

To Whom It May Concern,

Re: SANTOS Darwin Pipeline Duplication Project Referral

I write to you on behalf of the Amateur Fishermen's Association of the Northern Territory (AFANT). AFANT is the peak body for recreational fishing in the Northern Territory. It is our role to represent the interest of all of the (30,000) amateur fishers in the NT, including our members, as well as fishing clubs, associations and related businesses.

The most recent estimates available suggest that over one-in-five residents in the Northern Territory participate in recreational fishing each year. Survey data reveals that 79% of NT recreational fishers live in Darwin, with 27% of all fishing occurring within the confines of Darwin Harbour. As such, AFANT takes a keen interest in the sustainable development of the harbour. Recreational fishers, businesses and the general community enjoy many social and economic benefits that flow from the harbour's environmental services.

AFANT support a future where growth and economic development are achieved alongside maintaining the productive natural values of the harbour and surrounding marine ecosystem. The proposal by SANTOS to construct a new gas pipeline through NT waters including Darwin harbour has raised several concerns for us. We have had the opportunity to discuss a number of these concerns directly with staff from SANTOS and feel it is important to acknowledge their engagement. However, an acknowledgement of this engagement in good faith, does not indicate that all of our concerns (on behalf of our constituents) have been fully satisfied.

The proponent suggest that this project will not have significant environment impacts and that the likely impacts can be reasonably managed, largely based upon current knowledge and identified actions. A significant explanation for this position cites the known environmental values of the site(s), and the mitigation of similar impacts by a larger previous development, namely the Inpex Ichthys project.

While it is accepted that the Darwin Pipeline Duplication (DPD) is smaller in scale and similar in location to the Inpex harbour channel dredging and pipeline construction, it is nonetheless our position that the NT EPA should have cause to assess this project at Tier 3; Assessment by Environmental Impact Statement (EIS) based upon the following primary considerations (from our stakeholder's perspective):

- The capacity of communities and individuals to access and understand information about the project;
- The significance of the potential impacts, especially the potential for cumulative impacts; and
- Uncertainty over the need for the development, and therefore doubt over the beneficial trade-offs against the likely environmental, social and cultural impacts.

The remainder of this submission will briefly explain the three stated reasons above, as well as outlining some considerations AFANT suggests should be considered in the next steps of the assessment process (whether SER or EIS).

Factors relevant to the consideration of Assessment as an EIS

The capacity of communities and individuals to access and understand information about the project

As noted, SANTOS has engaged with AFANT about potential impacts on recreational fishing, however, it does not follow that the risks and potential consequences of the project are currently well understood or accepted by the most fishing community members who have a direct interest in the project site(s). Impacts to recreational fishing are likely to manifest in multiple ways. The first is the temporary impact to recreational access in Darwin Harbour during construction. While it is agreed that these impacts are likely to be manageable and time bound (approximately 100 days), at the next stage of assessment, more consideration is required as to how communication with the recreational fishing community will be planned and achieved. The proponent should also consider better acknowledging that there are likely to be medium-term social impacts that flow from the perception of damage done to fish habitat in the harbour. This is based on anecdotal evidence of some community sentiment/perception that the harbour has “not fully recovered from the Inpex dredging”.

Another potential impact to the recreational fishing community relates to the section of pipeline proposed to transect the Reef Fish Protection Area (RFPA) at Charles Point. While it is accepted that the expected impact to the Charles point reef fish protection area is likely to occur only when the pipeline is laid (or in the much less likely event of a “wet-buckle event” requiring additional intervention in the area at the time of construction), this matter warrants some further comment.

It must be acknowledged that to promote the recovery of jewfish and golden snapper the RFPA has been off-limits to recreational fishers for over five years. This is despite the demand for quality fishing sites in the region (close to Darwin). In the event that reef habitat damage occurs as a result of pipeline construction, it is possible that the project could set back hard-won gains that the RFPA has achieved as a fishery management intervention. Perhaps equally significant is the potential social impact that could be realised if the fishing community perceive that the broad community support for the RFPA over the past five years is undermined by the approval of the construction of the pipeline through the area. While these risks may be able to be mitigated, it is likely to at least require the consideration of dedicated engagement with the community. This engagement should include the assessment of risks by an independent expert or government agency (Fisheries). Alternatives to transecting the area should also be assessed for feasibility.

Potential impacts, including the potential for cumulative impacts

(Some potential impacts were discussed above as they are intrinsically linked to the need for community engagement, understanding and communication; they will not be repeated in detail this section.)

Damage to the benthic environment in Darwin harbour

Pipeline construction is expected to damage/displace benthic habitat along the (approximately) 34km pipeline corridor within Darwin Harbour. The footprint of this corridor is expected to include areas of disturbance 50m wide, and this may be wider still, should the proposed method of “side casting” be used to keep dredge spoil adjacent to the trenching area for backfill purposes. Indeed, this is one practice that appears to require further quantification at the next stage of assessment; so that the total disturbance footprint in the harbour can be more completely understood and effectively managed.

While the proponents' sampling suggests that much of the proposed (northern) route is thought to transect silty/mud substrate with sparse biota, the proponent also acknowledges that other more significant/valuable benthic environments will be impacted. For example, sample sites HS61 & HS68 are areas with hard (rocky) bottom with shelly substrate, which contain corals and medium density biota. The areas adjacent to HS61 and HS68 are known to AFANT as examples of (slightly) undulating rocky bottom or "hard bottom" areas where recreational fishers drift fish for a variety of snapper species. While it is fair to say that the proposed route will not transect anything approaching a majority of this habitat type in Darwin Harbour, localised impacts from trenching will occur in the form of the removal of fish habitat that supports recreationally targeted species. This could have an unknown and seemingly under-acknowledged impact on fishing and fish populations area (though this is likely to be limited to the immediately affected sites and some recovery is likely at the time scale of years).

The proponent suggests that once laid, the pipeline may eventually provide beneficial artificial habitat (in the form of an artificial reef), and while this may be the case, it is not certain that the artificial habitat will suitably replace all removed habitat with a commensurate (or better) quality, complexity or suitability for the fish species impacted. In any case, the performance of artificial habitat created by DPD, will likely depend on the relief (if any) provided by the pipeline above the sea floor. However, if the pipeline is buried under finely grained spoil or borrow, the beneficial effect may be negligible, and information about how trenching will cover the pipeline in rocky substrate habitats could be more explicitly explained.

Mauna Loa

In meetings with SANTOS, AFANT provided a GPS database containing many popular fishing locations in and around Darwin Harbour. This was provided to assist SANTOS with planning a route that avoids known recreational fishing spots and valued natural features. While the proposed northern route avoids directly transecting these known locations, it passes close by (150m) the Mauna Loa WW2 shipwreck. The route proposes a disturbance with a footprint of up to 50m within the vicinity of this known heritage site, which is also known as a good fishing area/habitat for jewfish. More detail should be provided about the suitability of the proposed proximity to this site, with consideration given to improving the buffer zone, and assurances given that side-casting will not be allowed in this immediate area.

Mud Crab Migration (October to December)

This matter was not raised by AFANT in the meeting we had with SANTOS, owing to our internal capacity to prepare within the constraints of the timeline of our meetings/ the referral. We have since however, consulted informally with fishery experts and the Mud Crab Fishery Management Framework to inform the following concern.

Mud Crab spawning in the Northern Territory typically occurs from September – November. Female mud crabs leave their usual habitat for spawning, and have been recorded moving large distances offshore to release their eggs. It is assumed that to maximise the survival rate of larvae, female mud crabs seek stable conditions with high salinity and temperature for hatching the larvae (Mud Crab Fishery Management Framework, 2017).

The proponent has proposed that shallow water pipelay take place in the months of October, November and December. While the exact crab migration paths are unknown, and while it may be therefore not possible to say that these actions will have a direct/knowable impact on the migration of female mud crabs on their way to spawn in deeper/ offshore waters, these events will almost certainly occur at the same time, in overlapping locations. Further engagement with NT Fisheries should be required to better understand these factors, and if necessary, to mitigate the risk of interrupting the Darwin harbour mud crab spawning migration.

Cumulative Impacts

In addressing cumulative impacts, the proponent provides that given the proposed location, the narrow pipeline corridor, proximity of the spoil ground to an existing spoil ground and based on knowledge gained from planning

and delivery of the Inpex project in Darwin harbour and surrounds; that potential impacts will be localised and small in nature. They say that it is therefore unlikely that these impacts could accumulate to result in a significant impact to coastal processes in the Darwin Harbour and associated offshore waters.

It is AFANT's position that at the next stage of assessment the proponent should give greater consideration to potential pathways for unacceptable/unintended cumulative impacts to be realised. It is not necessarily reasonable to suppose that because the impacts of previous projects were similar and efforts were made to mitigate issues, that this project, being smaller will automatically avoid contributing cumulative impacts. Indeed, this seems to skirt the point that multiple developments in proximity over a relatively short time can have a compounding effect. Indeed, the fact that a number of aggregated small impacts can together produce a larger consequence is the very heart of the matter.

For example, Cuddington *et al.* (2013) provides that Cumulative impact management should be concerned with determining a desired future state of an ecosystem, and how this can be achieved through the management developments that may have direct, indirect or interactive impacts on the ecosystem. It is reasonable to consider that the environmental resilience in the area adjacent to previous pipeline developments in Darwin harbour may be further degraded with each new dredging / trenching operation. While such impacts may eventually be determined to be manageable/ tolerable, this approach to considering cumulative impacts nonetheless requires more explicit consideration and explanation by the proponent. Regard should be had to the condition of previously disturbed benthos and the overall dredging/disturbance planned for the harbour, as well as the process of industrialisation occurring within Darwin harbour. The regulator should be concerned with fostering cooperation and information sharing by industry so that such an assessment can be reasonably made by the proponent.

The proponent states that "should other proponents be considering similar activities over similar locations and time frames to Project activities, Santos will work with other proponents". Yet the proponent suggest that time is of the essence for this project. So, while it is acknowledged that better environmental outcomes may be achieved by strategic planning of pipeline/dredging developments in Darwin harbour, the reality is each proponent is likely to be motivated by their own timelines. It is not unfair to suggest that this statement does not materially reflect a strategic approach on behalf of the broader industry to reduce current/future cumulative environmental impacts. It is however noted that there have been media reports of cooperation between SANTOS and INPEX on Darwin based Carbon Capture and Storage (CCS). While this potential cooperation appears to be a positive example with regard to reducing potential cumulative impacts, it is not meaningfully addressed in the referral. If this cooperation is indeed planned, it would be ideal for the proponent to be required to address this further in the next stage of assessment.

Uncertainty over the need for the development

The proponent provides that "development approvals already received enable the installation of the Barossa GEP from the Barossa field to a tie-in point at the existing Bayu-Undan to Darwin Pipeline approximately 125 km from Darwin" however it also suggests that "one opportunity being assessed " is re-purposing the Bayu-Undan to Darwin Pipeline to carry carbon dioxide for potential Carbon Capture and Storage at Bayu-Undan in the Timor Sea, thereby necessitating the DPD project.

It seems somewhat unconventional that the precise reason to cause a 50m wide 34km disturbance in Darwin harbour and to transect the Charles Point RFPA with a gas pipeline is framed in speculative terms. It is certainly not being suggested that SANTOS would embark on such a resource intensive project without good reason, indeed there is no assertion that they are acting irrationally. Yet the regulator must have regard to the likelihood of the CCS project actually proceeding.

Should the CCS element of the project fail to materialise, it would seem that a potentially (significantly) lower impact, and already approved alternative exists; namely using the existing pipeline through the harbour to deliver gas to the SANTOS plant. Indeed, if CCS is not committed to as the purpose for the DPD project then no case has

been made for the acceptance of disturbance to the ecosystem and the impacts to other values within Darwin Harbour that this pipeline will cause (however manageable). The EPA should expect that a solid commitment from the proponent and any partners to the CSS element of the project will be made clear at the next stage of assessment. Indeed, it does not seem unreasonable to suggest that a viable plan for CCS (or another solid and assured reason) should be a condition for any future approval to proceed with the pipeline.

Other factors for consideration at the next stage of assessment

Culture and Heritage

Potential for impacts on recreational fishers' perception of a healthy harbour will be a foreseeable consequence of the proposed project. Knowing that another area of the harbour has been impacted by dredging and / or trenching may impact the enjoyment and cultural benefit of living alongside a natural and productive marine environment. Furthermore, prior to and since colonisation, the people in the Darwin area have a strong cultural heritage of fishing for food and enjoyment. Fishing traditions, including the teaching, learning and the practice of skills are commonly intergenerational exercises. Interruptions to, or any potential degradation of fishing activities enjoyed by community members in Darwin harbour, should be viewed as having potential impacts on cultural heritage values. While the proponent may be able to effectively manage any risks, this issue should be explicitly acknowledged under the Maintain Cultural Heritage section.

Spoil ground and potential recreational fishing offsets

AFANT is aware that the Inpex spoil ground has since become an area with appeal to recreational fishers. There is anecdotal evidence that reef fish, including snapper species are now caught in this area. It is reasonable to suppose that the proposed new spoil area, though smaller in scale may eventually hold value as a fishing location. The proponent may wish to engage with fishers and AFANT to learn more about fishing activities in the borrow and spoil areas proposed. Further plans to better understand project impacts and recovery may also be warranted.

Additionally, the Inpex spoil area may be investigated to better understand fish communities and habitat that has been created following the disposal of spoil. Should potential material, social and cultural impacts to recreational fishing be acknowledged by the proponent, they may consider how augmenting the proposed spoil area (or another area) with additional purpose-built reef habitat structures may expedite potential offsets provided to recreational fishers in the form of improved fishing opportunities.

I thank you for the opportunity to have input on this referral. Should you require any further information, please do not hesitate to contact me directly.

Yours sincerely,

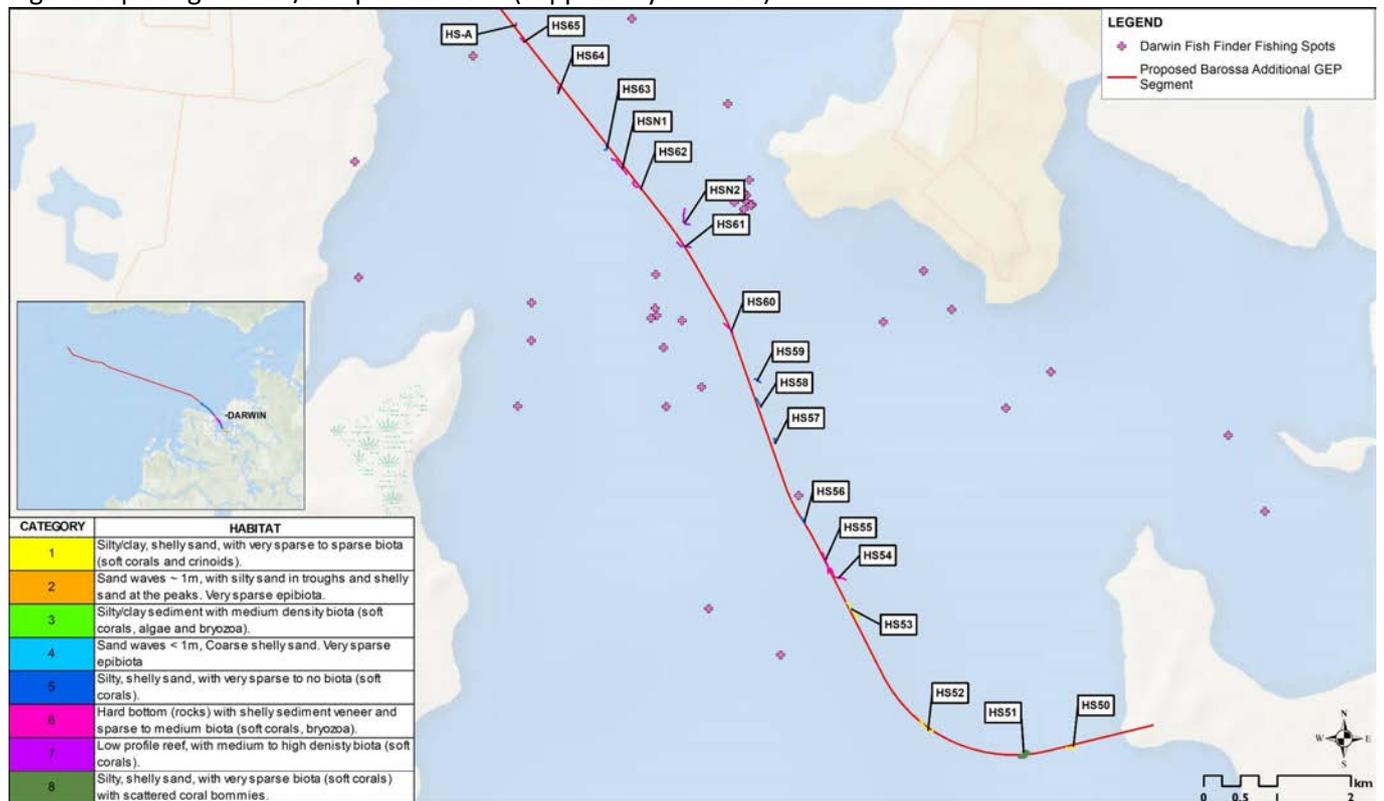


David Ciaravolo
Chief Executive Officer

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Appendix:

Figure depicting habitat/sample locations (supplied by SANTOS)



References:

Cuddington K, Fortin M-J, Gerber LR, Hastings A, Liebhold A, O'Connor M & Ray C (2013). Process-based models are required to manage ecological systems in a changing world. *Ecosphere* 4(2):article 20.

Department of Primary Industry and Resources, (2017) Management Framework for The Northern Territory Mud Crab Fishery.