TERMS OF REFERENCE AND FORMAT FOR EIA TO BE PREPARED FOR "U.S.CAPTIAL ENERGY BELIZE" SEISMIC AND OIL EXPLORATION IN THE TOLEDO DISTRICT

This Terms of Reference (TOR) has been prepared following the scoping for the most critical issues that will need to be addressed for the proposed development which consists of conducting seismic activities and potential exploratory drilling in South-eastern Toledo District.

This TOR describes a complete EIA for the entire exploratory and potential extraction activities.

In the preparation of the Environmental Impact Assessment (EIA), the EIA preparers will need to focus on addressing the main areas of concern, such as:

WATER RESOURCES, LIQUID WASTE, SOLID WASTE, SOIL AND WATER QUALITY, WILDLIFE, ENERGY GENERATION, TRANSPORTATION, ARCHAEOLOGY, NOISE, EXTRACTION OF MATERIALS, AND SOCIO-ECONOMIC FACTORS.

Scoping of these issues speeds up the EIA process, cuts down its cost, improves the quality of the development, and ensures that environmental concerns are clearly addressed.

This Term of Reference is divided into three (3) sections:

A. PROJECT DESCRIPTION AND PHYSICAL ENVIRONMENT

This section of the document deals primarily with information pertaining to the background of the project, and the physical environment within which it is proposed.

The EIA will need to address:

1 THE PROJECT DESCRIPTION AND PLAN

Maps at appropriate scales must be provided and with proper labels and legends to illustrate the general settings of project related development sites as well as surrounding areas likely to be environmentally affected. These maps shall include topographic contours, where available, as well as location of major surface waters, roads, parks or reserves, political boundaries, protected areas and existing adjacent land uses (tourism, agricultural, industrial). Additionally the following should be provided:

1. Give project location.
2. Provide the following plans:
    a. Location of seismic lines (phase I)
    b. Description of equipment used in seismic operations (types of explosives, range, depth etc).

c. Location of any support infrastructure

d. Location of exploratory drilling structures and facilities (phase II)

e. Description of equipment used in any potential exploratory drilling

3. Describe briefly the activities/facilities provided in the plans above including

    a. Seismic program and techniques used (phase I)

    b. Exploration drilling techniques used (phase II)

4. Provide outline of the overall management structure anticipated for the proposed activities separated for each of the two phases.

5. Describe the implementation of the project in phases:

    a. Seismic phase

    b. Exploratory drilling phase

    c. Development/exploitation

2 THE PHYSICAL ENVIRONMENT

Provide details of the basic physical environment of the project site and zone of influence. This should include:

1. Topography: including degree of slopes, drainage patterns around project site, and flood hazard;
2. Include a map outlining the boundaries of area of influence in relation to protected areas, surrounding villages roads etc.
3. Climate, hydrology and meteorology: including rainfall average per year, prevailing wind patterns;
4. Geology: description of the characteristics of landform, land surface including exposed rock types, types of unconsolidated materials exposed (sediments), rivers, tributaries, if they can be determined by field mapping.
5. Soils: soil fertility, agricultural value;
6. Current land use of project site and adjacent properties;
7. Physical description of surrounding receiving water bodies including creeks and rivers.

3 POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

Provide any policy, legal or administrative issues that may have an impact on the proposed development. Describe the pertinent regulations, standards and policies, at the local and national levels governing environmental quality, health and safety and protection of sensitive areas. These could include cultural resources, protection of endangered or threatened species, siting, infrastructure development and land use control that may have an impact on the proposed development.

B. ENVIRONMENTAL ISSUES

This section of the document primarily targets the environmental issues of critical concerns based on information provided in section A.

The following are the critical issues a high quality EIA will need to address for the development proposed by U.S. Capital Energy Belize.

1 FLORA AND FAUNA

1. Describe and identify potential impacts on the terrestrial and aquatic fauna and flora of and near the project site(s) for each phase. This would include, where applicable, forest, river corridors, wetlands, biological corridors, and protected areas.
2. Identify and map the main habitat types and prepare target notes on areas of interest with lists of species of flora and fauna identified in the field and their conservation value, giving particular attention to any species protected under Belize law.
3. If clearing of vegetation is required, estimate the acreage.
4. Identify any species of conservation significance, and specify measures for their protection.
5. Describe mitigation measures including an environmental management plan to be implemented to reduce or offset the adverse impacts of seismic testing, potential exploratory drilling and exploration and exportation . Prepare outline designs for any proposals and give costs for implementing the mitigation measures.

2 WATER RESOURCES

Establish a base line on the water resources of the area affected or potentially impacted by the activities in the various phases of the project.

1. This base line should include water quality assessment of available waters sources of the project site and zone of influence. The base line should potentially include parameters such as:
    a. Total Nitrate
    b. Salinity
    c. DO
    d. COD
    e. BOD
    f. PH
    g. Sulphates
    h. Hardness
    i. Phosphate
    j. Conductivity
    k. Heavy metals (Total metals, mercury, lead, copper etc.)
    l. Total dissolved solids
    m. Hydrocarbons
    n. Arsenic

2. Assess the potential impact of seismic activities on surface and ground water within the project site and potential zone of influence.
3. Assess the potential impacts of the potential exploratory drilling on surface and ground water within the project site and potential zone of influence.

4. Identity and develop a water quality monitoring program able to detect any change in ground water or surface water quality that could impact:
    a. Public health
    b. Forest, wetland and adjacent aquatic habitats; and
    c. Flora and Fauna (including endangered or threatened species) in project area and zone of influence

3 WASTE MANAGEMENT

LIQUID WASTE

1. Determine for each phase the nature and volumes of liquid waste (including sewage if applicable), and wastewater and other sources of runoff to be generated by the entire project.
2. For each phase evaluate alternative options for the collection, treatment, recycling (if appropriate), and disposal of these wastes. Identify any chemicals planned for use in the treatment or management of these wastes.
3. For each phase identify the preferred option(s) for waste management/disposal method based on environmental grounds, including necessary infrastructure. Specify any residual impacts of waste management, their significance, and any mitigation measures to be undertaken.

SOLID WASTE

4. Determine for each phase the nature and volumes of solid wastes, including seismic program by-products, drilling mud, drill cuttings etc, to be generated by the entire project.
5. Quantify whether any of the solid waste are to be considered hazardous or not.
6. For each phase evaluate alternative options for the collection, treatment, recycling (if appropriate), and disposal of these wastes. Identify any chemicals planned for use in the treatment or management of these wastes.
7. For each phase identify the preferred option(s) for waste management/disposal method based on environmental grounds, including necessary infrastructure. Specify any residual impacts of waste management, their significance, and any mitigation measures to be undertaken.

HAZARDOUS WASTE

1. Identify any hazardous or toxic chemical material or substance to be used during either seismic testing or potential exploratory drilling.
2. Identify the preferred options of collection, storage, treatment disposal or recycling of the

above.

4 AIR

Establish a base line on the air quality of the areas immediately affected by the exploratory drilling.

1. Provide a baseline for air quality particularly with reference to the two substances of importance in the oil and gas industry: Hydrogen sulfide and Sulfur dioxide.
2. Report on potential environmental impacts of gasses released/produced.
3. Develop and Implement an air quality monitoring programme to monitor the release of toxic emission in particular SO2, CO and NO2 and their potential impacts on
    a. Public Health
    b. wildlife health
    c. environment

5 NOISE AND VIBRATION

1. Quantify noise and vibration levels to be expected from seismic activities and potential exploratory drilling and specify any potential impacts of these on the surrounding environment including human habitation.
2. Identify mitigation measures to reduce or limit the potential impact on the surrounding environment and zone of influence (humans and wildlife).

6 GEOLOGY AND SOILS

1. Provide information on the geology of project area.
2. Provide information on the specific soil types in the proposed project area.
3. Consult with the Geology and Petroleum Department regarding the fulfillment of license requirements.
4. Provide a baseline on the current presence of hydrocarbons, BTEX and heavy metals in the soils.
5. Determine the stratigraphy, structure, fracture patterns and seismic history (if any) of the area.

7 TRANSPORTATION

1. For each phase evaluate options for the provision of suitable access for each of the components of the exploration phase.
2. Select preferred option for the provision for these components. This will need to examine construction materials (types, sources, volumes, transportation) and methods in relation to their environmental impacts.
3. Recommend precise mitigation measures based on the specific option selected, for the proper management of all types of traffic close to and within the project area. These mitigation measures must include recommendations for protection features against

erosion, and other potential pollution to the environment as well as social and human impacts.

4. Specify options for refueling of vehicles and identify best practice methods for eliminating spills and maximizing health and safety.

8 ENERGY GENERATION

1. Determine the projected energy requirement for each phase of the entire development.
2. Evaluate alternative options for meeting these needs. For these options, it will be necessary to investigate:
    a. fuel storage (where relevant);
    b. transportation (where relevant);
    c. health and safety;
    d. significance of any pollution that may result from energy generation; and
    e. mitigatory measures.
3. Select the preferred option for energy generation. Again, this should be based on environmental grounds, and should specify the residual impacts of generation of the preferred option, their significance and the mitigatory measures, which will be undertaken.

9 SOCIAL FACTORS

1. Prepare a description of the existing socio-economic conditions, giving a brief overview of the socio-economic background to the study area, including population, employment and travel patterns.
2. Identify patterns of land-use within the corridor of the proposed route, and record these on a map with annotation.
3. Consult with relevant local stakeholders (village councils, local community, and local NGO's) within the direct project area, to identify their economical, environmental and social concerns about the proposal.
4. Determine the potential social impacts of the proposed development taking into account factors such as human health and safety.
5. Describe the potential social, economic and cultural impacts of conducting the proposed oil exploration. Characterize the impacts in terms of type (beneficial or adverse), magnitude (high, medium or low), direct/indirect, duration (short, medium and long term, sporadic), avoidability and reversibility.

10 ARCHAEOLOGY

1. Consult with the Archeology Department to conduct a general assessment of the area to determine any features of archaeological or cultural importance and provide recommendations for the protection of any features.
2. Consult with the Archeology Department in case of finding any artifacts of or any other

objects of archaeological importance.

11 NGO AND PUBLIC INTEREST

The EIA will report on the views and concerns of directly affected communities, local NGOs and relevant government departments/agencies regarding the development of the project.

12 EMERGENCY PLANS

Identify emergency preparation and applicable management measures for the proposed activities dealing with the following eventualities:

1. oil spills,
2. hurricanes,
3. floods,
4. fires.
5. blow out plan
6. Hydrogen sulfide safety (including other types of gases)
7. Employee training

C. CONCLUSIONS / RECOMMENDATIONS

This section proposes alternatives to the execution of the project based on the information generated by Section B.

1 ALTERNATIVES FOR DEVELOPMENT

Present all reasonable alternatives for development in comparative form, exploring each alternative. Include the no-action alternative, and the reason why certain alternatives were recommended or eliminated.

2 MITIGATION AND MONITORING PLAN

1. Based on the investigations, develop a mitigation matrix outlining mitigation measures for all potential negative environmental impacts including, but not limited to: seismic activities, exploratory drilling and development/exploitation
2. Provide a monitoring plan to be implemented for the entire operation. This should include monitoring of soil, air and water quality and wildlife.