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**REPORT OF THE HIGHWAY REVIEW COMMITTEE
DEBE TO MON DESIR SEGMENT:
SAN FERNANDO TO POINT FORTIN HIGHWAY
Ecoengineering's Comments**

This document presents comments by Ecoengineering Consultants Limited on the ***“Report of the Highway Review Committee, Debe to Mon Desir Segment: San Fernando to Point Fortin Highway”*** (hereinafter called “the Report”). For convenience, the comments are presented in the order in which they appear in the Report. The Independent Review Committee (IRC) report comments extensively on the EIA prepared by Ecoengineering Consultants. Appendix 3 of the IRC Report lists meetings and consultations held. It should be noted that no meeting was held with Ecoengineering Consultants to discuss or clarify any aspect of the EIA.

1 Acceptability of the EIA

Statement:

On Page 7, the Report states that: ***“The opinion of the HRC is that the EIA was not acceptable and should have been rejected and returned to the Applicant”***.

Ecoengineering's Comment:

This statement is inconsistent with the evaluation of Mr. Eden Shand, Resource Consultant to the HRC, who states on Page 182 ***“Notwithstanding the above deficiencies, the EIA is acceptable insofar that it contains enough information, though deeply buried, to enable a decision on the project”***.

2 Adequacy of the Social Impact Assessment

Statement:

On Page 7, the Report states that: ***“A closer examination of the treatment of SIA within the EIA also indicates that this was quite inadequate”***.

Ecoengineering's Comment:

In the Review of Social Components of the Environmental Impact Assessment (Section 3 of the Report of Resource Consultants, it is stated on Page 182 that ***“First of all it must be acknowledged that the TOR, though thorough, did not require a separate social impact assessment (SIA)”***. In that circumstance, we question the approach used in Chapter 3 (Page 67 and following) of evaluating selected sections of the EIA against SIA Best Practice since the EIA does not contain an SIA.

Instead, when the Human impact sections of the EIA are evaluated on the basis of the requirements of the TOR (see Pages 159 and 160 of the Report), 23 of 29 were indicated as having been completed. For three others, the notation is that some information is provided (but not sufficient in the view of the Resource Consultants), and three were noted "the consultant did not receive or review the EMP". The reason for this is not clear, since the digital copy of the EIA which was submitted to the HRC contained the EMP in Appendix Q.

3 Importance of the Oropouche Lagoon

Statement:

On Page 43, the Report lists among the issues raised by the HRM: ***"The EIA ignoring the importance of the Oropouche Lagoon as one of the country's most significant wetlands and its use in the context of the National Wetland Policy"***.

Ecoengineering's Comment:

This statement is inaccurate. The importance of the lagoon is clearly outlined in Section J.6.1 of Appendix J (Ecology) the EIA Report. The Oropouche lagoon is also the subject of Appendix K (IMA Wetland Report) of the EIA Report. Finally, the National Wetlands Policy is clearly described in Section 2.4.3 of the EIA Report.

4 Siparia Forest Reserve

Statement:

Again on Page 43, the Report lists among the issues raised by the HRM: ***"The fact that the Siparia Forest Reserve is in close proximity to the Highway and should have been included in the Study Area"***.

Ecoengineering's Comment:

This is inaccurate. The forest reserve is included in the "wider study area" as described in Table 4-1, Section 4.1.1 of the EIA Report and Section J.6 of Appendix J (Ecology).

5 Human Crossings of the Proposed Highway

Statement:

Also on Page 43, the Report lists among the issues raised by the HRM: ***“The health and safety issues associated with likely human crossings across the proposed highway”***.

Ecoengineering’s Comment:

This statement is inaccurate. The Highway Design clearly describes fencing of the highway as a safety aspect (see Section 3.4.5.3 of the EIA Report). In addition, the design provides a footbridge in the Johkan Road area (see Section 3.2.13 of the EIA Report).

6 Crossing of Energy Pipelines

Statement:

On Page 47, the Report list among the deficiencies highlighted by the Ministry of Energy and Energy Industries: ***“Lack of proper discussion of treatment of crossings with energy pipelines”***.

Ecoengineering’s Comment:

This is inaccurate. The EIA Report documents:

- A HAZID was included in the EIA for the crossing of natural gas pipelines along the route (see Section 6.2 and Appendix O).
- Consultation was held with NGC, bpTT, Petrotrin and PPGPL on the question of crossing of pipelines (see Section 3.3.9.4 and 3.3.9.5 and Appendix C).

7 Consultation regarding Abandonment of Wells

Statement:

Also on Page 47, the Report list among the deficiencies highlighted by the Ministry of Energy and Energy Industries: ***“No consultation with regard to abandonment of wells”***.

Ecoengineering's Comment:

This statement is inaccurate. Consultation proceeded as follows:

- On June 10, 2005, a letter was sent to the MEEI during the conduct of the Environmental Feasibility Study to confirm that setback distances from existing wells (operating and abandoned) would be applicable to this highway extension project.
- As stated in Section 3.3.10.6 of the EIA Report, no response had been received as of the time of issuing that document.

8 Mitigation of Slope Instability

Statement:

Again on Page 47, the Report lists among the deficiencies highlighted by the Meteorological Office: ***“Need for mitigation measures to deal with the leveling and cutting of slopes”***.

Ecoengineering's Comment:

In fact, mitigation measures against slope instability are listed in Section 5.3.1.2 of the EIA Report.

9 Reference to Scarlet Macaw

Statement

On Page 59 the report incorrectly states **“..the Scarlet Macaw was not included as a rare/vulnerable/threatened species, however it is listed on Appendix I of Convention on International Trade in Endangered Species (CITES).”**

Ecoengineering's Comment:

This statement is incorrect since the species is clearly referenced as CITES listed in Sections 4.3.5 and 5.3.2.6 of the EIA.

10 Definition of Study Areas

Statement

On Page 55 it states that ***“The area studied is defined differently for each environmental element studied which is highly irregular and poor practice”***

Ecoengineering's Comment:

In the TOR, the EMA indicated that **"the study area should be determined by the extent of direct and indirect impacts on the physical, biological and social environments"**. The rationale for defining different study areas is to recognize that different impacts have different extents. For example, the study area for stream flow and flooding is likely to encompass the entire catchment. In contrast the study area for noise will only be a relatively narrow band along both sides of the highway. The use of different study areas for different environmental components is recognized for EIAs conducted in other jurisdictions: For example, in Canada guidelines prepared for an EIA for a Copper Mine Project clearly indicates that **" Scoping establishes the boundaries of the EA and focuses the assessment on relevant issues and concerns. By defining the spatial and temporal boundaries, a frame of reference for identifying and assessing the environmental effects associated with the Project will be established. Different boundaries may be appropriate for each VEC."** A VEC is defined as Valued Ecosystem Component.

(Ref: Canadian Environmental Assessment Agency and Ontario Ministry of Environment - Environmental Assessment and Approvals Branch, 2011. Guidelines for the Preparation of An Environmental Impact Statement Pursuant to the Canadian Environmental Assessment Act and Ontario Environmental Assessment Act For The Marathon Platinum Group Metals and Copper Mine Project.)

Another example is the EIA study brief for the expansion of the Hong Kong Airport. The study brief in that jurisdiction is the equivalent of our Terms of Reference. The study brief for the expansion of the airport defines separate study areas for air, water quality and terrestrial ecology.

(Ref: EIA Study Brief No. ESB-250/2012 for Expansion of Hong Kong International Airport into a Three-Runway System, August 2012.)

11 Geological Survey

Statement

Page 59 states that **"A Geological (as differentiated from a soil engineering) Survey along the highway route should be done"**.

Ecoengineering's Comment:

Information on geology was accessed from published sources and provided in Section 4.2.2 of the EIA Report. Field geology studies have not typically been done as part of EIAs submitted to the EMA.

12 Proposed Mitigation Measures

Statement

There is a comment on page 62 Section 2.5.7.1 which states that ***"The EIA seems to have considered mitigation measures in passing"***.

Ecoengineering's Comment:

Mitigation measures were clearly identified and highlighted in the EIA report. Appendix Q (Environmental Management Plan) also describes mitigation measures in the context of action by, timing, the need for specialized equipment, any necessary competence and training and estimated cost. This Plan also describes the means for verification of the effectiveness of these mitigation measures.

13 Geographic Scope

Statement

On page 74 it is stated ***"No SIA studies have been found relating to the segment relating to the 'widening and reconstruction of approximately 12 kilometers of the southern main road and the south trunk road from Dumfries Road to Delhi (Mon Desir)'."***

Ecoengineering's Comment:

Reference to the segment from Dumfries Road to Mon Desir is not addressed in the documentation for the Debe to Mon Desir segment since this is covered by three separate CECs:

CEC 1078/2005 for widening of South Trunk Road between Bamboo Junction and Paria Suites
CEC 2824/2010 for highway segment from Paria Suites to St. Mary's
CEC 1321/2006 for highway segment from St. Mary's to Point Fortin

14 Environmental Economic Study

Statement

On Page 108 it is stated that **"Economic Valuation is a mandatory aspect of an EIA and SIA to determine the direct and indirect cost of a project"**.

Ecoengineering's Comment:

An Economic valuation is not requested in the TOR for this project, nor in other TORs for other projects. This is acknowledged on page 170 of the Report which recommends **"amend the terms of reference to require an economic assessment..."**.

15 Detailed Designs as the Basis for the EIA

Statement:

The EIA prepared for the Debe to Mon Desir highway segment is referred to as a **"preliminary EIA"** on Pages 134 & 137.

In addition, the Report contains the following statements concerning the need for Detailed Designs as the basis for an EIA:

- **"It is unusual to grant a CEC without detailed plans and designs. ..."** (pages 123 & 134), and
- **"... a Final EIA should be based on detailed designs. ..."** (page 139).
- **"At most a preliminary CEC can be granted based on preliminary designs...."** (page 139).

Ecoengineering's Comment:

Reference to a Preliminary EIA is incorrect, since that term does not appear anywhere in the CEC Rules. Similarly, the CEC Rules make no provision for a preliminary CEC.

The rationale for undertaking the EIA early in the project cycle is to allow the findings of the EIA to influence the final designs of the project. It must be noted that the statement that the EIA must be based on detailed designs goes against international "good-practice" for EIAs; as shown in the following quotations:

- 1) Information on the website of the Food and Agriculture Organization states: ***“To be of most benefit it is essential that an environmental assessment is carried out to determine significant impacts early in the project cycle so that recommendations can be built into the design and cost-benefit analysis without causing major delays or increased design costs. Scoping is the process of determining which are the most critical issues to study and will involve community participation to some degree. It is at this early stage that EIA can most strongly influence the outline proposal. Detailed prediction and mitigation studies follow scoping and are carried out in parallel with feasibility studies”.***

(Ref: <http://www.fao.org/docrep/V8350E/v8350e06.htm>)

- 2) The UNEP Environmental Impact Assessment Training Resource Manual (Second Edition) describes the EIA Process as ***“beginning as early as possible in the pre-feasibility stage”.***

(Ref: http://www.unep.ch/etu/publications/EIAMan_2edition_toc.htm)

- 3) The website of the Environmental Management Bureau, Government of the Philippines, indicates ***“During the preparation of the project Feasibility Study, the proponent initiates the detailed environmental impact assessment”.***

(Ref: <http://www.emb.gov.ph/portal/eia/Aboutus/EIASystem/EIAandtheProjectCycle.aspx>)

- 4) A presentation on the website of the United Nations Environment Programme lists one of the Key Operating Principles of Good EIA Practice as: ***“begin early in the project cycle”.***

(Ref: http://www.unep.ch/etu/publications/EIA_ovrhds/top01.pdf)

- 5) Notes of a 2007 Short Course organized by the United Nations University Geothermal Training Program indicate: ***“The (EIA) study therefore requires a multi-disciplinary approach and should be done very early at the feasibility stage of a project. In other words, a project should be assessed for its environmental feasibility”.***

(Ref: <http://www.os.is/gogn/unu-gtp-sc/UNU-GTP-SC-05-28.pdf>)