ntepa Northern Territory Environment Protection Authority

Statement of Reasons

TENAX PTY LTD – TROPICAL TIDAL TESTING CENTRE

PROJECT

The Proponent, Tenax Pty Ltd, proposes to construct and operate the Tropical Tidal Testing Centre (T^3C) in the Clarence Strait, approximately 50km north-east of Darwin. The T^3C would be located in South Channel, between Gunn Point and South West Vernon Island, NT.

The T^3C would involve the installation and operation of up to 15 tidal generators. The primary purpose of the T^3C is to inform and assess the potential impacts of tidal generators in a tropical environment. Findings from the T^3C would be used to inform the design and mitigation measures for the Clarence Strait Tidal Energy Project, which is currently being assessed by the NT and Australian Governments at the level of an Environmental Impact Statement (EIS). Information pertaining to the assessment chronology and EIS documentation can be viewed on the Clarence Strait Tidal Energy Project page of the NT Environment Protection Authority (NT EPA) website at:

http://www.ntepa.nt.gov.au/environmental-assessments/assessment/register/tenaxtidal

The T^3C would consist of the following offshore and onshore components:

- Up to 15 tidal generators, each individually anchored to an approximately 16m X 16m gravity base, installed using a lift vessel during slack tide;
- Three 350m X 350m tidal generator bays with a pre-installed submarine cable connection point, whereby up to five generators could be connecting by individual cables using divers or a remote operated vehicle;
- Submarine cable, nominally 11kV and 100mm in diameter, connecting the tidal generator bays to a single, horizontal directionally drilled shore crossing location;
- A beach joint located in an approximately 5m X 2-5m pit connecting sea and land cables;
- Underground cables from the joints to a small control room located on Gunn Point;
- A 20m X 20m remote access control room housing transformers, switchgear, meters, data and feedback controls as well as monitoring equipment to allow the independent monitoring of each generator and a range of ambient conditions;
- A section of overhead line exporting power from the control room and connecting to the existing 22kV Gunn Point power line; and
- An extension to the existing power line at Gunn Point connecting electricity from the Project to the Darwin/Katherine electricity grid.

The footprint of the T^3C is estimated to be between 0.427ha and 0.823ha for the deployment of equipment; however the area under lease is expected to be significantly greater to allow for flexibility of deployment. The configuration of the tidal generators within the generator bays would be flexible and exact locations of the generator bays and underground cabling requirements within Clarence Strait are undetermined. If gravity base anchors are not suited to local site conditions other methods such as rock bolt anchoring, gravity anchors with skirts or gravity anchors connected to mooring chains may be used in place of or in addition to a gravity base.

The operational life of the T^3C project is expected to be 25 years. Decommissioning would involve removal of tidal generators, submarine cables and control rooms. The generator gravity bases would be de-ballasted, if necessary, and lifted from the sea floor.

The Notice of Intent (NOI) for the T^3C was referred to the NT EPA on 17 December 2013 for consideration under the *Environmental Assessment Act* (EA Act).

CONSULTATION

NT EPA staff have reviewed the NOI in consultation with Northern Territory Government (NTG) advisory bodies, as required by clause 8(1) of the Environmental Assessment Administrative Procedures.

JUSTIFICATION

A review of the NOI identified the following potential significant impacts and risks to the environment from the proposed development:

- Disturbance to and potential loss of individuals of threatened marine and migratory species listed under the *Environment Protection and Biodiversity Conservation Act 1999* and the *Territory Parks and Wildlife Conservation Act*;
- Disruption to commercial, recreational and charter tourism fishing activities in the area;
- Potential to interrupt shipping lands and other users of the site;
- The potential for construction and operation of the project to affect water quality, disturb potential acid sulphate soils and introduce marine pests; and
- Potential to disturb known and unknown sites of indigenous and non-indigenous cultural or archaeological significance.

Uncertainty exists around the scope of the project in relation to the scale, operational factors, timeframes and complexity of all components, including decommissioning. Of particular importance is the uncertainty regarding the location, number, design and duration of deployment of the tidal generators in the Clarence Strait. The Proponent has indicated that tidal generators from a range of developers would be trialled and that the length of the trial period for each tidal generator would be subject to agreements between the T^3C and the tidal generator developers. A risk assessment would be completed for each generator prior to installation to determine the potential impacts of the generator and allow the development of suitable mitigation strategies and monitoring equipment. This assessment would determine the generator's suitability for deployment and would consider aspects such as survivability during extreme storms, systems redundancy to prevent leakages, material selection and anti-foulant coatings, etc. However, agreement details and operational specifications of tidal generators are yet to be presented to the NTG for consideration.

In addition to the above potential environmental impacts, assessment is considered necessary as the activities associated with the T^3C would occur in Clarence Strait, which is of strategic importance to future shipping needs. The Proponent, and its operations in the Clarence Strait, will continue to remain the focus of considerable community awareness and public interest.

RECOMMENDATION

The NT EPA considers that there is a risk of significant impacts to the environment from this proposal. A number of the risks have not been adequately characterised and require a more comprehensive assessment with further studies. Therefore, the proposal requires assessment under the EA Act at the level of an EIS.

DR BILL FREELAND
NT ENVIRONMENT PROTECTION AUTHORITY

April 2014