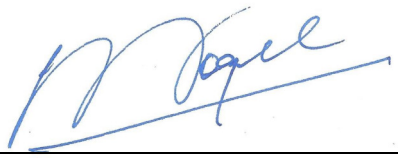
NOTICE OF DECISION AND STATEMENT OF REASONS

Section 55 of the *Environment Protection Act 2019* (EP Act)
Regulations 57(2)(b) and 63 of the Environment Protection Regulations 2020 (EP Regulations)

Name of proposed action	Ichthys Carbon Capture and Storage Project
Proponent	INPEX Operations Australia Pty Ltd
NT EPA reference	EP2025/049
Nature of proposed action	Oil and Gas, Carbon Capture and Storage (CCS)
Description of proposed action	The proposed action is for the construction, commissioning, operation and decommissioning of a ~12 km carbon dioxide (CO_2) export pipeline to tie into stations on Middle Arm, and hot commissioning and operation of the Ichthys LNG facility CO_2 compression and export system and upgraded acid gas removal units. The proposed action construction and commissioning activities are anticipated to occur over three years and have an operational life of approximately 30 years.
Person authorised to make decision	Dr Paul Vogel AM, Chairperson Northern Territory Environment Protection Authority (NT EPA) Delegate of the NT EPA under section 36 of the Northern Territory Environment Protection Authority Act 2012
Decision	**Standard environmental impact assessment is required** in accordance with section 55 of the EP Act and regulation 57(2)(b)(i) of the EP Regulations. The method of environmental impact assessment to be by environmental impact statement in accordance with regulation 57(2)(b)(ii) of the EP Regulations.
Signature	
Date of decision	10 March 2026
Matters considered under EP Regulation 56	The NT EPA has considered the following: • the accepted referral (including the referral form, referral report and appendices) • submissions received in relation to the referral

Consultation	Submission period 13 January 2026 – 10 February 2026 Submissions received: • six government authority submissions • eight public submissions. Submissions are available on the NT EPA website Key issues raised in the submissions received by the NT EPA include: • Concern that the proposed action is linked to other actions proposed by the proponent including the Bonaparte CCS Project, and the view that the proposed action should be assessed together with the related actions to appropriately assess the combined effects of potential impacts. • Concerns regarding the viability of CCS and claims of greenwashing. • Concern that implementation of the proposed action would result in human health impacts and atmospheric pollution. • Risks associated with inadequate or incorrect assessment of the environmental factors. • Concerns regarding impacts to Darwin Harbour, including impacts to habitat supporting migratory shorebirds. • A view that the proposed action is unacceptable, if not deemed unacceptable due to significant impacts that cannot be appropriately avoided, mitigated or managed. Alternatively, the proposed action requires an assessment by environmental impact statement or inquiry • The referral for the same proposed action was received by the Australian Government under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Statement of Reasons

Overview

The proposed action is described in the referral submitted to the NT EPA. The referral also identifies relationships with other proposed actions including:

- Bonaparte CCS Project
- Ichthys LNG AGRU Upgrades and CCS Preparedness Project CCS Project.

Maintenance dredging at the MOF, and disposal of dredge spoil is needed to allow prefabricated modules (and potentially specialised pipeline materials) to be delivered via ship to onshore areas. The NT EPA considers it almost certain that this dredging and disposal will occur alongside the construction activities described in the referral. However, because it is not part of the referred action, it is not within the scope of any approval that may result from the referral.

The other proposed actions and MOF maintenance dredging are not part of the current proposed action, but they are closely linked and from herein are referred to as associated activities. The

associated activities could change the scale, intensity, and location of impacts that need to be considered. Together, the proposed action and these associated activities form part of a single, interconnected project to develop a carbon sequestration system. The nature, scope, and feasibility of that system are, or should be, largely known to the proponent.

The associated activities form a necessary part of the context in which the impacts of the proposed action must be assessed and the extent that the proposed action enables the associated projects to occur will potentially be a substantial cause of the impacts that those associated activities cause, and to this extent their combined contributions to any consequences or events have the potential to be cumulative impacts of the current action.

The proposed action has no clear standalone function, other than possibly connecting to a similar pipeline that another proponent may seek to build. The proposed action and the related projects are planned on an integrated schedule, with overlapping timeframes to allow them to be connected and operate together as a system. Information provided by the proponent indicates that the proposed action and the construction and operation of a full pipeline are mutually dependent.

As a result, the indirect impacts of the proposed action will include impacts arising from these associated activities or a similar pipeline. The assessment will consider indirect impacts of interdependent projects where their scope is already largely known or can be reasonably anticipated. Understanding those impacts is also essential to assessing the sensitivity of the environment in which the proposed action would occur.

The NT EPA recognises that the associated activities are subject to their own regulatory controls and approval processes. However, for the reasons set out above, this does not remove the need to consider their indirect impacts when assessing the proposed action. This is particularly relevant given that the proponent has presented the proposed action as critical to achieving its decarbonisation objectives, stating that captured CO_2 would be compressed and transported by pipeline for permanent underground storage. This message has been emphasised in public-facing materials and in the referral itself.

The proposed action has the potential to have a significant impact on environmental values associated with **nine** environmental factors[1]. The potential impacts are considered significant, due to the reasons outlined below.

Land	**Terrestrial environmental quality** The proposed action includes the disturbance of 76.5 ha by vegetation clearance, earthworks, trenching, erosion and run-off, sediment deposition, exposure of acid sulfate soils, pipeline leaks and spills of hydrocarbons or chemicals. Mapping of Acid Sulfate Soil (ASS) within the Darwin Region (DNRETAS, 2008)[2] indicates a high probability of the occurrence of ASS within the upper 1 metre of the soil profile across various intertidal and supratidal patches within the proposed pipeline corridor. The disturbance of these soils can result in acid generation and run-off, and liberation of metal and metalloid contaminants and nutrients impacting adjacent soils and receiving waters including Darwin Harbour.

[1] NT EPA Environmental factors and objectives
[2] Territory Stories - Acid sulfate soils of the Darwin region

	Erosion and soil loss during construction would potentially impact land and soil quality and result in sedimentation and water quality impacts on the receiving environment including tidal flats and Darwin harbour. The construction of the associated activities have the potential to significantly impact on terrestrial environmental quality, through the expansion of the construction footprint beyond the proposed action area. The proposed associated activities would require disturbance of an additional ~49 ha[3]. These disturbances are also likely to intersect volumes of ASS and experience erosion and soil loss during construction, resulting in cumulative impacts on terrestrial environmental quality. The referral does not provide sufficient information to determine the significance of potential impacts (direct, indirect and cumulative) resulting from the proposed action in its full context. There is insufficient information to determine whether the proposed management and mitigation measures identified in the referral are adequate to reduce the significance of those impacts. The significance of impacts and the ability to meet the NT EPA's factor objective for terrestrial environmental quality is uncertain.
	Terrestrial ecosystems The proposed action includes a disturbance footprint of 76.5 ha. Within this footprint there are Darwin Harbour mangrove communities and salt pan habitat that potentially provides roosting and foraging habitat for threatened and migratory fauna species. The footprint also includes dry monsoon rainforest. Construction and operational noise have the potential to affect threatened or migratory species including the far eastern curlew and northern brushtail possum, which is known to occur in the area. The proponent has identified that CO_2 leaks from the pipeline can also lead to hypoxic and sub-zero soil conditions, leading to potential significant impacts on surrounding vegetation health. The indirect impacts via associated activities which are anticipated to involve substantial vegetation clearing and noise, have the potential to significantly affect threatened and migratory species including shorebirds in the vicinity of the Middle Arm Peninsula. The referral does not provide sufficient information to determine the significance of impacts (including direct, indirect and cumulative) from the proposed action in its full context. There is also insufficient information to determine whether the proposed management and mitigation measures identified in the referral are adequate to reduce the significance of those impacts. The significance of impacts and the ability to meet the NT EPA's factor objective for terrestrial ecosystems is uncertain.
Sea	**Marine environmental quality** The referral states 1,500 m^3 of pre-commissioning hydrotest fluid will be generated by the proposed action. Hydrotest fluid may contain contaminants absorbed from pipework and infrastructure during testing. The precise method of disposal has not

[3] Bonaparte CCS proposes 32 ha terrestrial disturbance. Ichthys AGRU and CCS preparedness proposed 17 ha disturbance.

	been nominated, however the proponent has indicated that wastewater disposal options include: • evaporation or storage within the Ichthys LNG facility • discharge to Darwin Harbour at the existing MOF via a new outfall. The proposed action has the potential to significantly impact marine environmental quality, through construction of a new outfall (if discharge to Darwin Harbour via new outfall), discharge of hydrotest fluid, maintenance dredging of the MOF, and potentially dredging and trenching for construction of the CO_2 pipeline during the associated activities. The referral identifies that plume modelling has not yet been undertaken of the hydrotest water proposed to be discharged as part of this proposed action. It is unclear whether associated actions will also include discharge of hydrotest water. Without modelling and consideration of cumulative impacts to marine environmental quality from hydrotest water remain uncertain. The associated activities are a consequence of the proposed action detailed in this referral. Based on the referral it is unclear of the potential impacts to marine environmental quality from the associated actions including dredging activities and construction of the CO_2 pipeline and control cable extending to the Joesph Bonaparte Gulf from Middle Arm. The referral does not provide sufficient information to determine the significance of potential impacts (including direct, indirect and cumulative) from the proposed action in its full context. There is also insufficient information to determine whether the proposed management and mitigation measures identified in the referral are adequate to reduce the significance of those impacts. The significance of impacts and the ability to meet the NT EPA's factor objective for marine environmental quality is uncertain.
	Marine ecosystems Darwin Harbour is a site of conservation significance containing ecologically sensitive marine and coastal systems that support extensive mangrove forests, intertidal mudflats, seagrass meadows and diverse benthic communities. Darwin Harbour, including surround the proposed action area provides suitable habitat for a range of threatened and migratory species. The proposed action occurs entirely within the terrestrial environment, however impacts to the marine ecosystem have the potential to occur due to the disturbance of ASS, dewatering activities, and unplanned releases of hydrocarbons and CO_2. Whilst the likely direct impacts from the proposal are not likely to be considered significant, the associated activities have the potential to significantly impact on marine ecosystems through dredging and construction of subsea pipelines and cables associated with the Bonaparte CCS Project. The scant information provided regarding the impacts of dredging combined with the uncertainties regarding wastewater introduces further uncertainty regarding the indirect and cumulative impacts from the proposal and associated activities on marine ecosystems. Those indirect impacts must be considered in a context where the associated activities will also likely occur, which must be factored in when evaluating the sensitivity of marine ecosystems within the environment of the Darwin Harbour.

	The referral does not provide sufficient information to determine the significance of potential impacts (including direct, indirect and cumulative) from the proposed action in its full context. There is also insufficient information to determine whether the proposed management and mitigation measures identified in the referral are adequate to reduce the significance of those impacts. The significance of impacts and the ability to meet the NT EPA's factor objective for marine ecosystems is uncertain.
Air	**Air quality** The referral identifies that the proposed action has the potential to result in localised changes in air quality and subsequent exposure to receptors from air pollutants. The referral identifies that a detailed assessment of atmospheric emissions will be conducted to inform an assessment of potential impacts of air quality. The NT EPA hold concerns for the composition of the CO_2 stream, including concentrations of pollutants including, but not limited to, volatile organic compounds (including BTEX[4]) and hydrogen sulfide. Concerns are also held for the impacts to air quality from planned and unplanned venting (during operations, emergencies and upset conditions), and pipeline leaks or ruptures. The referral does not provide sufficient information to determine the significance of potential impacts (direct, indirect and cumulative) resulting from the proposed action in its full context. There is also insufficient information to determine whether the proposed management and mitigation measures identified in the referral are adequate to reduce the significance of those impacts. The significance of impacts and the ability to meet the NT EPA's factor objective for air quality is uncertain.
	Atmospheric processes Direct greenhouse gas emissions resulting from the proposed action include commissioning, operation of facilities and operational venting and unplanned releases. Other greenhouse gas emissions sources include vehicles and equipment during construction. The proponent asserts that the proposed action will minimise greenhouse gas emissions so as to contribute to the NT Government's goal of achieving net zero greenhouse gas emissions by 2050. The NT EPA accepts that this is a potential indirect impact of the proposed action and notes the importance of further information to understand the extent and likelihood of this potential benefit. Information provided in the referral for context together indicates that emissions from associated activities may result in a significant impact to atmospheric processes of various kinds. The referral does not provide sufficient information to determine the significance of potential indirect and cumulative impacts from the associated activities. There is also insufficient information to determine whether any proposed management and mitigation measures are adequate to reduce the significance of those impacts. The significance of impacts and the ability to meet the NT EPA's factor objective for atmospheric processes is uncertain.

[4] Benzene, Toluene, Ethylbenzene & Xylenes

People	**Community and economy** The proposed action area is situated approximately 10 km from Darwin and 4 km from Palmerston and will generate noise and vibration including during construction of the CCS pipeline and operation of the AGRU and CCES. The proposed action will result in increased traffic movements and workforce activity. It is unclear if there will be an increase in vessel movements in Darwin Harbour associated with the proposed activity. The proposed action detailed in the referral has the potential to significantly impact on community and economy values, through further increased noise, workforce activities and vessel movements. The referral does not provide sufficient information to determine the significance of potential impacts (including direct, indirect and cumulative) from the proposed action in its full context.. There is also insufficient information to determine whether proposed management and mitigation measures are adequate to reduce the significance of those impacts. The significance of impacts and the ability to meet the NT EPA's factor objective for community and economy is uncertain.
	Culture and heritage The proposed activities have the potential to impact on culture and heritage through activities including ground disturbance and vegetation clearing activities which have the potential to impact sacred sites and or previously unidentified heritage sites or loss of heritage values. The referral also identifies that the placement of infrastructure has not been confirmed, therefore creating uncertainty regarding the potential impacts for culture and heritage. The proponent provides details of Authority Certificates issued by the Aboriginal Areas Protection Authority (AAPA) relevant to the activities identified in the referral. Submission from AAPA on the referral confirms that the proposed action is within the Authority Certificates' subject land. The referral does not provide sufficient information to determine the significance of potential impacts (including direct, indirect and cumulative) likely to result from the proposed action in its full context. Given the relevance of knowing the precise intended location of the subsea pipeline to evaluate these issues, and the absence of concerns within the proposal area, there is some force in the view that full consideration and assessment of this factor is better done as part of considering that separate action. Nevertheless, at present the information regarding the terrestrial component of the proposed action is not sufficient to know whether those indirect impacts that occur as a result of enabling the associated activities will broadly be acceptable or unacceptable. It would better meet the objectives of the EP Act to at least have that broad indication in order to better evaluate the likelihood of the indirect impacts of the proposed action. The significance of impacts and the ability to meet the NT EPA's factor objective for culture and heritage has some uncertainty, but considers this relates to the extent to which consideration of those impacts can be assumed to be able to be sufficiently mitigated via separate regulatory processes.

Human health

The referral identifies that the proposed action has the potential to result in localised changes in air quality and subsequent exposure to receptor to air pollutants. The referral identifies that a detailed assessment of atmospheric emissions will be conducted to inform an assessment of potential impacts of air quality.

Submissions on the referral raise concerns with the composition of the CO_2 stream, including concentrations of pollutants including, but not limited to, volatile organic compounds (including BTEX) & hydrogen sulfide and the impacts to human health from planned and unplanned venting (during operations, emergencies and upset conditions), and pipeline leaks or ruptures.

The referral does not provide sufficient information to determine the significance of potential impacts (including direct, indirect and cumulative) to human health as a result of the proposed action in its full context. There is also insufficient information to determine whether any proposed management and mitigation measures are adequate to reduce the significance of those impacts.

The significance of impacts and the ability to meet the NT EPA's factor objective for human health is uncertain.

The NT EPA considered other environmental factors during its consideration of the referral; however, the impact on those factors was not considered to be significant.

Justification

A standard assessment by environmental impact statement is required because:

Regulation 59 (a) the high level of uncertainty regarding the significance of the potential direct, indirect and cumulative impacts of the proposed action in its full context on nine of the NT EPA's environmental factors.

Regulation 59 (b) the need to improve the NT EPA's level of confidence in predicting potential significant direct, indirect and cumulative impacts of the proposed action in its full context taking into account the extent and currency of existing knowledge, particularly in relation to the:

- significance of impacts to terrestrial environmental quality through vegetation clearance, leaks or ruptures of the CO_2 export pipeline, and volumes and characteristics of potential acid sulfate soils within the disturbance footprint of the associated activities
- construction timing and locale of infrastructure required for the proposed activity and associated activities, and their proximity to habitat for threatened and migratory fauna particularly migratory shorebirds
- degradation of marine water quality from water discharges and disturbances including trenching and dredging resulting from associated activities

	• impacts to marine ecosystems from the proposed action and associated activities including works required for the construction of the CO_2 pipeline and cable • degradation of air quality from emissions associated with the proposed activities and associated activities including their commissioning and operations, including planned and unplanned venting (during operations, emergencies and upset conditions), and pipeline leaks or ruptures • CO_2 emissions across the life of the proposed action and associated activities • construction timing and locale of infrastructure required to facilitate the associated activities, and the potential disruptions to the communities of the greater Darwin region, including users of the local road network and commercial and recreational users of Darwin Harbour • the extent to which consideration of indirect impacts via the associated activities on cultural and heritage values can be sufficiently mitigated through separate regulatory processes • impacts to human health from degraded air quality from emissions and pollutants associated with planned and unplanned venting (during operations, emergencies and upset conditions), pipeline leaks or ruptures, and operation of facilities and associated infrastructure.
Regulation 59 (c)	the low level of confidence in the effectiveness of the proposed measures identified in the referral to avoid, mitigate or manage potential significant impacts of the proposed action in its full context.
Regulation 59 (d) & (e)	the extent of community engagement that has occurred, and whether it is sufficient to ensure that affected communities and individuals understand the proposed action and its associated activities and the potential direct, indirect and cumulative impacts on the nine environmental factors as described above.

Conclusion

The NT EPA considers that the proposed action has potential for significant impacts (including indirect and cumulative impacts) on **nine** environmental factors, and that environmental impact assessment is required. There is a high level of uncertainty regarding the potential significant impacts (including indirect and cumulative impacts) from the proposed action and the associated activities and there is insufficient information for the NT EPA to be confident that the proponent has (a) adequately predicted the potential significant impacts of the proposed action, and (b) demonstrated that the proposed measures to avoid, mitigate or manage potential significant impacts are likely to be effective. Further information is required to enable the NT EPA to complete its assessment.

In making its decision under section 55 of the EP Act and regulation 57 of the EP Regulations, the NT EPA has considered:

- the objects of the Act in section 3 of the EP Act
- the purpose of the environmental impact assessment process in section 42 of the EP Act
- the matters under regulation 56 of the EP Regulations
- the matters relevant to a consideration of the method of environmental impact assessment in regulation 59 of the EP Regulations.