

ENVIRONMENT PROTECTION APPROVAL

(Pursuant to section 34 of the *Waste Management and Pollution Control Act*)

Approval Details

Approval Number: **EPA7-6**
Commencement Date: 19 April 2012
Amendment Date: 24 January 2017
Expiry Date: 31 December 2017

Approval Holder

Legal Entity Name: Ichthys LNG Pty Ltd
ABN: 42 150 217 299
ACN: 150 217 299
Registered Business Address: Level 22, 100 St Georges Terrace, Perth WA 6000
Postal Address: Level 22, 100 St Georges Terrace, Perth WA 6000
Contact Person: Sandy Griffin
Position Title: Team Lead Environmental Approvals
Contact Details: (08) 6213 6860
mobile: 0417 286 356
email: Sandy.Griffin@inpx.com.au

Location of Premises

Address: NT Portion 07002, 144 Wickham Point Road, Wickham NT 0822.
Section 1901 and Section 1896, Hundred of Ayers, Wickham NT 0822.
1000 Channel Island Rd, Wickham NT, 0822.
Telephone Numbers: (08) 8924 3200
mobile: 0418 237 232

24 hour emergency response

Contact Person: Duty Manager
mobile: 0418 237 232

Approved activity

Constructing, installing and carrying out works in relation to premises for processing hydrocarbons so as to produce, store and despatch liquefied natural gas or methanol pursuant to Schedule 2, Part 1 (3) of the Act.

Being the activity described in INPEX, Ichthys Project, Ichthys Onshore LNG Facilities Construction Environmental Management Plan (Company document L092-AH-PLN-10001).

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INFORMATION ABOUT THIS APPROVAL

Definitions of Terms

- A section on the definition of terms used in this Approval can be found at the end of the Approval.
- Terms used in this Approval which are defined in the *Waste Management and Pollution Control Act* (WMPC Act) have the meaning given in that Act unless specifically indicated otherwise.

Responsibilities of Approval Holder

- It is an offence under the Act, for the Approval Holder to contravene or fail to comply with the conditions of their environment protection approval.
- In addition to the conditions set out in this Approval, general responsibilities of Approval Holders are set out in the Act and Regulations and the *Water Act*. Approval holders must comply at all times with the requirements of these Acts and all other applicable laws.
- Without limiting the conditions of this Approval, in conducting the approved activity, the Approval Holder must do all things reasonable and practicable to:
 - prevent or minimise the likelihood of pollution occurring as a result of, or in connection with, the Activity;
 - prevent or minimise the likelihood of environmental harm occurring as a result of, or in connection with, the Activity;
 - effectively respond to pollution and the risk of pollution occurring as a result of, or in connection with, the Activity;
 - effectively respond to environmental harm and the risk of environmental harm occurring as a result of or in connection with the Activity; and
 - as far as practicable:
 - avoid and reduce waste produced as a result of, or in connection with the Activity;
 - increase the re-use and recycling of waste;
 - effectively manage waste disposal; and
 - apply the principles of ecologically sustainable development.

Amendment or Revocation of Approval (section 37 of the WMPCA)

- The Approval Holder can apply to vary the conditions of this Approval.
- Fees apply and an application form for this purpose is available from the NT EPA website.
- The issuing authority may also vary licenses as set out in section 38 of the Act.

Transfer of Approval (section 46 of the WMPCA)

- The Approval Holder can apply to transfer this Approval to another person.
- Fees apply and an application form for this purpose is available from the NT EPA website.

Duration of Approval (section 41 of the WMPCA)

- This Approval will remain in force until its expiry date, or until a licence comes into force in relation the premises, whichever occurs first.
- An Approval Holder may apply for an extension or reduction to the duration of the Approval.

Public Register

- A copy of this Approval and any plans for environmental management provided in accordance with a

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condition of this Approval will be placed on a register in accordance with section 9 of the Act.

- The register is publicly available for viewing on the NT EPA website.
- A copy of the Annual Return will also be placed on the register.

Supporting Guidelines and Documents

This Approval has been developed based on the information provided by the Approval Holder in the following documentation:

- Application for Environment Protection Approval dated 15 November 2011 - INPEX Ichthys Project, Ichthys Onshore LNG Facilities Construction Environmental Management Plan Company Doc. No. L290-AH-PLN-0059;
- Report, Third Party Review Project Ichthys CEMP, 7 March 2012;
- Department of Natural Resources, Environment, The Arts and Sports, Environment Assessment Report 65, Ichthys Gas Field Development Project, Blaydin Point, INPEX Browse Ltd, Environmental Assessment Report and Recommendations by the Environment and Heritage Division, NRETAS, May 2011;
- Northern Territory of Australia, Development Permit DP12/0065, Section 01890 and Section 01814 Hundred of Ayers, 1000 Channel Island Road, Wickham and 1232 Channel Island Road, Wickham, and Adjacent Crown Land and Adjacent section of Darwin Harbour;
- Northern Territory of Australia Development Permit DP13/0501, Section 01890 and Section 01901 Hundred of Ayers, Wickham, NT 0822;
- INPEX Operations Australia Pty Ltd, application to amend Condition 10 of EPA7-2 dated 8 May 2014;
- INPEX Operations Australia Pty Ltd, application to amend Condition 7 of EPA7-3 dated 10 May 2016; and
- INPEX Operations Australia Pty Ltd, application to amend EPA7-4 dated 5 August 2016, inclusive of Supporting Information – Application to Amend EPA7-4 to Allow for Use of the Jetty Outfall During Commissioning (INPEX Document ID L070-AH-REP-10002).

Environment Protection Objectives (Part 4 of the WMPCA)

An Environment Protection Objective (EPO) is a statutory instrument to establish principles on which:

- a) environmental quality is to be maintained, enhanced, managed or protected;
- b) pollution, or environmental harm resulting from pollution, is to be assessed, prevented, reduced, controlled, rectified or cleaned up; and
- c) effective water management is to be implemented or evaluated.

In accordance with section 18 of the WMPC Act a beneficial use, quality standard, criteria or objective declared under section 73 of the *Water Act* and in force is an environment protection objective for the purposes of the WMPC Act. The following EPOs are relevant to this Approval:

- Declaration of Beneficial Uses and Objectives, Darwin Harbour Region, Northern Territory Government Gazette No. G27, 7 July 2010.
- Declaration of Beneficial Uses and Objectives, Elizabeth-Howard Rivers Region Groundwater, Northern Territory Government Gazette No. G27, 7 July 2010.

Environmental Interests

Sensitivity of the surrounding land use and environment associated with the location of the approved activity that represents an interest to the Northern Territory Government and the community, includes:

- Darwin Harbour and catchment as a Site of Conservation Significance, SOCS Number 6, (NT Parks and Conservation Masterplan Map Number 12).

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RULES FOR INTERPRETING THE CONDITIONS OF THIS APPROVAL

- Where there is a discrepancy between the conditions of this Approval and any plan, standard, guideline or other document referenced in this Approval, the conditions of this Approval prevail to the extent of the inconsistency.
- Any reference to any standard (Australian or international) in this Approval means the relevant parts of the current version of that standard.
- A reference to any guideline or code of practice (or to the relevant parts of any guideline or code of practice) in this Approval means the current version of the guideline or code of practice.
- Under section 39 of the Act, any contravention or failure to comply with this Approval by the Approval Holder may be an offence.
- In this Approval, unless the contrary intention appears, words that are defined in the Act are intended to have the meaning given to them in that Act.

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APPROVAL CONDITIONS

Administrative

1. The Approval Holder must notify the NT EPA within 24 hours if there is a change to the details of the 24 hour emergency contact as provided on page one of this Approval.
2. The Approval Holder must notify the NT EPA within 14 days if there is a change to the Approval Holder details as provided on page one of this Approval.
3. The Approval Holder must cause clear and legible signage to be displayed in a prominent location at the primary road entrance to the premises including the following details:
 - 3.1. Environment Protection Approval number issued under the *Waste Management and Pollution Control Act*; and
 - 3.2. The 24 hour emergency contact.
4. The Approval Holder must cause a copy of this approval to be available at all times:
 - 4.1. on the Approval Holder's Australian website; and
 - 4.2. at the premises.
5. All notices, reports, documents or other correspondence required to be provided as a condition of this Approval, unless otherwise specified as a condition of this approval, must be provided in electronic form to the NT EPA using waste@nt.gov.au.
6. The NT EPA may require the Approval Holder to revise or amend and resubmit any amended document. Where the NT EPA requires a document to be resubmitted the date for resubmission will be specified and will become a condition of this Approval.

Operational

7. The Approval Holder must at a minimum:
 - 7.1. implement and comply with INPEX, Ichthys Project, *Ichthys Onshore LNG Facilities Construction Environmental Management Plan*, Company document number L092-AH-PLN-10001, (CEMP);
 - 7.2. comply with all applicable laws; and
 - 7.3. comply with all permits and approvals issued in relation to the activity.
8. The Approval Holder must, without limiting any other condition of this approval, in conducting the activity, do all things reasonable and practicable to ensure the activity does not adversely affect the Declared Beneficial Uses and Objectives as declared from time to time, including those applying to:
 - 8.1. the Elizabeth-Howard Rivers Region Groundwater; and
 - 8.2. the Darwin Harbour Region.
9. The Approval Holder must cause a copy of the current CEMP to be:
 - 9.1. available on the approval holder's Australian website; and
 - 9.2. provided to the NT EPA.

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10. The Approval Holder must, for any works not addressed in the approved CEMP or Associated Application, if those works will or may cause or increase the potential for environmental harm, such as by increase in emissions or discharge:
 - 10.1. revise the CEMP, or prepare an Addendum to the CEMP;
 - 10.2. have the revised CEMP or CEMP Addendum reviewed and endorsed by a qualified person; and
 - 10.3. submit the revised CEMP or CEMP Addendum, with a copy of the qualified person's certified review, to the NT EPA at least 30 business days prior to implementation of the works.
11. The Approval Holder must submit a revised copy of the CEMP to the NT EPA within 10 business days of a typographical revision, where the revision has only included document formatting, correction of typographical errors or inclusion of reference to other documents where that revision does not trigger condition 10.
12. The Approval Holder must maintain and operate a 24 hour community telephone contact number and must ensure that the telephone number is provided:
 - 12.1. in a prominent location on the Approval Holder's Australian website; and
 - 12.2. in other publicly available documents relating to the activity.
13. The Approval Holder must maintain a log of all complaints made, in relation to the activity, to any persons involved in the activity. The log must be retained for the duration of this Approval and must include details of the following:
 - 13.1. the date and time of the complaint;
 - 13.2. the contact details of the complainant if known, or where no details are provided a note to that effect;
 - 13.3. the nature of the complaint;
 - 13.4. the nature of events giving rise to the complaint;
 - 13.5. prevailing weather conditions at the time of the complaint;
 - 13.6. the action taken in relation to the complaint, including any investigation or follow-up contact with the complainant; and
 - 13.7. if no action was taken, why no action was taken.
14. The Approval Holder must maintain a log of events causing or threatening to cause pollution including, but not limited to, fires, accidental spillages and discharges to Darwin Harbour.
15. The Approval Holder must segregate waste for recycling, reuse or disposal.
16. The Approval Holder must keep records of listed waste in accordance with Regulation 11 of the *Waste Management and Pollution Control (Administration) Regulations*.

Environmental Audit(s)

17. An annual environmental audit must be undertaken by a qualified person to evaluate compliance with:
 - 17.1. this Approval;
 - 17.2. the *Waste Management and Pollution Control Act*; and
 - 17.3. the *Water Act*.
18. The proposed scope for the environmental audit must be submitted, no later than 20 Business days prior to the proposed commencement date of the environmental audit (which must be specified when the proposed scope is submitted), to the NT EPA for review and approval.

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19. The environmental audit must not commence until written approval is received from the NT EPA noting that the NT EPA may require the Approval Holder to revise, amend or resubmit the proposed scope.
20. The environmental audit report must be:
 - 20.1. completed within two calendar months of receipt of approval from the NT EPA unless otherwise agreed;
 - 20.2. signed by the qualified person conducting the audit; and
 - 20.3. provided in full to the NT EPA within five Business Days of being signed by the qualified person conducting the audit.

Monitoring

21. The Approval Holder must implement the Environmental Impact Monitoring Program for the Ichthys On-Shore LNG Facilities (company document L290-AH-PLN-10013, the Monitoring Program).
22. The Approval Holder must ensure that any proposed revisions to the Monitoring Program are:
 - 22.1. reviewed by a suitably qualified professional, who must produce a written report about their review; and
 - 22.2. submitted to the NT EPA, in both hard copy and electronic form with a complete copy of the qualified professional's written review, 20 business days prior to the proposed implementation date.

Reporting

23. The Approval Holder must as soon as practicable, and in any case within 24 hours, after first becoming aware notify the NT EPA of non-compliances, that are not trivial or negligible, with this Approval.
24. Records must be kept of all non-compliances, including those assessed as trivial or negligible, with this Approval.
25. The Approval Holder must comply with the requirements of section 14 of the *Waste Management and Pollution Control Act*.
26. The Approval Holder must immediately and in any case within 24 hours notify the NT EPA of any potential or actual environmental harm or pollution by contacting the Pollution Hotline on telephone number 1800 064 567 and emailing pollution@nt.gov.au.
27. The Approval Holder must complete an Annual Return and provide the Annual Return report to the NT EPA by 19 June for each year of this approval unless otherwise agreed.
28. The Approval Holder must submit a monitoring report to the NT EPA by 31 July for each year of this Approval unless otherwise agreed.

The monitoring report must:

 - 28.1. include a trend analysis and interpretation of analytical data collected as a condition of this Approval; and
 - 28.2. be made available on the Approval Holder's Australian website.

Discharges

29. This Approval authorises discharge to Darwin Harbour from the authorised discharge point identified in Table 1 and Appendix 1.

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Table 1: Authorised Discharge Location

Authorised Discharge Point	Description	Central Location Coordinates of the Diffuser Outlets	
		Latitude	Longitude
Jetty Outfall Diffuser	Outfall pipe about 20 m long, with four diffuser ports approximately 5 m apart, angled upwards by 30° from horizontal, at a minimum depth of - 11 m relative to Lowest Astronomical Tide.	-12.51006	130.90855

30. The Approval Holder must monitor the quality of wastewater discharges at the wastewater source and at the receiving environment monitoring sites at the frequency specified in Table 2 for the water quality parameters specified in Appendix 2.

Table 2: Receiving environment monitoring sites

Name of Monitoring Location	Latitude	Longitude	Frequency	
			Before commissioning of treatment systems	After commissioning of treatment system (commissioned system)
WASTEWATER SOURCE	varied	varied	once per discharge event	monthly
JETTY01 ¹	-12.51048	130.90858	once per discharge event	monthly
JETTY02 ¹	-12.51028	130.90809	once per discharge event	monthly
JETTY03 ¹	-12.51002	130.90909	once per discharge event	monthly
JETTYEAST ²	-12.51013	130.91003	once per discharge event	monthly
JETTYWEST ²	-12.51063	130.90732	once per discharge event	monthly

¹ receiving environment at edge of mixing zone.

² receiving environment upstream or downstream of mixing zone, depending on tidal phase.

31. The Approval Holder must ensure that wastewater discharged from the Authorised Discharge Point does not cause the median value of each of the water quality parameters measured at the edge of the mixing zone during each sampling event, to exceed the receiving environment trigger values specified in Appendix 2:

31.1. on three consecutive occasions and the exceedance is not also present in the upstream reference site, on the same three consecutive occasions; or

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- 31.2. a single occasion where the measured value exceeds the trigger value greater than or equal to two times the trigger.
- 32. The Approval Holder must use visual and/or qualitative observations to ensure that discharge from the Authorised Discharge Point does not:
 - 32.1. contain any debris, oil, grease, petroleum hydrocarbon sheen, scum, litter or other objectionable matter;
 - 32.2. cause or generate odours which would adversely affect the use of surrounding waters;
 - 32.3. cause algal blooms in the receiving water;
 - 32.4. cause a visible change in the behaviour of fish or other aquatic organisms in the receiving water;
 - 32.5. cause mortality of fish or other aquatic organisms;
 - 32.6. cause adverse impacts on plants.
- 33. The Approval Holder must ensure all samples collected in connection with the activity or this Approval, are obtained by, or under the supervision of a qualified sampler.
- 34. The Approval Holder must ensure that all water samples and field environmental data are representative of the conditions at the time of sampling and are collected in accordance with recognised Australian Standards and guidelines (e.g. AS/NZS 5667, ANZECC/ARMCANZ).
- 35. The Approval Holder must ensure that, for each water sample collected in accordance with this Approval, the following information must be recorded and retained:
 - 35.1. the date on which the sample was collected;
 - 35.2. the time at which the sample was collected;
 - 35.3. the location at which the sample was collected;
 - 35.4. the name of the person who collected the sample;
 - 35.5. the chain of custody forms relating to the sample;
 - 35.6. the field measurements and analytical results relating to the sample; and
 - 35.7. laboratory quality assurance and quality control documentation.
- 36. The Approval Holder must keep records of all exceedances of trigger values specified in Appendix 2. These records must be adequate to enable the Approval Holder to comply with the exceedance, non-compliance and environmental harm notification conditions of this Approval.

Verification of Outfall Diffuser

- 37. Prior to use of the Jetty Outfall Diffuser, the Approval Holder must carry out a study to verify that observed dilution of the discharge is consistent with modelled predictions within the mixing zone illustrated in Appendix 1.
- 38. The Approval Holder must carry out an outfall diffuser verification study:
 - 38.1. to confirm with field data collected during conservative tidal conditions, that dilution in the mixing zone is equal to or better than model predictions; and

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- 38.2. to demonstrate that, for all the parameters specified in the basis of design for the considered system, the water quality trigger values specified in Appendix 2 will be met at the edge of the mixing zone.
39. If a tracer other than electrical conductivity is required for verifying the modelled dilution predictions, then the Approval Holder must provide notice to the NT EPA, Harbour Master and community prior to implementing the field studies.
40. The approval holder must receive written acknowledgement of receipt of notification from the NT EPA prior to commencing any field tracer study other than an electrical conductivity study.

END OF APPROVAL CONDITIONS

This Approval is not valid unless signed below:



Dr Paul Vogel

Chair, Delegate of the NT EPA

24 January 2017

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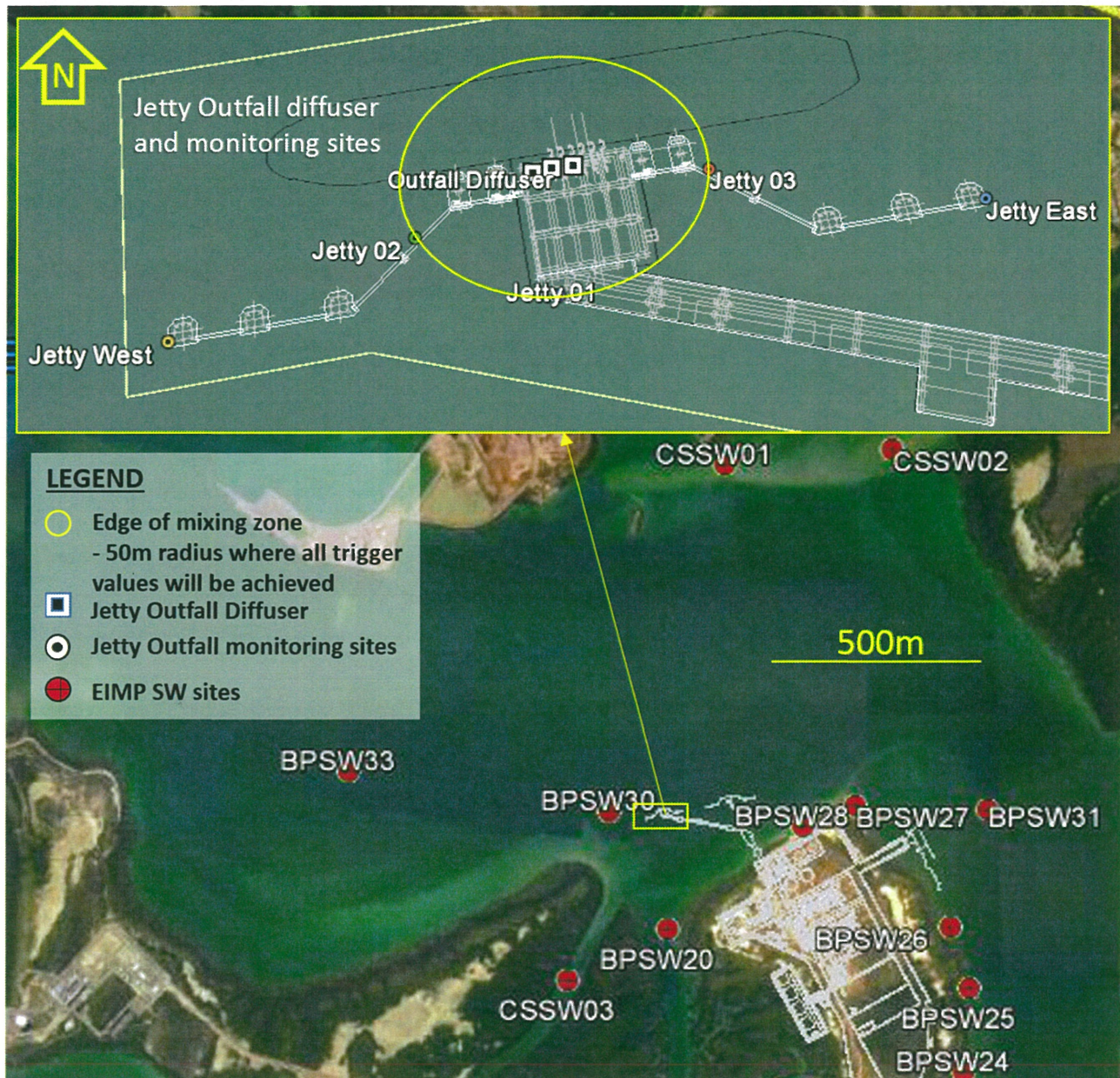
DEFINITIONS

All terms used in this Approval which are defined in the *Waste Management and Pollution Control Act* have the meaning given in that Act unless otherwise or further defined in this section

Act	means the <i>Waste Management and Pollution Control Act</i> of the Northern Territory.
Activity	means the activity approved under this Approval described as the Approved activity on page 2 of this Approval. This definition does not in any way limit the meaning of the term given in the Act.
Annual Return	means an NT EPA prescribed format for demonstrating and reporting compliance with the conditions of this licence and providing information on waste volumes for the preceding 12 month period. Annual Return forms are located on the NT EPA website (https://ntepa.nt.gov.au/waste-pollution/approvals-licences).
Associated application	means "INPEX Ichthys <i>Project Supporting Information – Application to Amend EPA7-4 to Allow for Use of the Jetty Outfall During Commissioning</i> . INPEX Document L070-AH-REP-10002".
Approval	means an Approval granted and in force under the Act.
Business Day	means a day not Saturday, Sunday or a public holiday.
Beneficial Use	means the uses of water specified in subsection (3) of the <i>Water Act</i> .
Environment audit	includes but is not limited to the meaning as described in Part 6 of the Act.
Mixing zone	Means the area in which dilution will be achieved such that the water quality objectives specified in this Approval will be met, nominally defined as a 50 m radius from the jetty outfall.
NT EPA	means the Northern Territory Environment Protection Authority.
Qualified person	means a person included on the register established and maintained pursuant to section 68 of the Act, with suitable experience in the matter being assessed.
Qualified professional	means a person who has professional training and experience in the design of monitoring programs that can detect adverse impacts to the environment if there are any adverse impacts.
Qualified sampler	means a person who has been suitably trained and has suitable experience obtaining quality controlled environmental samples from the relevant environmental medium.
Records	any written information as requested as a condition of this Approval. Any logs, registers or other documents.
Site of Conservation Significance	means any site listed at http://irm.nt.gov.au/plants-and-animals/conservation-for-land-managers/sites-of-conservation-significance/list
Wastewater source	the location where a sample is collected for monitoring or analysis, which provides representative water quality of the wastewater being proposed for discharge. The location of the source is identified in the Dewatering Permit evidence supplied for each discharge event. The Dewatering Permit is part of the <i>JKC Wastewater Discharge Procedure</i> , which is a subordinate document to the CEMP. Wastewater includes all water types identified in the CEMP

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APPENDIX 1 – Authorised Discharge Point and Receiving Water Discharge Monitoring Locations



Sample Location	Description	Easting	Northing	Longitude	Latitude
Jetty 01	Receiving environment at edge of mixing zone	707402.178	8616249.542	130.90858	-12.51048
Jetty 02	Receiving environment at edge of mixing zone	707349.095	8616272.602	130.90809	-12.51028
Jetty 03	Receiving environment at edge of mixing zone	707457.840	8616299.012	130.90909	-12.51002
Jetty East	Reference site	707560.157	8616286.068	130.91003	-12.51013
Jetty West	Reference site	707264.949	8616233.464	130.90732	-12.51063

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APPENDIX 2 - Monitoring Program and Water Quality Trigger Values

Water Quality Parameters to be Measured	Detection Method	Unit	Trigger Value at Receiving Environment Monitoring Locations ¹
pH ²	in situ	pH units	outside the range of 6.0 to 8.5
Turbidity ²	in situ	NTU	20
Total Suspended Solids	laboratory	mg/L	10
Oil and grease ²	observation	-	no visible sheen or emulsion, no odour
Iron floc and scum ²	observation	-	no visible
Floating matter/litter ²	observation	-	no visible
Dissolved Oxygen	in situ	%	Outside the range of 80 to 100
Temperature	in situ	°C	± 3 from ambient
Chlorine (free) ³	in situ	µg/L	20
Aluminium	laboratory	µg/L	24
Arsenic	laboratory	µg/L	2.3
Cadmium	laboratory	µg/L	0.7
Chromium III	laboratory	µg/L	10
Chromium VI	laboratory	µg/L	4.4
Cobalt	laboratory	µg/L	1
Copper	laboratory	µg/L	1.3
Lead	laboratory	µg/L	4.4
Manganese	laboratory	µg/L	390
Mercury	laboratory	µg/L	0.1
Nickel	laboratory	µg/L	7
Silver	laboratory	µg/L	1.4
Vanadium	laboratory	µg/L	100
Zinc	laboratory	µg/L	15
Ammonia	laboratory	µg N/L	20
Oxides of Nitrogen (Nitrate + Nitrite)	laboratory	µg N/L	20
Total Nitrogen	laboratory	µg N/L	300
Total Phosphorus	laboratory	µg P/L	30
Filterable Reactive Phosphorus	laboratory	µg P/L	10
<i>Enterococci</i>	laboratory	cfu/100mL	50

¹ A trigger for investigation occurs when the median value of the three receiving environment sites from water samples collected on the same day exceeds (or as otherwise stated) the trigger value listed in Appendix 2. A non-compliance is defined in condition 31.

² Parameters applicable for stormwater and non-contaminated potable water which is actively discharged via the jetty outfall.

³ Measurement of chlorine only applies if wastewater has been shock dosed with chlorine and does not include potable water treatment.

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Water Quality Parameters to be Measured	Detection Method	Unit	Trigger Value at Receiving Environment Monitoring Locations ¹
Chlorophyll-a	laboratory	µg/L	4
Benzene	laboratory	µg/L	500
Ethylbenzene	laboratory	µg/L	5
Toluene	laboratory	µg/L	110
Xylene	laboratory	µg/L	75
Naphthalene	laboratory	µg/L	50
TPH/TRH ⁴	laboratory	µg/L	LOR ⁵

⁴ The analytical method used is by Gas Chromatography-FID method. If TRH is detected over the prescribed limits, a silica gel clean-up to be undertaken and samples re-analysed to remove false positive from natural, normally occurring hydrocarbons

⁵ Below level of standard laboratory level of reporting. Advice from analytical laboratories regarding the limit of reporting (LOR) for TPH/TRH for receiving environment surface waters outside of the Site Project boundary shows significant variability, depending on the method used and the chain length of the hydrocarbons analysed and will range between 100 to 500 µg/L.

