



23 December 2025

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Northern Territory Environment Protection Authority: [NTEPA@nt.gov.au](mailto:NTEPA@nt.gov.au)

To Whom it May Concern,

## **RE: Referral of the Ichthys LNG AGRU Upgrades and CCS Preparedness Project**

1. The Environment Centre NT (ECNT) is the peak community sector environment organisation in the Northern Territory of Australia, raising awareness amongst community, government, business, and industry about environmental issues, assisting people to reduce their environmental impact, and supporting community members to participate in decision-making processes and action.

2. We refer to the Invitation for Public Comment published on 25 November 2025 with respect to the referral made by Ichthys LNG Pty Ltd (Inpex) for the Ichthys LNG AGRU Upgrades and CCS Preparedness Project (the **CCS preparedness project**) including:

- A referral form;
- The referral report;
- Appendix A: Preliminary assessment of potential to impact environmental factors or values;
- Appendix B: protected matters search and likelihood of occurrence assessment;
- Appendix c: stakeholder engagement plan
- Appendix E: construction and commissioning environment management plan
- Appendix F: Noise and vibration monitoring study
- Additional information requested by the regulator

(together, **the Referral**).

### **Summary of the proposal**

3. The proponent is seeking to undertake a range of works at the site of the Ichthys LNG facility at Middle Arm. These works include upgrading the existing acid gas removal units (AGRUs) to improve their capability to separate CO<sub>2</sub> from reservoir feed gas, as well as installing the following infrastructure:

- modularised equipment to upgrade the two existing AGRUs
- CO<sub>2</sub> compressor modules (including auxiliary vents)
- an in-plant section of CO<sub>2</sub> export pipeline, export metering, and PIG (pipeline inspection gauge) launcher

- a modular building with combined electrical and control equipment to power and control the new facilities
- a common dehydration module
- a water treatment system/s, including water tanks, to treat and re-use water recovered from the CO<sub>2</sub> stream
- supplementary power infrastructure (i.e. a small battery energy storage system (BESS), electrical power distribution system and cabling).

4. These works are proposed as part of a long-term plan on behalf of INPEX, not included in this present referral, to extract, compress, transport via a pipeline, and permanently store CO<sub>2</sub> in the Bonaparte Basin.

**Proposal is a component of a larger action**

5. While noting the acceptance of this Referral by the NTEPA, ECNT is concerned that the Proposed Action will not be assessed as part of a broader action.

6. The referral information distinguishes between the CCS preparedness project (the subject of the present referral), the Ichthys CCS Project, and the Bonaparte CCS Project, on the following basis:

- a. **CCS preparedness** project, the subject of the referral, is outlined at paragraph 3 above;
- b. The **Ichthys CCS Project** proposes to develop a buried onshore pipeline system between Ichthys LNG and the onshore CCS inlet, and to operate the carbon capture dehydration and compression facilities within Ichthys LNG;
- c. The **Bonaparte CCS Project** proposes to develop a large-scale multi-user CCS facility, proposing to receive, transport and permanently sequester CO<sub>2</sub> (including from Ichthys CCS) offshore in a subsea location in the Joseph Bonaparte Gulf

7. Section 47C of the Environment Regulations state that the NTEPA may refuse to accept a referral where a referral “relates to part of a larger action proposed by the proponent and information on the whole action is required to make an assessment decision.”

8. The NTEPA requested that Inpex provide information to justify not treating the Proposed Actions as part of a larger action that includes the Ichthys CCS project and the Bonaparte CCS project. Inpex’s response is provided in the Referral documentation in the form of a Supplementary Information Report (**SIR**).

9. ECNT submits that the justification provided by Inpex in the SIR about why it is appropriate to separately refer the CCS Preparedness Project and the Ichthys CCS project is inadequate, for the following reasons:

- a. With reference to Project objectives, purposes and scopes, Inpex seeks to demonstrate the difference between the Bonaparte CCS Project and the two other project components, but does not demonstrate a difference between the Ichthys CCS project and the CCS Preparedness Project. In fact, these two proposals refer, in

part, to different segments of the same buried CO2 pipeline, and hence have no utility or function without each other. Further, several components of the proposed Ichthys CCS Project refer to the commissioning and operation of infrastructure that is proposed to be built as part of the CCS Preparedness Project.

- b. With reference to Project business arrangements, Inpex seeks to demonstrate the difference between the Bonaparte CCS Project and the two other project components, but does not demonstrate a difference between the Ichthys CCS project and the CCS Preparedness Project.

10. It is not sufficient to assert, as the proponent has, that each individual referral will consider cumulative impacts and so therefore there is no need to consider the action in its entirety as a single action. An assessment of cumulative impacts, while necessary, should not be understood as a substitute for properly accounting for the impacts of a proposed activity in its accurate and genuine dimensions.

11. It is preferable from the point of view of the objects of the Environment Protection Act that the actions are considered together. Consideration as a larger action is conducive to a proper assessment of the ways in which the project impacts relevant environmental factors and values under the Act.

12. In addition, we note that the construction of infrastructure to facilitate carbon capture and storage at the Ichthys LNG facility will fundamentally change the ways in which that facility manages risks and impacts associated with air emissions and discharges to water. The activities proposed in this Referral may require changes to the Environmental Management Plan for EPL 228.<sup>1</sup> Inpex's license for the Ichthys LNG facility currently stipulates that the venting of AGRU acid off gas will be infrequent and only when the incinerator is shut down for maintenance,<sup>2</sup> however the infrastructure to be constructed as part of the Proposed Activities will lead to significant levels of venting of AGRU off gas.<sup>3</sup>

### **Relevant environmental factors**

13. The CCS Preparedness Project footprint and the area of potential impact from marine discharge and noise and light emissions intersects with areas in which at least 51 listed threatened species and 60 migratory species may occur. The Northern Territory Government's "[NR Maps](#)", which shows records of threatened species (among other data), demonstrates that the Proposed Activities will potentially impact marine and terrestrial environments and

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<sup>1</sup> <https://ntepa.nt.gov.au/your-business/public-registers/licences-and-approvals-register/environment-protection-licences/hydrocarbons-gas/ichthys-lng-inpex-operations>

<sup>2</sup> [https://ntepa.nt.gov.au/\\_media/waste-and-pollution/register/epl/gas/ichthys-lng/epl228-05-environment-protection-licence-ichthys.pdf](https://ntepa.nt.gov.au/_media/waste-and-pollution/register/epl/gas/ichthys-lng/epl228-05-environment-protection-licence-ichthys.pdf)

<sup>3</sup> This is detailed in Inpex's Referral Documentation on the Ichthys CCS Project (EPBC Number: 2025/10366)

ecosystems that support a with a high concentration of important populations of threatened and migratory species, including:

- a. Australian Humpback Dolphin (*Sousa sahalensis*);
- b. Australian Snubfin Dolphin (*Orcaella heinsohni*);
- c. Lesser Sand Plover (*Charadrius mongolus*);
- d. Sharp-tailed Sandpiper (*Calidris acuminata*);
- e. Terek Sandpiper (*Xenus cinereus*);
- f. Common greenshank (*Tringa nebularia*);
- g. Far Eastern Curlew (*Numenius madagascariensis*);
- h. Curlew sandpiper (*Calidris ferruginia*);
- i. Grey Plover (*Pluvialis squatarola*);
- j. Common Greenshank (*Tringa nebularia*);
- k. Green turtle (*Chelonia mydas*);
- l. Hawksbill turtle (*Eretmochelys imbricata*);
- m. Flatback turtle (*Natator depressus*).

14. Inpex asserts on page 140 of the Referral Report that no critical marine environments are found in the project area, however Darwin Harbour is considered habitat critical for the survival of the flatback turtle.<sup>4</sup>

15. Inpex acknowledges in the Referral Report that the Proposed Activities have the potential to impact on the following environmental factors:

- Land – terrestrial environmental quality
- Land – terrestrial ecosystems
- Sea – marine environmental quality
- People – culture and heritage
- People – community and economy.

16. Inpex concludes that the Proposed Activities will not have a significant impact on marine ecosystems because marine discharge will be “confined to a small mixing zone associated with a temporary outfall for hydrotest water. Further, the temporary outfall will be located within existing disturbed MOF dredge footprint.”

17. Inpex has not presented adequate information to support this conclusion, nor explained potential impacts in the context of cumulative impacts. ECNT submits risks and impacts to areas of existing disturbance can still be significant; further may intensify existing impacts or delay ecosystem recovery. Similarly, the significance of risks and impacts to a small area need to be considered in the context of the significance of impacted habitat to species and ecosystems, project timing, and other anthropogenic impacts.

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<sup>4</sup> Australian Government, Department of the Environment and Energy (2017) Recovery Plan for Marine Turtles in Australia (2017), accessed via <https://www.dcceew.gov.au/sites/default/files/documents/recovery-plan-marine-turtles-2017.pdf> (Recovery Plan for Marine Turtles)

18. On the basis of the above, ECNT submits that an additional environmental factor, marine ecosystems, should be including in the scope of the assessment. Any impact to marine environmental quality has the potential to impact marine habitats and the biodiversity, ecological integrity and ecological functioning of those habitats.

#### **Required level of assessment**

19. Given the unprecedented nature of the Proposed Activity and the immaturity of CCS technology, there are important uncertainties about the risks and impacts – particularly in relation to the construction and cold/hot commissioning of proposed infrastructure. As such, the precautionary principle should apply.

20. Pursuant to s 59 of the Regulations, the NT EPA must consider the following in deciding or recommending a method of environmental impact assessment of a proposed action:

(a) The significance of the potential impact of the proposed action or the strategic proposal;

(b) The level of confidence in predicting potential significant impacts of the proposed action or strategic proposal taking into account the extent and currency of existing knowledge.

21. The scale and nature of Inpex’s proposed carbon capture and storage activities at Middle Arm and the Bonaparte Basin are unprecedented and are proposed for an area of high ecological value and in close proximity to industrial and residential areas. ECNT notes that several components of the Proposed Activities are unprecedented in the Northern Territory and have never been assessed under NT legislation, including the CO<sub>2</sub> pipeline and CCES.

22. The Proposed Actions will facilitate the future capture, dehydration, compression, and terrestrial transport of CO<sub>2</sub>, which present a range of potential risks and impacts, including but not limited to fauna interactions, wastewater discharges, air emissions, and unplanned incidents or loss of containment.

23. The construction and operational activities also present a range of potential risks, that need to be understood and assessed in the context of growing anthropogenic pressures on Darwin Harbour, the Darwin airshed, and the Middle Arm peninsula.

24. In a submission to the NT Environmental Protection Authority on the Darwin Pipeline Duplication Project, which proposed similar infrastructure within Darwin Harbour, Prof Karen Edyvane noted that “the current water quality and environmental quality monitoring and assessment in Darwin Harbour (..) fails to provide an adequate and integrated framework to detect and assess anthropogenic impacts in Darwin Harbour.”<sup>5</sup>

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<sup>5</sup> Edyvane, K (2023) Submission on the Darwin Pipeline Duplication (DPD) Project [https://ntepa.nt.gov.au/\\_resources/documents/eia/darwin-pipeline-duplication-project/submissions-received-on-the-referral/submission-311-santos-dpd-submission-kedyvane.pdf](https://ntepa.nt.gov.au/_resources/documents/eia/darwin-pipeline-duplication-project/submissions-received-on-the-referral/submission-311-santos-dpd-submission-kedyvane.pdf)

25. The NT EPA cannot be satisfied that a high level of confidence exists with regard to the potential significant impacts of the project, based on the nature of the project and the limited information provided in the Referral.

28. Notwithstanding our concerns about the acceptance of this referral separate to the Ichthys CCS Project, ECNT submits that the CCS Preparedness Project requires environmental impact assessment, in the form of an Environmental Impact Statement (EIS).

Thankyou for considering our submission on this Referral.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bree Ahrens', followed by a period.

Bree Ahrens  
Senior Climate Campaigner  
Environment Centre NT