
CHAPTER 14

ALTERNATIVES FOR DEVELOPMENT

14.1 Alternatives Considered

Belize Natural Energy Limited plans to drill development oil wells at San Marcos and the Spanish Lookout area. The “No Action” alternative or non development option is usually discussed as an option in the EIA process. In considering BNE’s Development Alternatives options, the ‘No Action Alternative’ would not be a practical substitute if BNE is to continue with the development operation for the oil within the Spanish Lookout field.

Subsequent to the seismic analysis, the drilling of the wells is the only way to confirm the presence of oil and to effectively deplete the Spanish Lookout Field. Therefore, there are no other alternatives to developmental drilling if the BNE and the GOB is to achieve the maximum recoverable oil from the field, effectively.

14.2 Specific Alternatives to Development

The proposed development wells would require:

- upgrades to access roads to the site for drilling and supply vehicles and plant;
- a temporary site to set-up the drill pad and undertake exploratory drilling and associated site-support operations;
- site accommodation and security for personnel, vehicles and plant;
- power and other utilities;
- storage facilities;
- testing facilities; and
- Waste storage and disposal facilities.

The processes to meet these requirements may be broken down into three phases, construction, operation and decommissioning for the consideration of environmental impacts. Subsequent to describing the proposed project and its background, this report presents the results of the EIA using the following structure:

- a description of the environmental background conditions;
- the environmental impact assessment, proposals for mitigation and conclusions;
- an environmental management plan for controlling the occurrence of adverse environmental impacts during the phases of construction, operation and decommissioning;
- a summary of consultation with regulatory authorities and local communities; and

- a disaster management plan for controlling the occurrence of adverse human health & safety impacts during construction, operation and decommissioning.

In considering the development alternatives for BNE, the specific alternatives are an important role in formulating the mitigation measures. These specific alternatives are an adaptation of the bigger development alternatives in conjunction with the ‘No Action’ Alternative previously describe. The specific alternatives as related to BNE’s operations are outlined in table 14.1 below.

Table 14.1 Development Alternative in regards to BNE’s field operations

Development Issue	Option #1 & Justifications (Chosen Option)	Option #2 & Justifications	Option #3 & Justifications (Non-Action)
Development Drilling Operation			
<ul style="list-style-type: none"> • Overall Development 	Must be conducted in order to verify the well’s potential.	Same as option 1	Not a viable alternative if BNE is to continue with the petroleum development under their concession
<ul style="list-style-type: none"> • Sitting of Drilling Platform 	Site chosen by 3D seismic surveys	No other options found	Other site location can be detrimental to drilling a successful well
<ul style="list-style-type: none"> • Pollution 	Mitigate possible emission sources of noise, air, and waste pollution	Allow pollution to dissipate gradually into receiving environment given the temporary nature of the operation	Same as Option 2
<ul style="list-style-type: none"> • Energy 	Diesel engines offer more power per gallon of fuel consumed	Gasoline engines provide less power and would require more	No other alternative considering the project remoteness
Production Operation			
<ul style="list-style-type: none"> • Transportation 	Installation of a pipeline would significantly minimize environmental damage	Revert to present transportation method using tankers	Has to be carried out in some form.

Development Issue	Option #1 & Justifications (Chosen Option)	Option #2 & Justifications	Option #3 & Justifications (Non-Action)
<ul style="list-style-type: none"> • Flaring 	Piping the gas solution to a central station would significantly reduce environmental impact	Revert to present flaring practice	Has to be performed by either option 1 or 2.
<ul style="list-style-type: none"> • Pollution 	Mitigate possible sources of noise, air and waste pollution	Allow pollution to dissipate gradually into receiving environment given the temporary nature of the operation	Same as option 2
<ul style="list-style-type: none"> • Storage 	Store at central facility in Iguana Creek via a pipeline	Stored in individual vertical storage tanks at site	Process has to be undertaken to prevent environmental degradation.
<ul style="list-style-type: none"> • Energy 	Self sustained energy from gas turbine produced at the central storage facility	Diesel Generators can provide some of the energy requirements	Process has to be undertaken to allow the production to continue.