

## Section 5: Alternatives

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### 5.0 Alternatives

As passed in the “Guidelines for the Egyptian Environmental Impact Assessment” issued by EEAA, the concept of alternatives to a proposed project extends to siting, design, fuels, raw materials and technology selection, construction techniques and phasing and operating and maintenance procedures. The “no action” alternative –not constructing the project- is also considered in order to demonstrate environmental conditions without it.

For the concerned project activities, we can talk about the method that shall be used in crossing the water ways, roads and railways; which is the horizontal directional drilling. An alternative that one may talk about also is the “no action” alternative.

#### 5.1 HORIZONTAL DIRECTIONAL DRILLING (HDD)

HDD is a trenchless construction technique, which uses guided drilling for creating an arc profile. This technique is used for long distances such as under rivers, lagoons, or highly urbanized areas. The process involves three main stages: drilling of a pilot hole, pilot hole enlargement, and pullback installation of the carrier pipe.

HDD is offers several advantages when compared to other trenchless or open-cut construction methods:

- Complicated crossings can be quickly and economically accomplished with a great degree of accuracy since it is possible to monitor and control the drilling operation.
- Sufficient depth can be accomplished to avoid other utilities.
- In main irrigation canal crossing applications, danger of canal bed erosion and possible damage from canal traffic is eliminated.
- Requires only a small construction footprint.



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### **5.2 THE “NO ACTION” ALTERNATIVE**

This alternative expresses the environmental gain if not implementing the proposed exploration activities compared with the project existence.

In order to effectively protect the current environment of the location, it would be better that no activities might be carried out. But when evaluating the concerned process that would be used, it can be concluded that no severe change would take place in the time or after implementing the project activities.

Thus, implementing pipeline project is recommended as long as their impacts are identified, analyzed and the mitigation measures of them are determined and executed.

