www.speseas.org info@speseas.org

June 6th, 2020

Ms. Jenell Partap
Corporate Secretary
Environmental Management Authority
#8 Elizabeth Street
St. Clair, Port-of-Spain
Trinidad and Tobago
(submitted via email to CorpSec@ema.co.tt)

RE: NIDCO Toco Port Project Environmental Impact Assessment (CEC 5345/2017)

Dear Ms. Partap,

We are pleased to share with you some further commentary on the NIDCO Toco Port Project Environmental Impact Assessment (CEC 5345/2017), which was made available for public viewing on the EMA's website on 14th April 2020. We previously submitted comments on 21st May 2020.

SpeSeas is a non-profit, non-governmental organisation promoting positive change and sustainable use of our ocean resources using science, advocacy, and outreach. Our objectives are to:

- Undertake research on coastal and marine ecosystems that informs and guides management, aids in understanding the relevant human impacts, and directs the development of innovative solutions.
- Improve stakeholders' understanding of their relationships with coastal and marine ecosystems.
- Advocate for integrated management, effective governance, and stewardship of coastal and marine ecosystems and the resources they provide to all sectors of society.

Consent is granted for sharing the opinions expressed.

Sincerely,

Dr. Diva Amon
Director/Secretary, SpeSeas

SECTION A: GENERAL COMMENTS

The following represents an overview of our assessment of Section 4.2.1.4 Oceanography and Appendix D - Coastal Dynamics Modelling Report. A detailed description of our concerns is presented in Section B.

In our assessment we have found that there is insufficient data including in situ measurements of currents, waves, tides, sediment grain size, cross shore profiles and adequate bathymetry. Furthermore the inattention to simple details in the presentation of relevant data suggests a lack of due diligence in establishing the baseline conditions. If the baseline is not well established, then this suggests that the corresponding modelling and Impact Assessment are not adequate, and therefore very little confidence can be placed in the EIA.

We recommend that the EMA engage an external independent expert in oceanographic modelling to review the modelling report in greater detail.

SECTION B: ITEMIZED COMMENTS

4. Physical Environmental and Social Baseline

4.2.1.4 Oceanography

Pg 4-179: Besides the contributions of the Orinoco and Amazon Rivers, what are the local sources of sediment that affect the study area?

Pg 4-179 – 4-185: Grain size data is presented from independent studies by Smith Warner International (SWI) and Environmental Services Limited (ESL). The SWI sediment samples show that sediments become finer further from shore in deeper waters. However, the opposite is seen in the ESL data where the C_NF sample closer to shore consists of silt and the C_FF sample further from shore consists of sand. This discrepancy was not addressed in the discussion. More sediment samples should have been collected to give a better representation of baseline sediment distribution throughout the entire study area.

Pg 4-186-190: The information in this sub-section on Currents is not referenced or validated with measured data. Confidence cannot be placed in the model results without knowledge of the environment through the measuring of currents. It was mentioned that conditions were observed in 2018; this data should be presented if it was measured. It is strongly recommended that offshore and nearshore currents be measured during the wet and dry season to properly show that the "model was set up to represent a typical wet and

dry season". The measured data should be displayed as time series or rose plots in order to easily show conditions within the study area.

Pg 4-190 (and repeated on pg D-108 of the Coastal Dynamics Modelling Report): "It should be noted that the coastal processes do not vary significantly from one year to the other, but the freshwater flows entering the coastal waters may experience increasingly high and low conditions such as a drought year." This statement needs to be revised to properly define which coastal processes do not vary significantly from one year to the other. Waves certainly change from year to year. Also please explain what is meant by "high and low conditions such as a drought year"?

Pg 4-198-203: Wave data should be measured within the study area, specifically in the offshore and the nearshore areas. In this way, the natural transformation of the waves from offshore to nearshore is properly represented and should be showed through time series or rose plots. Measured data within the study area is important to represent the natural environment and validate the models used.

Appendix D - Coastal Dynamics Modelling Report

4.1 Hydrodynamic Model

Pg D-96: No measured datasets used for validation of currents nearshore or offshore. There was insufficient sediment classification of study area. No beach profiles were executed. No wave data were included in sediment transport. These data gaps need to be addressed, otherwise there can be no confidence in the results. Field data needs to be collected and used for calibration and validation.

Pg D-106: “Output from the model during 2018 were reflective of an anomalous year such that runoff was greater in February (Dry Season) than in July (Wet Season).” Please provide a reason to explain this anomalous event.

4.3 Sediment Transport Modelling

Pg D-224: In this section, changes in sedimentation during a tidal cycle are considered. Seasonal variations should also be considered, when wave energy and sediment output from rivers change significantly.

5.2 ERM’s Historical Imagery Analysis

Pg D-260: The CoastSat software applied for the analysis is stated to have an approximate horizontal accuracy of 10m based on publicly-available imagery. While this analysis is definitely helpful, the accuracy is too low for it to stand alone and it should be supplemented with some higher resolution analysis.

Pg D-261-273: There should be more transects within the study area as erosion/accretion rates can vary within small distances due to changes in shoreline orientation and by extension, wave approach.

5.3 Other Modeling Studies

Pg D-274: SWI predicted an inactive zone west of the Port based on a previous design/location. It is stated that even though the port location has been modified the results are still considered technically valid. What are the implications of this inactive zone? How is it expected to impact the shoreline at this point? How will this impact turtle nesting at Mission Beach? This zone was not noted in the Impacts section.

5.4 Modeling Future Coastal Conditions

No validation of the wave model has been provided using measured data. Please include.

What is the expected zone of influence of the port? How far downdrift are impacts expected to occur? This should also be highlighted in the Impacts section and discussed with respect to the implications for turtle nesting and recreational beach use.