2	<2	<2	<100	-	-	22.8	104,847	6.58	-51.6	30.5
	BPGW38A	19/04/2023	0.005	0.346	0.367	<5.0	0.005	-	200	<0.005	<0.0005	<0.0002	<0.001	24	<0.0002	<0.001	<0.0002	<0.0005	<0.0001	<0.0005	<0.0001	<0.0005	<0.005	<1	<2	<2	<2	<100	-	-	45.2	326.5	6.31	91.1	31.6
	BPGW40	19/04/2023	0.441	0.471	<0.02	8	0.011	-	2,370	<0.005	0.0018	<0.0002	<0.001	0.25	0.0016	<0.001	<0.0002	0.148	<0.0001	<0.0005	<0.0001	<0.0005	<0.005	<1	<2	<2	<2	<100	-	-	2.4	3,949	6.29	-25.1	30.4
	BPGW41	19/04/2023	0.67	0.735	<0.002	14	0.014	-	13,400	<0.005	0.0013	<0.0002	<0.001	0.6	<0.0002	<0.001	<0.0002	0.0187	<0.0001	<0.0005	<0.0001	<0.0005	<0.005	<1	<2	<2	<2	<100	-	-	2.3	20,610	6.86	-68.0	29.8
	VWP328	20/04/2023	0.359	<0.5 [^]	<0.02	14	0.011	684	-	<0.005	0.61	<0.0002	<0.001	0.25	0.0248	<0.001	<0.0002	0.413	<0.0001	0.0043	<0.0001	<0.0005	0.011	<1	<2	<2	<2	<100	-	-	3.0	93,072	5.99	-2.1	30.4
VWP341	18/04/2023	0.65	<1.25 [^]	<0.002	5	-	-	-	0.016	0.0053	<0.00005	<0.001	0.25	0.146	<0.0005	0.0003	2.13	<0.00004	0.0152	<0.0001	0.0004	0.171	<1	<2	<2	<2	<100	-	-	3.1	3,074	5.21	54.9	32.3	

Document Endorsement and Approvals

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Document Identification

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Document Revision History

Revision	Date and Time	Issue Reason

Delegation of Authority

From Name	To Name	Date and Time	Action

Name	Title

Electronic Endorsement and Approval

Electronic approval of this document complies with the issued INPEX Electronic Approval Standard (0000-A9-STD-60011) and records evidence that the applicable person has either endorsed and/or approved the content contained within this document. The reviewers of this document are recorded in the CDS.

Name	Title	Date and Time	Action
Jamie Carle	Environmental Support T	12/10/23 12:40	Endorser
Jake Prout	Environmental Operator	12/10/23 14:01	Endorser
Chris Serginson	Manager Environment	12/10/23 14:17	Approver