2. Particulate Matter

Even though it is for a short period, it is noted that while the CALPUFF modelled annual $PM_{2.5}$ averages did not exceed the 15.0 $\mu g/m^3$ for the $PM_{2.5}$ national annual standard, the daily average data from the limited monitoring by ESL showed that already the area for the port has 24-hour $PM_{2.5}$ average concentration that reached and exceeded the WHO maximum permissible level of 35 $\mu g/m^3$ during 3 of the 13 events. This is a relatively high percentage, while another 4 events with 23.0 $\mu g/m^3$ was relatively close to the current 24-hour standard of 35.0 $\mu g/m^3$.

Additionally, the monitored 24-hour average PM_{10} concentration reached as high as 69 $\mu g/m^3$ which is just slightly lower than the maximum permissible level of 75 $\mu g/m^3$. These results suggest that there is already a great risk of exposure to PM_{10} and $PM_{2.5}$ in the area.

As such, the contribution of the existing local sources of PM_{10} and $PM_{2.5}$ to the modelled ambient particulate concentrations must be considered in the overall emission concentration likely at the time of operations and combustion. The modelling for dispersion must take this into consideration for completeness and representativeness. More on this is presented under the CALPUFF Model section hereunder.

3. CALPUFF Model

The EIA Report indicates that the CALPUFF model which includes the CALMET diagnostic model is coupled to the WRF to obtain a meso-scale meteorological field as a first guess field. When one evaluates the WRF, it is obvious that the model grid-points from which the data used to drive the CALPUFF are located either offshore or in much higher elevated areas. This raises two concerns in absence of verification and validation of the WRF:

1 The temperatures used by the CALPUFF would be an underestimation of the actual temperatures at the site due to differential heating between land and water and due to the fact that temperatures are much cooler at higher elevations;

2 The winds are likely to be an overestimation in strength due to the difference in frictional and turbulent eddies and differential heating between the land and the ocean which will affect the wind direction such that at the site the wind will also be more variable than depicted in the wind-roses.

This is important, since the WRF data is being used to make impact decision in circumstances where there are larger uncertainties which can skew the results in a particular direction.

Given the complexity of the terrain within the environment of the project, the micro-meteorological conditions that will affect the plume dispersion, becomes more important. The annual and seasonal wind patterns from as far as Crown Point and the WRF output for the surrounding area of this port are mainly ENE-ESE; however, significant variations are likely at the local scale every day. These complex conditions are due to the land-sea interactions that can drive micro-scale land and sea breeze in the area which pose significant uncertainties for the modelled plume dispersions directions.

The EIA Report does not indicate whether the CALMET model within CALPUFF is used to adjust the meteorological fields including the wind, taking into consideration the local influence that can be unearthed by the use of high-resolution terrain and land use data in the area, before being coupled with the dispersion model CALPUFF. Added to this, it does not provide information on the planetary boundary layer scheme, the cumulus parameterization scheme, nor the microphysics scheme or soil model used to configure the WRF. These are important factors because there are several schemes in each category, some of which significantly underestimate key meteorological variables such as temperature in our area, sometimes by as much as 3°C lower than observed temperatures, as well as the wind. This becomes important in the modelling of emissions, given the role these elements play in plume generation and dispersion. It would have been prudent to drive the CALPUFF with actual surface measurements from Piarco or Crown Point to generate some degree of comparison.

Added to this uncertainty, it is also noted that the CALPUFF modelling did not incorporate radiosonde data from Piarco which provides observed wind data at all levels, and could have been used as a comparison verification method. This would have enabled the model to better represent upper air weather pattern features captured by the radiosonde, in addition to WRF data sources.

On an island scale, meteorological simulations with high representativeness over complex terrain are critical to achieve accurate plume dispersion simulations and require high resolution grids to capture micro-scale winds and temperatures at the port site. It is recommended that the degree of confidence placed on the CALPUFF model results should be lowered in circumstances, where no validation or verification of the meteorological input data occurred.

It is also noted that the CALPUFF model analysis failed to develop an emission scenario that reflected current or baseline emissions conditions. This consideration would have enabled an estimate and simulation of a more representative emission scenarios during both the construction and operational phases in order to realistically characterise emission levels that are more probable for the area.

Recommendation

1. Given the longevity of this project it is necessary to model a combined estimate of baseline emissions from the monitored period with emission estimates based on the volume of vehicular traffic expected and the emissions from the envisage operations. This is absolutely necessary in order to realistically determine the air quality impacts of the project at the receptors. In the absence of such an approach, it is difficult to accept the results given the large uncertainties which exist from the modelling;
2. The EIA must consider adding the existing baseline emissions as a source, along with a specific number of vehicles at the time of operations as another source during the modelling of the operations phase;
3. The EIA must provide the difference between the maximum potential emissions from the project based on the regulatory requirements and an estimate of emissions due to the port operations in order to inform the type of mitigation actions that could be implemented;
4. Similarly, the EIA needs to assess the port operations emission scenarios based on varying incremental periods of 5 years for example, while taking into account estimated future socio-economic growth conditions within the area. This would have an impact on the trend in the level emissions in the area over time.

Rationale

a) While the CALPUFF dispersion model demonstrated that the concentration impacts of emissions during the construction and operations phases are likely to be mostly within the standards, the long-range transport of pollutants demonstrated by the models implies that a large number of people are likely to be exposed to these moderate emission concentration, which are likely to increase when consideration is given to increase traffic volumes which did not form part of the assessment;

b) It is reasonable to expect that CO concentration and other emissions would be low initially and increase over time; therefore a one-size fits-all modelling scenario is not the best option in such a circumstance to determine the level of emissions possible. An incremental assessment is preferred;

c) The EIA Report has provided little to no information to evaluate the degree of uncertainty in CALPUFF atmospheric modelling, given the critical assumptions made with regard to the model sensitivity to the Toco area. These limitations make it difficult to determine with certainty, whether the estimates are sufficiently accurate to make a determination that the long-term air quality impacts are minor;

d) Confidence in the output from the CALPUFF model and the impact assessment conclusion drawn is lowered when consideration is given to the fact that the assessment did not consider adding the existing baseline emissions as a source. Neither did it consider emission output for a specific number of vehicles at the time of operations. This will be an important contributing emission source, given the potentially high concentration of cars, other vehicular traffic, and port activity including the diesel truck traffic, and ferry services that are likely during the operations phase of the project;

e) The importance of using the baseline data as an additional source during construction and operations is explained by the fact that the more highly polluted area within the project area would have even higher pollution levels after the port starts operations. Without this, it pollution assessment and dispersion results are conservative;

f) The CALPUFF modelling approach did not consider an estimate of the incremental contributions of different levels of air pollution emissions from start-up of operations to an aged version of the port and ferries. This is important because an aged version is likely to produce much greater volumes of emissions than newer facilities;

g) Notwithstanding the short period of the baseline monitoring mentioned above, it is noted that while the modelled annual $PM_{2.5}$ averages did not exceed the 15.0 $\mu g/m^3$ $PM_{2.5}$ national annual standard, the daily average data from the limited monitoring by ESL show that area had a 24-h $PM_{2.5}$ average concentration which reached and exceeded the WHO maximum permissible level of 35 $\mu g/m^3$ during 3 of the 13 events, which is a relatively high percentage, while another 4 events with 23.0 $\mu g/m^3$ was relatively close to the current 24-h standard of 35.0 $\mu g/m^3$.

APPENDIX B NOISE MODELLING REPORT

1. Page B-7 states that the noise emissions data for boats were obtained from a study in a canal city. Please provide a statement justifying that this is data is appropriate for an open sea environment.

APPENDIX C STAKEHOLDER ENGAGEMENT REPORT AND APPENDICES

1. At Page C-4-5 the stakeholder identification process is outlined. However, several key stakeholder groups were not included as follows:

   - Ferry passengers - In addition to the Toco community and fisherfolk, this group will be the most directly impacted by the proposed inter-island ferry service through the proposed Toco Port. Among this group are many residents of both islands who use the ferry service regularly for a variety of purposes including vacation and business. The failure to have any public consultations in Tobago and elsewhere in Trinidad has resulted in a significant stakeholder group not being consulted;

   - Mariners - The proposed port includes a marina for recreational yachts, yet this group of stakeholders were not included;

- Civil society - Social and environmental impacts resulting from the proposed activities may be of interest to stakeholders in Tobago and elsewhere in Trinidad. The Stakeholder Engagement Report as well as Chapter 1 of the EIA Report (Pages C-5 and 1-3 respectively), highlight Tobago as an Indirect Study Area meaning a "*broader area affected by the development.*" It describes the area as "*the broader regional context with respect to the Project, such as general maritime traffic … and relevant coastal areas that are potentially vulnerable to any accidental releases or influence from the project.*" Therefore, while the EIA Report clearly recognises the potential impacts of the proposed development on areas beyond the proposed site of the Toco Port, it failed to undertake consultations with all stakeholders who could be affected.

2. At Page C-6 the Stakeholder Categorisation and Analysis was provided. However some key stakeholders were not identified such as beach goers, recreational fishers, surfers and sea moss harvesters. Please address.

3. Table 3-1 at Page C-9-10 has columns intended to indicate what level priority has been placed on each stakeholder group, but the columns are empty. Please address.

4. Attachment C-4 provided Public Meeting Minutes. However, according to the Final ToR, a verbatim record of the proceedings was required. As such, please provide the transcripts of the public meetings conducted.

APPENDIX D COASTAL DYNAMICS MODELLING REPORT

1. At Page D-96 there were several deficiencies with the hydrodynamic model. These are as follows:

   - Measured datasets were not used for validation of currents nearshore or offshore;
   - There was insufficient sediment classification of study area;
   - Beach profiles were not executed; and
   - Wave data was not included in sediment transport.

   These data gaps should be addressed, otherwise there can be no confidence in the results. Therefore field data needs to be collected and used for calibration and validation.

2. Page D-106 states "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 explain this anomalous event and provide supporting evidence to justify the statement.

3. At Page D-224, 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. Please address.

4. At Page D-260, the CoastSat software applied for the analysis is stated to have an approximate horizontal accuracy of 10 m 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. Please address.

5. Page D-261 to D-273 states "Five transects (Figure 5-4) were selected within the approximately 7 km L'Anse Defour Bay shoreline, which includes sandy beaches and rocky shorelines." Since erosion/accretion rates can vary within small distances due to changes in shoreline orientation and by extension, wave approach additional transects within the study area are recommended. Please address.

6. At Page D-274, SWI predicted an inactive zone west of the Port based on a previous design/location. It states that even though the port location has been modified the results are still considered technically valid. Please provide a discussion of the implications of this inactive zone and the potential impact to the shoreline at this point and turtle nesting at Mission Beach. In addition, this zone was not noted in the Impacts section. As such, please revise the section accordingly.

7. In Section 5.4 entitled Modelling Future Coastal Conditions, validation of the wave model was not provided using measured data. Please address.

   In addition, please provide the expected zone of influence of the port and an assessment of the impact downdrift. This should also be highlighted in the Impacts section and discussed with respect to the implications for turtle nesting and recreational beach use.

8. Section 5.4.2.3, Page D-293 wave modelling undertaken for Hurricane conditions included a still water level of 4.69 m MSL. The basis of this level is not clearly presented, but it is higher than the crest of the proposed breakwater. Under such conditions the breakwater would also be exposed to very large wave heights and therefore it is unclear whether the design of the breakwater and the structures in the lee of it, has taken account of such events.

Regional currents have been examined from HYCOM and a local model was developed to model the flows closer to the site. However, only very limited information is presented on the model setup, and no detailed information is provided as to how the regional flow varies through the year and through the water column. Therefore, it is not possible to understand what has been modelled and whether it is appropriate. The extent of the local GEMSS model is too small, as the HYCOM data is not refined enough at the boundary of the GEMSS model to capture the regional flows adequately. No measured data is presented, and the model has not been calibrated and verified using any measured data, which is a requirement of the Final ToR. At the site it is expected that wave driven currents will play an important role in the current circulation and general transport regime and these are not considered in the modelling and discussion presented. The discharges from the rivers are likely to have a very limited influence on the general flow circulation at the site, however, it is also important that these are recognised and described when describing the baseline flow regime.

Within Appendix D, the GEMSS model appears to have been run without the inclusion of the regional currents. No explanation is provided as to why the model setup in Section 4.2.1.4 appears to include the regional current and the setup in Appendix D does not. But the exclusion of regional flows from the modelling in Appendix D will significantly affect the ability of the model to reproduce the flows at the site, and related studies that utilise the flow model results, including sediment transport modelling, water quality modelling and dredge plume dispersion studies, will also be compromised accordingly. Please address.

Other comments which require addressing are provided against the relevant section within Appendix D below:

9. Oceanographic assessment (Section 4)

a) The general setup of the hydrodynamic model is described in Section 4.1.2. The details of the bathymetric data used in the model are limited and the extents of the various data sets are not shown clearly. The nearshore bathymetry appears to be developed from ~2 m contour data which is considered relatively coarse, the data from the other sources is not presented, however, from Section 4.2.1.4 it appears the other data sets relate to topographic data, other than the GEBCO data which is very coarse. The extent of the model is considered too small with quite varied bed depths along the open boundaries of the model. With the model extent adopted, it is considered very unlikely that suitable boundary condition can be prescribed which will take account of the general oceanographic currents in the regions. It is also likely that model boundary effect may influence flows at the site. However, it is not possible to assess this from the details given and the limited model results presented, which only cover a detailed area around the proposed port.

Importantly, the forces driving the model are not clearly explained and it would have helped to have a wider discussion on the general flow regime at the sites as part of this section. Section 4.1.2.2, states that salinity and temperature are prescribed from HYCOM, meteorological forcing from NOAA, freshwater flows from the watershed modelling (no units are included in Table 4-2) and tidal levels from the Oregon State University's (OSU's) tidal prediction software. However, the currents in the region are strongly influenced by the South Equatorial flow and Orinoco discharge that flow up along the eastern coast of Trinidad and then through Galleons Passage, which lies between Trinidad and Tobago. No details are provided to say if this flow is accounted for and how it may vary through the year. It is also not possible to ascertain this from the limited detailed area vector plots provided (Figure 4-12 and 4-13). However, many to the current rose plots (e.g. Site 02 on Figure 4-18) show a more bi-directional flow, going both west – east and east – west, which suggest the regional flow is not accounted for. No details are provided on the seasonal variability of salinity and temperature, the variation of these parameters through the water column, and the values used in the modelling.

Within Chapter 4 of the EIA (Section 4.2.1.4 Currents), consideration is given to the South Equatorial Flow and Orinoco discharge and the same GEMSS model appears to have been used to simulate this flow, however, from the HYCOM flow field presented in Figure 4.2.1.4-12, it is clear the HYCOM model is not resolved sufficiently to be able to define flow conditions at the resolution of the GEMSS model. Hence, it is considered that the GEMSS model should have covered a larger extent.

In Section 4.1.2.3 (Simulation Period), it is stated that the model has been run for a spring neap cycle, however in the preceding section it states the HYCOM temperature and salinity data was applied for the whole of 2018. It is therefore not clear what time period has been simulated, or whether the model has stabilised over the period simulated. No flow vector plots are provided of the 3D nature of the flow circulation, which appears to be significant from some of the current speed roses and the vector plots provided. For example, the vector plot Figure 4-13 shows the surface flow in the harbour to be in one general direction with no counter current. Therefore, there, must be a counter current lower in the water column.

No calibration or validation of the model has been undertaken against measured data as required by the Final ToR, and no measured oceanographic data has been presented. The Final ToR requires '*site-specific data of at least two (2) months wet season and two (2) months dry season shall be used to validate and calibrate the model. This data should be collected at least four (4) months apart*'. Modelling is not presented for both typical and worst cases conditions as required in the Final ToR and there is limited discussion or consideration provided on what constitutes a more typical or worst case condition.

When the port is included in the model, the ferry berth structure does not appear to be included in the model. It is understood that this will be a suspended deck piled structure. No details are provided of the proposed piling density, but it is expected that the piles would result in a restriction of the flows, which would reduce the mixing afforded to the marina basin which in the most protected part of the proposed harbour and also the location of one of the two collected stream discharges.

Given the above, there is no confidence in the reliability of the flow modelling that is presented in Chapter 4 of Appendix D. The water quality and sediment transport modelling are also driven by these flows, so the confidence in the results of these studies are also affected. Further, specific comments on the water quality and sediment transport modelling are provided below.

b) In Section 4.2 of Appendix D, a flushing study utilising a conservative tracer has been undertaken to examine the effect of the development on water quality. This is a typical and valuable way to examine the effect of a development on water quality, but it also has many limitations. It is not actually predicting any water quality parameters itself and there is no clear or reliable basis to assign a flushing rate (or residence time) to what may be considered to have good, reasonable or poor water quality, since the latter is also affected by the size of the water body being considered and the input of pollutants (including nutrients) into the water body.

Details of the flushing assessment that has been undertaken are extremely limited and the area plots provided (Figure 4-48 – 4-85) do not show significant detail (colour scales) and extent to examine how the model is performing. Nor are details provided of the 3D structure of the water column. The 3D structure of the water body can considerably alter the flushing rates and there is no information as to how this varies in reality (i.e. from measured data) or within the modelling studies. The initialisation area used in the model also extends beyond the limits of the harbour which will affect the assessment of impacts, and the suspended ferry deck ferry berth terminal does not appear to have been included in the model in any way.

Importantly, the assessment does not examine the influence of waves which will also have a significant effect on the nearshore circulation prior to the construction of the port but will have a much more restricted role on the flow circulation post development.

A key element of the scheme is to capture and divert the existing rivers /streams with a discharge to the west of the development and one within the proposed marina. The discharge into the marina, is at a location that is likely to be afforded the least mixing and could therefore result in reduced salinity. Furthermore, if this discharge were to contain high level nutrients, this combined with the reduced flushing rate may also lead to greater water quality problems. The fluvial discharge should therefore be given greater consideration in the assessment.

As the water quality model relies on the results of the hydrodynamic models, the issues identified and discussed in relation to the hydrodynamic modelling also affect the water quality modelling. The water quality modelling will therefore need to be reconsidered once the issues associated with the hydrodynamic modelling have been addressed.

c) Section 4.3 of Appendix D describes the sediment transport modelling that has been undertaken based on the hydrodynamic regime presented. This modelling excludes the regional oceanographic flows and the impact of waves. The assessment is very limited and assumes either fine or coarse sands, it does not link to description of the existing bed types in the area. It is understood that fine sediment (silts) are found in the region (Section 4.2.1.4 Oceanography – Sediment Transport Regime) and that there is a high general sediment load in the region due to the Orinoco discharge (Section 4.2.1.4 Oceanography – Sediment Transport Regime of Section 4 of the EIA Report). There will also be sediment load induced from wave activity at the site and from the adjacent coastline. Therefore, the assessment is not considered to provide a suitable basis for assessing the impacts of the development on the sediment transport regime.

As with the water quality (flushing model), it is further highlighted that the re-direction of the streams, includes a discharge into the marina area of the harbour. If this flow contains sediment this material is likely to settle out more rapidly in the new port and there will be limited current flows and wave activity to remobilise the material. The consequence of this is not considered in the assessment.

It is further noted that, siltation occurs most rapidly when silt laden freshwater meets saline water and the ionic charges on the silt particles change resulting in flocculation. If fresh water with silt particles initially mixes with saline water in the new channel to be developed between the existing land and reclamation, this could lead to a rapid accumulation of fines within the channel. This is not presently examined in the assessment.

As the sediment transport model relies on the results of the hydrodynamic models, the issues identified and discussed in relation to the hydrodynamic modelling also affect the sediment transport modelling. The sediment transport modelling will therefore need to be reconsidered once the issues associated with the hydrodynamic modelling have been addressed.

10. Coastal morphology (Section 5)

Coastal morphology in considered in Section 5 of Appendix D, with consideration given to previous historic studies to analyse historical erosion trends, a quantitative analysis of more recent satellite imagery, a review and summary of existing modelling studies and an independent modelling study to assess the impact of the port.

Within the review of the historical assessments no details are presented from these assessments to help describe / ascertain the coastal morphological changes that have occurred at the project site.

The image based analysis of shoreline changes between July 2015 and September 2019, shows that the three beaches examined with Grand L'Anse Bay have remained relatively stable over this period, and that they are therefore likely to be in a state of dynamic equilibrium. However, limited details are also provided from the assessment. For each beach in Grand L'Anse Bay, the individual shorelines should be presented for each of the individual satellites images to provide more information on the shoreline orientation and whether this has changed between the separate images.

The assessment recognises that hurricanes and other types of storms were limited during the time period the analysed satellite images were obtained, therefore a review of other relevant wave and coastal morphology studies was undertaken with a focus on more extreme conditions. Of the two studies identified, they were limited in their evaluation of shoreline change, and separate wave (SWAN) and morphological modelling (X-BEACH) was then undertaken by ERM as set out in Section 5.4 of Appendix D.

The input parameters for the wave and morphological modelling studies are set out in Section 5.4.1, and draw on information from previous studies. However, the link between the information presented in 5.4.1 and that used in the modelling is not that clear. Section 5.4.1 discusses some more typical conditions, but the modelling has only been undertaken for more extreme conditions. The extreme conditions that are used are generally taken from other previous studies and it has not been possible to ascertain the likely appropriateness of the values that have been used.

The description of the SWAN wave modelling is provided in 5.4.2. The model is suitable for the transformation of wave inshore, assessment of how well the model bathymetry is resolved was difficult due to the colour scales used. Assessment of the appropriateness of the model input conditions which have been obtained from a separate study was also not possible. The modelling is only focused on extreme conditions and no assessment has been made on how the annual wave climate will change as a result for the development, as required by the Final ToR. Wide area model plots are not presented to examine whether the model results appear sensible and plots are not provided for many of the waves cases simulated in Section 5.4.2.4, including those from the northwest.

A single plot showing wave conditions for both the pre and post development is provided in Figure 5-44. The incident wave direction for this event is not stated but it is assumed it relates to a north westerly event. The results shown in the Figure 5-44 with the port in place do not appear realistic as one would expect greater wave activity in the port under this condition. It is a possibility that wave diffraction and reflection are not being fully resolved by the model. Please re-consider.

The X-BEACH modelling presented in Section 5.4.3 (with the impact of the port presented in 5.5.2), was undertaken to examine the sediment transport regime, both with and without the development under extreme wave conditions only. As stated in 5.4.3.1, a limitation of the use of the model in the present assessment, was the limited availability of the sediment data (which was only available at 5 sites). The modelling should be informed by more detailed information on the sediment distribution throughout the bay. Furthermore, model results should also be used to help describe and explain the general sediment distribution with the bays to ensure the sediment transport regime in the bay is correctly understood. However, no such assessment has been made and it would not be possible to make these without more detailed information on the spatial variability of the bed types across the study area.

The grid spacing of the X-BEACH model is not specified, but from Figure 5-46, it appears that the grid spacing is too coarse to resolve wave breaking and wave induced flows in the study area. It is also noted that the model appears to have been driven by hurricane winds only and not the associated wave conditions. If this is the case the waves in the model will have been significantly underestimated. No detailed wave and flow plots are provided from the X-BEACH modelling, in order to examine if the results presented are realistic, or to help describe the flow and sediment regime within the bay.

Section 5.5, discusses the influence of the port on the wave climate (Section 5.5.1) and natural morphodynamics (Section 5.5.2). However, the details presented are limited to comparing maximum significant wave heights, and maximum accretion/erosion rates from the SWAN and X-Beach modelling at a limited number of locations under a series of extreme conditions only. This assessment does not consider how the wave climate will change more generally and under more typical conditions and how this will affect coastal morphology. For example, the prevailing wave conditions are from the west and northwest, and therefore the prevailing wave at mission beach will be from the northwest.

However, once the port is constructed, mission beach will be significantly sheltered from such waves. Therefore, the beach could be subject to significant accretion of fines (silts and muds) over much of the year. This could significantly change the nature of the beach. Furthermore, the littoral drift direction could also change significantly as the beach will be subject to a very different wave climate. Both the cross-shore and alongshore sediment transport regime should be described and presented for more typical and extreme wave conditions.

Vessel induced waves are considered in Section 5.5.3 of Appendix D. The main modelling limitation of this study was considered to be available data on the approach velocity and a constant 0.3 knots was assumed. The model description and results are not well described and are somewhat confusing. The text describes wave heights outside to be -0.1 m, increasing to 0.1 m in the basin. It is unclear what is meant by a -ve wave height. In reality, waves that propagate out from the bow would have a +ve size as the vessel approaches. A clear bow wave pattern is also not seen in Figure 5-66 for the approaching vessel. The most significant wave associated with a high speed ferry typically occurs as the vessel slows as it approaches a port from a speed much greater than 0.3 Knots. These bow waves can be over 1 m high. Such an event is not considered. However, the approach of the vessel is also a practice that can be managed. If a problem, the ferry could slow slightly earlier or take a slightly different approach line. The wave generated from the vessel at much lower speed as it manoeuvres will generally be negligible to the waves presently experienced at the site under more typical conditions, or those that will occur with the port in place under more extreme conditions.

Section 5.6 of Appendix D, provides a brief summary of the coastal morphology related studies, but as these studies have significant limitations the summary does not provide a suitable assessment of the impacts. Please re-assess.

11. Dredging (Section 6)

The impacts of dredging are modelled in Section 6 of Appendix D, the modelling is based on the flows predicted by the GEMSS model without the port in place. The ability of this model to have reproduced the flows within the area is in question as it does not appear to include the regional oceanic currents. Wave generated currents are also not considered.

The release scenarios identified are described to be conservative, but do not consider the possible variation and distribution of bed types that exist across the areas to be dredged. Instead the modelling appears to use a single particle distribution that is comprised primarily of gravels and sands that would settle much more rapidly. Other details of the modelling that are not presented include the settling velocity of the material and the salinity and temperature of the receiving water.

Therefore, it is not possible to fully assess the reliability of the results presented. However, the extent of the predicted plume in Figure 6-2 to Figure 6-5, and the extent of the deposition areas Figure 6-6), appear very small when considering the dredging of material which could contain significant quantities of fine material (silts). The deposition plots do show some deposition a reasonable distance from the site of the dredging, suggesting the plumes must be extending further than has been shown.

No consideration is provided as to how waves may keep material in suspension or re-suspend the material, allowing it to be deposited over a wider area.

The proposed construction methodology also allows for potential overflow of fines from the reclamation area, or possible disposal of material offshore. Neither scenario has been considered or modelled.

No reference has been made to the general background TSS concentration, in order for the significance of the 35 mg/l to be placed into context of the background concentration. As such, please re-assess the modelled impacts of the dredging taking into consideration the above deficiencies.

12. Accidental spills (Section 7)

Accidental spills have been considered in relation to a diesel spill from a tug boat during construction, a diesel spill from a ferry refuelling during port operation and a diesel spill from a ferry collision. The spill scenarios were examined for wet and dry seasons for a spring tide release. It is stated that ocean currents and meteorological conditions were included but no actual details are provided. Details are said to be provided in Section 4.1.2.1 and 4.1.2.2 but is does not say from which report. This referencing number does not appear to link to Section 4 of the EIA or Section 4 of Appendix D.

As it is not possible to know if the underlying hydrodynamics are reasonably represented, it is not possible to assess the results of the modelling with any confidence. From the figures the dry season results for Scenario 1 (Figure 7-2) show the plume being transported directly offshore before running along the coast. In the wet season (Figure 7-3) the plume runs west along the coast and is predicted to reach the coast in 2.5 hours. However, it is not possible to say from the studies presented, whether a release under a more north-easterly wind, may head directly towards the coast and impact it more quickly than the scenario presented. Similarly, it is not possible to comment effectively on the results of the spill modelling for the cases post construction without more detailed knowledge and confidence that the flow conditions that have been used are appropriate.

The summary (Section 7.4), identifies that the events selected were chosen to determine the range of trajectories that the plume could travel with no response activities undertaken. But it is not clear what conditions have been modelled and whether these do contain a suitable range of prevailing hydrodynamic conditions to justify this statement. Please address the deficiencies identified here and re-assess the spill modelling, where applicable.

APPENDIX F ESL AIR QUALITY MONITORING REPORT

1. The Final ToR requested that the sampling network and regime must be designed to obtain a comprehensive assessment of the environmental conditions, including seasonal variations within the study area. Air quality sampling was conducted during the period June-October. As such, the data only represents wet season. Data for dry season remains outstanding. Please address.

2. Table 3 - The monitoring methods used for O_3, CO, SO_2 and NO_2 (Aeroqual 500 Series Monitor with Ozone Sensor and Cairsens Serial) are not internationally acceptable or comparable methods. Recommended methods of sampling and analysis include those developed by the United States Environmental Protection Agency, the New South Wales Approved Methods for the Sampling and Analysis of Air Pollutants or any other internationally accepted or comparable methods (e.g. ISO and Environment Canada). Please ensure that internationally acceptable methods are utilised in a re-assessment, or justify use of alternative methods.

3. Table 3 states that "A Cairsens Cairtub with 3 electrochemical USB sensors compliant with the USEPA specifications" was used. Appendix F10 later states that "The equipment are certified against the USEPA FRM/FEM to obtain valid air monitoring data, provided that they are used in the manner specified by the manufacturer." Please provide comparable studies to support the statement that the sensors are compliant and certified against USEPA specifications. It should be noted only TSP/PM_{10}/$PM_{2.5}$ were monitored utilising USEPA FRM/FEM.

4. Table 3 states that summa canisters were used for VOCs as well as 4 samples of CO as QA/QC. Please provide the laboratory methods/tests conducted for these air pollutants.

5. Section 3.3 presents the results of the CO monitoring utilising the Cairsens Cairtub. Please provide the CO concentrations from the summa canisters, where the monitoring was valid, and compare to the concentrations found for the same monitoring event using the Cairsens Cairtub.

6. Table 4 (Summary of the Evaluation of the Quality Assurance & Quality Control Measures for Air Monitoring within the Onshore Areas in Proximity to the Proposed Toco Port Facility Project Area) states the data collected were deemed valid for the sample period from July – October 2019 from the Cairsens Cairtub. Section 3.5.2.1 indicates that SO_2 was detected for all 16 events with the exception of event 8 and results were presented. Section 3.4.2 presented results of NO_2. This contradicts with Section 4, Page 4-157, which stated "Sulfur dioxide (SO_2) and nitrogen dioxide (NO_2) sensors were also deployed during the monitoring program but did not generate valid data due to quality control issues." Please confirm whether the data collected was valid or invalid. If invalid, baseline ambient air quality data needs to be presented for SO_2 and NO_2.

7. Section 3.5.2.1 shows that the 24-hr averages for at least 12 events exceeding the maximum permissible limits outlined in Schedule 1 of the APR 2014. Please provide an explanation for the exceedances. A table showing the 24-hr concentrations for each event should be included and the 24-hr averages compared to Schedule 1 of the APR 2014.

8. Appendix F4.4 shows the calibration log for the flow regulators. Provide the calibration certificates for all the flow regulators utilised in the monitoring.

9. Appendix F4.5 shows the calibration certificate for the TTBS analytical balance. The date of issue is November 12, 2019 with the calibration date recorded as October 14, 2019. These dates are after the monitoring events. Please provide the calibration certificate for the analytical balance used at the time of the monitoring events (June-October 2019).

10. Appendix F5.2 included field acquisition forms for the minivol samplers. Please address the following:

    - The form for TSP/PM_{10}/$PM_{2.5}$ on August 02, 2019 indicated that the time the equipment went on and off were the same date August 02, 2019 at the same time of 12:45 p.m. Please confirm whether TSP/PM_{10}/$PM_{2.5}$ were monitored on this day and if monitored for a 24 hr period.
    - The form for TSP/PM_{10}/$PM_{2.5}$ on September 12, 2019 indicated that the time equipment went on and off were the same date September 12, 2019 at the same time of 14:10 p.m. Please confirm whether TSP/PM_{10}/$PM_{2.5}$ were monitored on this day and if monitored for a 24 hr period.

11. Appendix F7 - The dates indicated for the monitoring of meteorological conditions for the months of June and September, vary to the dates provided in Appendix F2.5 Section 5. Please confirm the monitoring dates for the meteorological conditions. Provide the raw meteorological data for the monitoring dates and present the wind roses for each of the monitoring days.

12. Appendix F8 - The raw data and adjusted data files for particulate matter, O_3, CO, SO_2, NO_2 and VOCs cannot be accessed via the links provided. The analysis reports are presented for the VOCs. An explanation for the variation in the method detection limits in each sample analysed should be provided. The laboratory analyses records from ASL should be included.

APPENDIX G ESL NOISE QUALITY REPORT

1. At Page G-8, photos of each monitoring location were presented. However, the information on the precise location of the monitoring equipment and a description of the surrounding environment were not provided. For example, with regards to Site 1, it is unclear whether the instruments were placed close to the road (as seen in the top photo) or within the property boundaries of the proposed site, closer to the sea. Also, no information was given as to whether this property was occupied at the time of monitoring, which would determine whether there were such influences on the readings. The same would apply for Site 2. Please address.

2. At Page G-17, while Figure 3 titled "Schematic of Equipment Set-up for Noise Monitoring" presents a schematic of the equipment set-up for noise monitoring, no photos showing the actual set-up of the noise meter on site were provided. Please provide, if available.

3. At Page G-18, Section 2.2.7.1 Meteorological Information, please note the following:

   - Meteorological conditions during the time of monitoring were not recorded at Site 2. It was stated that the conditions at Site 1 were applicable to Site 2 due to the 'proximity' of the sites to each other, however a distance was not stated. Please provide;
   - It was also noted that the Third Schedule of the NPCR requires information on: distinctly audible winds, precipitation and thunder. No information was provided for the latter two. Please provide.

2.2 General Comments

EXECUTIVE SUMMARY

1. At Page ES-2 Section ES. 1.3 Project Description provided an overview of the proposed facilities. However a summary of the Project Schedule was not provided. Please address.

2. At Page ES-5, Section 1.3.1 states "...grounds will include a parking lot that holds 150 vehicles and a cargo storage shed to store small bunk cargo". Please clarify if 'bunk' is a typo and should instead read as 'bulk' cargo.

   Additionally, please state the nature of the bulk cargo that will be stored in the storage shed.

3. The acronym "DAF" is used at Page ES-7 subsection 1.4.4.1 Wastewater Treatment Facility to mean Dissolved Air Floatation Unit. However this was not defined in the list of acronyms or abbreviations. Please include.

Several acronyms and abbreviations that were used throughout the EIA Report were not listed in the acronyms and abbreviations list. As such please revise the list to include all the acronyms and abbreviations used.

4. The points outlined for the justification of the project does not support the use of the space as a party/fete venue. The use of the port as a party/fete venue will result in unnecessary noise pollution in an otherwise relatively undisturbed environment and community. This significant activity was omitted from the Executive Summary. Please address.

5. The term "benthic communities" (ES. 1.5.1) is not clearly defined. Additionally, the Fisheries Act, Chapter 67.51 which defines the term fish to include oysters, shrimps, turtles, and corals (2.3.1), summary of initial and residual impacts includes "fishes" which is defined as numerous fish species, and used relative noise associated with dredging, pile driving, vessels (Table ES. 1. 6-1). In essence, there is no definition for "benthic communities." Please address.

Further please include a Glossary of Terms used throughout the EIA Report.

CHAPTER 2 LEGISLATIVE, POLICY AND INSTITUTIONAL FRAMEWORK

1. At Page 2-20 Section 2.4.1.5 the year of enactment for the National Protected Areas Policy was not included. Please address.

CHAPTER 3 PROJECT DESCRIPTION

1. Page 3-1 Section 3 entitled Project Description states "The grounds will include a parking lot that holds 150 vehicles and a cargo storage shed to store small bunk cargo". Please clarify whether the above-mentioned sentence should read 'small bulk cargo' as opposed to small bunk cargo.

2. At Page 3-9, Section 3.4 Site Preparation and Construction, the last sentence states "...Phase 1 construction will not commence until after a full or conditional CEC has been granted by the EMA". Please take note the EMA does not issue conditional CECs.

CHAPTER 4 PHYSICAL, ENVIRONMENTAL AND SOCIAL BASELINE

1. Please ensure that the x and y axes of all graphs included in this section are properly labelled to accurately reflect the data being represented (e.g. Figure 4.1.1.4-5 to -8). Please also ensure, where mapping is included, that the project area is identified/illustrated in relation to the other components that are being illustrated. This allows for comprehension of the illustrated components in relation to the project area.

2. At Page 4-20, sub-section The Marine Fisheries Sub-Sector, it states, "According to the Fisheries Division, mean annual marine fisheries landings for all species is approximately 13,000 to 15,000 tons, with an estimated value of TT $19 M. An estimated 80 % of landings are from the artisanal fishery (Mohammed, 2017". Please note that the correct value is $190 M and not $19 M as quoted. Please amend.

3. At Page 4-27, under sub-section Fishing Communities, states "...a subsidy on fishing vessels and a rebate on gasoline, diesel and oil used in fishing vessels (Ministry of Agriculture, 2019). This reference is not listed in Section 8 References. Please include.

4. At Page 4-139, Section 4.2.1.1 Climate and Meteorology, air temperature is discussed but relative humidity as required by the Final ToR was not included. Please provide a description of the relative humidity within the study area, including seasonal variations.

5. At Pages 4-139 to 4-140, the following references are missing: Hyacinth-Ash (2011), Singh (1997), Taylor (2007), Kerr (2012), McSweeney (2010), and Royal Haskoning (2010). Please provide.

6. At Page 4-179 the following references are missing: Water Resources Agency National Report (2001) and Environmental Services Limited (2019). Please provide.

7. At Page 4-147, Section 4.2 sub-section Precipitation, it reports Trinidad's wet season as January to May and its dry season from June to December. This is incorrect. Please amend.

8. At Page 4-256 Section 4.3.3.4 Sea Turtles, it states "...the Environmental Management Act, where they were designated as sensitive species." The correct reference should be "environmentally sensitive species". Please amend.

9. At Page 4- 272 Section 4.3.3.6, sub-section Wet Season – April 2019, the first paragraph incorrectly referenced Table 4.3.3.1-1 which the ICUN listed species of fish within 5 m of the project site. The correct table for this section is Table 4.3.3.6-3 titled "Observed bird species from shoreline to 1 km offshore in Grande L'Anse Bay by field season". Please amend.

10. There are several instances where the scientific names are incorrectly cited. These include the following:

Page/Section	Citation in EIA Report	Correct Scientific name
4-242, Section 4.3.2.7 Belford et. al. 2019	*Oculina varicose*	*Oculina varicosa*
4-267, sub-section entitled West Indian Manatee	*Balenoptera endi*	*Balaenoptera edeni*
4-326, sub-section entitled *Phytotriades auritus*	*Phytotriades auritus*	*Phytotriades auratus*
4-327 sub-section entitled *Hylanobatrachium orientale*	*Hylanobatrachium orientale*	*Hyalinobatrachium orientale*
4-327 sub-section entitled *Pristimantis urichii*	*Pristimantis urichii*	*Pristimantis urichi*
4-327 sub-section entitled *Marisora aurelae*	*Marisora aurelae*	Marisora aurulae
4-328 sub-section entitled *Spinus cuculatus*	*Spinus cuculatus*	*Spinus cucullatus*

CHAPTER 5 ASSESSMENT OF IMPACTS

1. At Page 5-27 Section 5.3.2 entitled Above-Water Noise, it states, that mitigation measures proposed include: "maintain functional mufflers on all diesel powered equipment and maintain functional mufflers on all diesel powered construction equipment." Please clarify whether the afore-mentioned measures are the same.

2. In Section 5.3.4.3, Page 5-34, no distinction has been made between the permanent physical loss and temporary damage of benthic habitats and species in this introduction section. The recovery of habitats and species will only take place where habitats have been damaged (e.g. through dredging activities). Habitats and associated species will not recover where they are permanently lost under the footprint of hard structures, including the breakwater and reclamation. While it is noted, that this distinction is made in the subsequent subsections of the assessment, please revise this section to include same.

3. At Page 5-35 Section 5.3.4.3 there were several inconsistencies in citations. These are as follows:

- It states that "The benthic communities in Grande L'Anse Bay are likely comprised of mainly polychaetes, crustaceans, mollusks, and echinoderms, similar to other Caribbean benthic communities, and therefore are quick to recover from disturbance (1-3 years) (Dernie et al. 2003; Manoukian et al. 2010)". Firstly, the paper by Dernie et al. (2003) only samples 10 cm diameter cores taken at 10 cm depths from sandy, clay, and muddy habitat located in the United Kingdom. These smaller sample areas are being compared to samples from a temperate location to the proposed tropical project area, which does not highlight recovery of coral reef disturbance anywhere in the article. Dernie et al. (2003) highlights brief disturbances by researches, and not dredging disturbances for 18 months, as indicated by the Toco port project. In addition, the document cites Manoukian et al. 2010, which looked at platform disturbances in the Adriatic Sea at distances of more than 70 meters from the shoreline. Hence the cited reference is irrelevant and misrepresented.

- "The hard-bottom benthic communities, while not unique to Grande L'Anse Bay, are sensitive to disturbance and require a longer time period to recolonize following disturbance (Connell et al. 1997)". This article mostly reports coral cover recovery percentages to be related to the type of disturbance. For example, short term coral recovery at 69 %, and chronic disturbance resulting in 27 % coral cover. As such the article was incorrectly cited.

4. At Page 5-76 it states, "Because the noise associated with vibratory pie (sic) driving will only affect a specific group of localised individuals within the population over a short period of time, the magnitude of the impact in evaluated as Small." Please address the typographical error.

5. At Pages 5-76 to 5-77 within the section on vessel noise, it incorrectly refers to noise from pile driving related to impacts on sea turtles and mid-frequency cetaceans.

6. Section *5.3.9.1 Potential Sources of Impact* during the construction phase, at Page 91 bullet states, "General disturbance from construction activities (noise, changes in visual amenity, influx of workers), could potentially" (*sic*). This sentence appears to be incomplete, please address.

7. At Page 5-113, Section 5.3.10.3, Sub-section Safety and Wellbeing, as a mitigation for this section, to maintain the unique and safe characteristics of the Toco area, consider the inclusion of a Crime Prevention Through Design (CPTED) principles in the design and functions of the Toco Port.

8. At Page 5-114 of the EIA Report states, Communicable Diseases and makes reference to sexually transmitted infections, respiratory illnesses and mosquito borne diseases such as dengue and Zika. In this regard, this section should be entitled "Infectious Diseases" which can cater for communicable as well as vector-borne diseases.

9. The impact of the port and associated construction activities on the receiving coastal environment, including current regime, wave climate, sediment transport regime, water quality and shoreline morphology is assessed in a relatively *ad hoc* way within the EIA Report. In many instances the assessments are interspersed with the assessment on biodiversity and the physical processes and features are not considered and assessed directly as a receptor. This is considered inappropriate and makes the assessment of impacts much more difficult to examine. The physical processes and attributes, i.e. current regime, wave regime, water quality, sediment transport regime, seabed material, beaches etc. should all be considered directly as receptors and the effect of the port and construction activities on these features should be clearly set out before assessing how such changes may affect other receptors, i.e. benthic ecology and livelihoods.

CHAPTER 6 ENVIRONMENTAL MONITORING PLAN

1. In Section 6.2.1.3 Coastal Zone Management Plan Control Measures states that if there is a change in grain size or erosion and deposition, sand would be added or removed to bring beach to pre-Project state. This may be impractical if the change occurs as a result of a change in the coastal dynamics. Please provide evidence of the suitability of the proposed measure.

2. Section 6.2.5 ERP addresses oil spill events. However, other unforeseen events or natural disasters should also be considered such as fire, earthquakes, adverse weather and bomb threats. As such, please revise the ERP to include the above-mentioned events.

3. Page 6-28 states "Where possible, measures will be implemented to minimize waste generation through volume and toxicity reduction. These include: biodegradable "plastics". Please clarify why plastics are in quotation marks.

4. At Page 6-34, Section 6.2.5.2 Scope sub-section Incident Management, it should be noted that according to the NOSCP, the tiered spill response is not based solely on the size of the spill but also on the location or proximity to operations/receptors.

5. At Page 6-37, Section 6.2.5.2 Roles and Responsibilities, please note that the Unified Command for a Tier 3 Incident may not involve an Incident Commander from all the agencies listed. The Incident Commander may include the Toco Port Manager, a representative from the MEEI and one or more of the agencies listed, as applicable.

6. At Pages 6-43 and 6-44, please note that Figures 6.2.5.4-3 and 6.2.5.4-4 both represent "Scenario 2" and not "Scenario 1". Please amend.

7. The EIA Report did not identify any plans for educational outreach such as but not limited to sub-facilities that will offer visitors, workers and locals an educational experience regarding the region's biodiversity or cultural history. Chapter 6 did not provide a monitoring plan that addressed the socio-cultural environment. In this regard, please provide a plan that addresses socio-cultural issues such as educational outreach for visitors, workers and locals on the region's biodiversity and cultural history.

CHAPTER 7 IMPACT SUMMARY

1. The Impact Summary should be revised to reflect the re-assessment of impacts based on the deficiencies outlined in Chapter 5 entitled Assessment of Impacts above.

CHAPTER 8 REFERENCES

1. Please ensure that all references are included in the Reference list (e.g. Ministry of Agriculture, 2019 on Page 4-27; Country Reports, 2019 on Page 4-48; reference to Fisheries Division 2014 for Figure 4.1.2.4-3 on Page 4-69). Citing of references should be in accordance with an accepted and stated method.

APPENDIX A AIR DISPERSION MODELLING REPORT

1. At Pages A-22 to A-24, within Section 5.1 Construction Phase and Modelling Results and 5.2 Operational Phase Modelling Results, the unit of measurement for the concentrations of the air pollutants was not stated. Please address.

2. Please note, on Figure A3-3: Construction Phase: Annual NO_2 Concentration Contours at Page and A4-2: Operational Phase: Annual NO_2 Concentration Contours, the maximum permissible level for annual NO_2 is 40 $\mu g/m^3$ and not 200$\mu g/m^3$ as stated in the subtext below the figure. Please amend.

3. References were made to the tables included in the appendices (though these appendices were labelled as Attachments A1 to A5). The table reference numbering is incorrect. For example at Page A-5, paragraph two states, "...each modelled source from the emission factors are shown in Tables A-1 to A-5 in Appendix A1. This is a bit confusing as the correct table numbering and section label is Table A1-1 to A1-5 of Attachment A1. Please correct throughout the Appendix A.

APPENDIX B NOISE MODELLING REPORT

1. The modelling exercise considered one scenario with the inputs as stated in the report. However, repeated exercises with different scenarios could have been presented and compared, to show whether there would be differences at different operating levels.

APPENDIX E – GIS DATABASE

1. Please ensure that all shapefiles and other GIS projects are updated based on the deficiencies identified in this document. GIS information shall be presented in a format that is compatible with ArcView 10.3, and in accordance with Annex 3C of the Final ToR.

APPENDIX F AIR QUALITY MONITORING REPORT

1. Figure 12 - the title indicates that the graph represents Event 5, however the graph is labelled Event 3. Please clarify the event and monitoring date of the particular event.

2. Section 3.3.2.2 shows the 8-hour dataset for the sixteen events in comparison to the APR 2014. It did not state how the 8-hr average was derived. Please clarify if the 24-hr day was divided into 8-hr sections and then the averages of these 4 8-hr periods found and this number then presented.

3. Section 3.5.2.2, 10-min averages of SO_2 were compared to the maximum permissible limits (MPL) of the APR 2014. If data was collected for 24 hours for 16 events, a justification for comparing 10-min concentrations to the MPL rather than the 24-hr concentrations, should be provided. It should also be stated how the 10-min averages used for comparison to the APR 2014 was derived from the 24-hr average times.

4. Appendix F2.2, Item 5, states that for each of the samplers, the flow rate was set at 6 L to obtain a 24-hr integrated sample once every 6 days. Please confirm whether sampling was done for one 24-hr period per event or if sampling was conducted over 6 days and a 24-hr average found.

5. Appendix F2.1, Appendix F2.2, Appendix F2.3, Appendix F.2.4, Item 7 - It is stated that "The APR 2014 states that, for air data to be valid, weather conditions must be monitored during monitoring (Second Schedule), and that a description of meteorological conditions during monitoring be reported with acquired data (Third Schedule)." Please note that this statement is incorrect. Schedule 2 of the APR 2014 speaks to stack release limits and schedule 3 speaks to designated activities.

6. Appendix F2.5, Item 1, It is stated that "The APR 2014 states that, for air data to be valid, weather conditions must be monitored during monitoring (Second Schedule), and that a description of meteorological conditions during monitoring be reported with acquired data (Third Schedule)." It is to be noted that this statement is incorrect. Schedule 2 of the APR 2014 speaks to stack release limits and Schedule 3 speaks to designated activities.

7. Appendix F4.3 includes the factory calibration certificates for SO_2, CO and NO_2 sensors. Provide the history of the sensors use and sensor life at time of monitoring.

8. Appendix F5.1 - The sampling date for the 3rd sampling event varies to the date in Table 2 Section 2.2. The field acquisition form indicates sampling was conducted on June 20, whereas Table 2 indicates 21-22 June. Clarify the sampling dates.

9. Appendix F5 shows the field acquisition forms. Several of the field acquisition forms did not include the date that the equipment went on and date equipment went off. Only times were included. Both dates and times should be included. Please address.

10. Appendix F6.1 - The chain of custody forms for the Summa Canisters and particulate matter, did not include name and signature of person, date and time that the sample was received. Chain of custody forms need to be completely filled out. There are instances where date submitted does not correspond to the date the sample was relinquished.

11. Appendix F9.1 states "As prescribed by the Air Pollution Rules, 2014, the second schedule lists maximum permissible levels for non-point source pollutants in micrograms per metre cube". This statement is incorrect. The Second Schedule outlines maximum permissible levels for stack release limits. Schedule I outlines maximum permissible limits for ambient air and as such it is Schedule I that should be used for maximum permissible levels of pollutants.

12. Appendix F11.1 includes graphs that show the changes in levels of ozone for the various monitoring events. For events 5, 6, 7, 8 and 13, the event in the title do not correspond to the event label in the graph. Confirm which event the graphs represents.

13. Appendix F11.2 - Table 1 and Figures 2 and 15 do not correspond to the sampling dates indicated. Please verify. Figure 2 states the sampling period as 17-18 July while the field records and results show 18-19. Similarly for Figure 15 which shows the sampling dates as 24-25 October while the field records show the dates as 25-26 and Table 2 Section 2.2 shows the sampling dates as 26-27 October. Please clarify.

14. Appendices F11.2, F11.3 and F11.4 do not show the 8-hr averages derived and compared to the APR 2014. This is to be presented.

15. Laboratory accreditation for the laboratories utilised were not presented. This should be provided.

16. The qualifications/certifications of the persons conducting the sampling and analyses should be provided. Please address.

ANNEX I

LIST OF PARTICIPATING AGENCIES/NON GOVERNMENTAL ORGANISATIONS

- The Environmental Management Authority;
- The Town and Planning Division of the Ministry of Planning and Development;
- The Institute of Marine Affairs, Ministry of Planning and Development;
- The Ministry of Energy and Energy Industries;
- The Fisheries Division of the Ministry of Agriculture, Land and Fisheries;
- The Land Management Division of the Ministry of Agriculture, Land and Fisheries;
- The Meteorological Services Division of the Ministry of Public Utilities;
- Water Resources Agency of the Ministry of Public Utilities;
- Occupational Safety and Health Authority and Agency of the Ministry of Labour;
- The Sangre Grande Regional Corporation of the Ministry of Rural Development and Local Government;
- The Council of Presidents of the Environment; and
- Nature Seekers.