Arab Republic of Egypt
Cabinet of Ministers
Ministry of State for Environmental Affairs
Egyptian Environmental Affairs Agency (EEAA)
Environmental Management Sector

ENVIRONMENTAL IMPACT ASSESSMENT

GUIDELINES FOR OIL AND GAS SECTOR

January 2005

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1. INTRODUCTION

The environmental protection law 4/1994 and the Executive regulations 338/1995 states that new establishments or projects as well as expansion of existing establishment must be subject to an "Environmental Impact Assessment (EIA)" before a permit is issued.

Environmental Impact Assessment is a systematic process which provides a framework for gathering and documenting information and views regarding the environmental consequences of activities so that the importance of the effects and the scope for enhancing, modifying or mitigating them can be properly evaluated.

The EIA system uses a list approach that screens projects into three categories based on different levels of EIA required according to severity of possible environmental impacts. The three categories are white (A), gray (B) and black (C).

Once the developer/applicant has decided under which category the project falls, (he can obtain relevant information from the competent administrative authority (CAA) (EGPC, Governorate, etc.) the following has to be followed:

- For white list (A-category) projects the developer fills out an Environmental Screening Form (A). The competent adminis-trative authority will send the form to EEAA to be reviwed and evaluated within the legal period; otherwise the EIA report is considered accepted.
- For gray list (B-category) projects the developer requests an Environmental Screening Form (B) from EGPC, Governorate or EEAA to fill it out.
- For black list (C-category) project a full EIA is required and the attached guideline will help in preparing such a report.

The purpose of this guideline is to outline issues, which may be relevant for the preparation of the environmental impact assessment for oil and gas projects and related facilities. The oil and gas sector guidelines identify some general important factors to be considered when preparing an environmental impact assessment study. The EIA should be tailored to suit the potential impacts of the specific project. It is essential to focus on the key issues.

The full EIA is then forwarded with a letter of intent to undertake a specific project to the competent administrative authority (EGPC, Governorate, etc.). The CAA registers the documents and reviews the documents (according to a checklist prepared by EGPC in co-operation with EEAA) and formally submits the applicant's documents to the EEAA for review and evaluation.

The EEAA evaluates the documents and submits its opinions and any recommendations to the CAA (e.g. EGPC, Governorate, etc.) within a maximum of 60 days of the EEAA's official receipt of the complete documents. Otherwise, the EIA report is considered to be accepted. The documents are registered by the EEAA together with its opinion in the EIA register at the EEAA.

The CAA officially notifies the developer by a registered letter with acknowledgement of receipt of the evaluation result by the EEAA. The results of this can be:

- An approval of the project with some recommendation to be

taken into account to ensure the protection of the environment.

- A formal request to the developer for more information/data to complete the EIA report

- Disapproval of the project.

The CAA forwards a copy of the EEAA decision to the developer. In case of disapproval, the developer may appeal such evaluation in writing within thirty days (from the date of receiving the result of the evaluation) to EEAA including reasons of objection, supported with legal and scientific justification. The CAA ensures implementation of the EEAA decision.

Classification of Oil and Gas Projects

Classification of Oil and Gas projects (The List Approach)

A – Category

- Natural gas station in environmentally non-sensitive areas. *
- Petrol Stations (gasoline, natural gas and solar) in environmentally non-sensitive areas.

B - Category

- Onshore/Offshore Seismic (geological/geophysical) exploration for oil and gas
- Onshore/Offshore Exploratory drilling **ONLY** (not developed) for oil and gas
- On shore/Offshore pipeline of length less than 50 Km in non-sensitive areas*
- Fuel (petrol, gas or Diesel) Storage tanks which have a combined storage of 15,000 m3 or less.
- Car service stations/car lubrictaion workshops.
- Petrol Stations (gasoline, natural gas and solar) in environmentally sensitive areas*.
- Connection of production lines for new oil wells which are in an area with an existing production facility and which will have no new expansions.

C - Category

- Onshore/Offshore Exploratory drilling and development for oil and gas
- Onshore/Offshore Oil and gas field development
- Onshore/Offshore Oil and gas production
- On shore/Offshore pipeline of a length less than 50 Km in environmentally sensitive areas
- Fuel storage tanks (gasoline, gas or diesel) with a total capacity exceeding 15000 m^3
- Oil and petrochemical refineries
- Distribution networks of Natural Gas for cities
- Separation, treatment, handling and storage units of oil and gas

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*** "Sensitive" area such as residential area, protected area, agricultural area and other areas specified by EEAA.**

EIA FORM (A)

Arab Republic of Egypt
The Cabinet of Ministers
Ministry of State for Environmental Affairs
Egyptian Environmental Affairs Agency

EIA Form (A)
Oil and Gas Sector

The information required in this form should be completed accurately and should be easily readable.

The competent administrative authority (EGPC or Governerate, etc) should send an authorized copy of the form to EEAA in order to be reviewed and evaluated. If EEAA does not reply within the legal period; the EIA report is considered accepted.

1. General Information

1.2 Project title:----------

(Give the complete title of the project that will be used in issuing the permit/license)

1.2 Name of the owner *(Identify the owner(s) of the project with complete address)* -

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1.3 Name of the person in charge (the responsible person): ----------

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Address: ----------

Telephone No: ----------Fax No----------

1.4 The Competent Administrative Authority: ----------

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2. Nature of Project

2.1 Location of the project *(Please attach a readable map that clearly shows the location and boundaries of the project in relation to residential areas, neighboring activities, etc.... The map should have a suitable and clear scale)* ----------

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Project Address:----------

Urban Rural Other …….

Within residential area Outside residential area

Total area for project (m^2):……

2.2. Type of project:

New Extension

Type of extension: ----------

- *If the type of project is an extension, has an EIA study been submitted for the original project?*

  Yes No

- Date of obtaining a previous approval from the EEAA: ----------

2.3 Project Objectives, Phases and Timing:

Establishment:--------- ----------

Actual operation:----------

2.4 A Brief Description of the Project (diagrams and layout should be attached if possible).

2.4.1 Main components of the project: ----------

2.4.2 Storage Capacity (mention the units used):----------

2.4.3 Electrical supply used: ----------

Source: ----------

Rate of Consumption: ----------

2.4.4 Source of water (public, groundwater, surface water, others): ----------

Water use: ----------

Rate of consumption: ----------

3. Waste Resulting From the Project

3.1. Solid wastes: ----------

Type ----------

Amount: ----------

Method of disposal:----------

3.2. Wastewater : ----------

Type ----------

Amount: ----------

Method of disposal:----------

3.3. Gas emissions: ----------

Type: ----------

Rate of emission: ----------

Method of control:----------

3.4. Method of protection and control of noise pollution:----------

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3.5 Precautions taken to ensure workers' safety:----------

3.6. Precautions taken against fire----------

Declaration

I hereby, declare that the information submitted above is accurate and true and that in case there is any modification of the information stated above, the EEAA shall be notified through the competent administrative authority giving the license.

Name: ----------

Identity Card number and address: ----------

Position (in the capacity of): ----------

Date: ----------

Signature: ----------

To be filled by the Competent Administrative Authority

Authorization of the Competent Administrative Authority:----------

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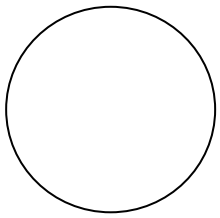
Name: ----------

Professional title: ----------

Signature: ----------

Stamp



EIA FORM (B)

Arab Republic of Egypt
The Cabinet of Ministers
Ministry of State for Environmental Affairs
Egyptian Environmental Affairs Agency

EIA FORM (B)
Oil and Gas Sector

The information required in this form should be filled in an accurate and legible way.

The administrative authority (EGPC or Governorate) should review the **content of the form** and give its opinion by sending an authorized copy of the form and a copy of the EIA Checklist to the EEAA.

The activities for which an approval was given are subject to the conditions set by the EEAA and EGPC will be responsible for follow up on these activities.

1. General Information

1.1. Project title:----------

(Give the complete title of the project that will be used in issuing the permit/license)

1.2. Type of project *(Seismic, Fuel storage tanks, petrol Stations, others)* --------

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1.3. Name of the owner *(Identify the owner(s) of the project with complete address)* ----------

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1.4. Name of the person in charge (the responsible person): ----------

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Address: ----------

Telephone No: ----------Fax No----------

1.5. The Applicant *(If the Applicant is different from the owner of the project, identify the Applicant and his relationship to the owner (contractor, representative, etc. Give complete address of the Applicant)*----------

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2. Project location and Surrounding Environment

2.1 Location of the *project (Describe the exact location of the project, the area to be occupied. Please attach a readable map that clearly shows the location and boundaries of the project in relation to residential areas, neighboring activities, etc.... The map should have a suitable and clear scale)* ----------

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2.2. Type of project:

New ☐ Extension ☐

Type of extension: ----------

- *If the type of project is an extension, has an EIA study been submitted for the original project?*

  Yes ☐ No ☐

- Date of obtaining a previous approval from the EEAA: ----------

2.3. Surrounding Environment (*A general description of the area surrounding the project including a description of the different activities, historical areas, protected areas, tourist and recreational areas, etc…)*----------

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2.4. Baseline data (*A description of the existing environmental conditions or a quantitative analysis of the surrounding water, ambient air, …etc*): ----------

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3. Project Objectives, Phases and Timing:

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4. A Brief Description of the Project (*diagrams and layout should be attached if possible*).

4.1. Main components of the project: ----------

4.2 Electrical supply used: ----------

Source: ----------

Rate of Consumption: ----------

4.3 Source of water (public, groundwater, surface water, others): ----------

Water use: ----------

Rate of consumption: ----------

4.4 Type of fuel (natural gas, solar, fuel oil): ----------

Source of fuel: ----------

Rate of consumption: ----------

4.5 Chemicals (types and quantities): ----------

4.6 Reasons for choosing the technology used (If possible)----------

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4.7 Expected number of workers:----------

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5. Wastes Resulting From the Project

5.1. Solid wastes: ----------

Type ----------

Amount: ----------

5.2. Wastewater : ----------

Type ----------

Amount: ----------

5.2. Gas emissions: ----------

Type: ----------

Rate of emission: ----------

5.4 Hazardous Waste : ----------

Type : ---------- Amount : ----------

6. Wastes, Treatment Methods, Disposal and Disposition

6.1.Waste water:

- Municipal waste water: ----------

Discharge rate: ( ) cubic meter/day

Methods of discharge ----------

- Industrial waste water: ----------

Discharge rate: ( ) cubic meter/day

Expected analyses of industrial wastewater: ----------

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In case of treatment - Description of the treatment unit and analysis of waste water after treatment :----------

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Methods of discharge: ----------

6.2. Gas emissions:

(The type of gas emissions, and the concentrations of SOx, HC, NOx, COx, particulates, etc.)----------

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6.3 Solid wastes: ----------

Type: ----------

Amount: ----------

Methods of transport, handling and storage: ----------

Methods of disposal: ----------

6.4 Hazardous wastes: ----------

Type: ----------

Amount: ----------

Methods of treatment: ----------

Methods of disposal: ----------

(Attach extra pages for explanation of the following:)

7. Significant Environmental Impact(s) and Mitigation Measures:

7.1 Impact of the project on the air quality and mitigation measures: ----------

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7.2. Impact of the project on water quality and availability and mitigation measures: --

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7.3. Impact of the project on soil quality and fertility and mitigation measures: ---------

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7.4. Impact of the project on marine life and mitigation measures: ----------

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7.5. Socioeconomic impacts and mitigation measures: ----------

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7.6. Noise: ----------

Control Measures: ----------

7.7. Other predicted and significant impacts of the project and mitigation measures:

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8. Relevant Measures Undertaken to Protect the Health and Safety of Workers and the Surrounding Community: ----------

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9.Project Alternatives: ----------

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10. Monitoring Programme: ----------

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11. Environmental Management Plan (Contingency plans…etc):

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12. Decommissioning Method: ----------

Declaration

I hereby, declare that the information submitted above is accurate and true and that in case there is any modification of the information stated above, the EEAA shall be notified through the competent administrative authority giving the license.

Name: ----------

Identity Card number and address: ----------

Position (in the capacity of): ----------

Date: ----------

Signature: ----------

To be filled by the Competent Administrative Authority

Authorization of the Competent Administrative Authority:----------

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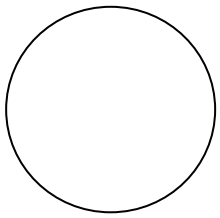
Name: ----------

Professional title: ----------

Signature: ----------

Stamp



ENVIRONMENTAL IMPACT ASSESSMENT For C-Category

2. SUMMARY OF EIA REPORT REQUIREMENTS

A summary of the EIA requirements for oil and gas projects is listed below. The identified issues will not have the same degree of relevance for all oil and gas projects. Some of the requirements may be more relevant to specific cases than the other, depending on the type of project. The EIA should be tailored to the specific projects and should focus on the key issues.

The level of analysis of individual issues in the EIA should reflect the level of significance of their impacts. The analysis should focus on key issues. The information in the EIA should be accurate and presented clearly and concisely. There should be emphasis on quality and not quantity.

Summary of EIA Report Requirements

- Executive Summary
- Introduction
  General information
- Environmental Legislation
  Analysis of relevant legislation (National, Regional and International)
- Description of the Proposed Project.
  Project objectives
  Location and site description
  Proposed project description and associated facilities
- Description of the Existing Environment- Baseline Data.
  Physical characteristics
  Climate issues
  Water quality
  Air quality
  Noise
  Flora and fauna issues
  Socioeconomic issues
  Land use issues
  Traffic issues
- Environmental Impacts of the Proposed Project
  Wastewater
  Solid wastes
  Gaseous Emission
  Noise
  Hazardous Material
  Impact assessment.
- Mitigating Measures
  Waste Water Management and Water Quality
  Solid Waste Management
  Air Quality and Noise
- Alternatives
- Monitoring Plan
- Environmental Management Plan.
- Rehabilitation Plan

3. SPECIFIC REQUIREMENTS FOR EIA

3.1 Executive Summary

An executive summary should give a short overview of the project and the potential environmental impacts. The summary should be written in a non-technical and clear manner to facilitate understanding by all readers including non-.specialist readers. It should be presented on a separate page at the beginning of the EIA report. An Arabic translation of the summary should also be presented after the English summary if the report is to be written in English.

3.2 Introduction

The introduction should give a general information about the project such as the title of the project that will be used in issuing the permit/license, the type of project (drilling, development, others), name of the owner (s) of the project, …etc. It is also recommended to give the name of the consultant or consulting firm that co-operated with the owner in preparing the EIA document.

3.3 Environmental Legislation

Measures concerning the assessment of Environmental Impacts are stipulated in articles no. 19, 20, 21, 22, 23, 70, 71 and 73 of the environmental protection law 4/1994. These articles are complemented by the provisions of articles no. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 57, 58, 59 and 60 0f the Executive regulation issued by the Prime Minister's Decree no 338/1995.

A list of the relevant legislation (national, regional and international) to the project should be included. A non-exhaustive list of the relevant legislation is given in appendix A. It is also recommended to include a list of all emissions and effluent limits of relevance to the proposed project.

3.4 Description of the Proposed Project

3.4.1 Project objectives

A clear statement of the objectives of the project should be provided at the beginning including a work-plan, timing and lifecycle of the project, in addition to decommissioning methods, if any.

3.4.2 Location and Site description

Describe the exact location of the project and the area to be occupied. The following information should be provided:

- Existing land and water uses on the site and the surrounding environment
- The site description documented with maps: plant layout, maps for the projects' components, photographs clearly identifying the location of the proposed project
- Vegetation communities
- Infrastructure; roads, utilities including transmission lines, pipelines, …etc

3.4.3 Proposed project description and associated facilities

A brief description of the project with the main components, specifications, layout…etc. should be provided with the following information:

- Maximum land and/or water area affected by the project
- Identification of the source(s) of water to be used, the quantity and quality of water to be used for different purposes
- Identification of the energy supply required for the project its source and the rate of consumption.
- Number and size of fuel storage tanks, and way of storage and handling
- Type and quantity of chemicals or other hazardous materials, and method of handling, storage…etc
- On-site surface water management systems; identification of drainage lines, pollution control and abatement systems, waste storage and disposal systems,
- Specifications of the municipal or industrial wastewater treatment plants
- Access roads used by trailers, cranes…etc
- Methods for disposing solid and liquid waste, proposed methods and locations for recycling or disposal

3.5 Description of the Existing Environment – Baseline Data.

The purpose of this section is to give an overview of the existing environmental conditions in the area of the project, against which the anticipated environmental impacts of the project can be evaluated. With each issue mentioned later, the level of detail should match the level of importance of the issue in decision-making. The following information should be provided:

3.5.1. Physical characteristics of the project area:

3.5.1.a. Physical characteristics of the onshore area (in case the project is onshore)

The topography of the area including landforms, elevations, and other relevant characteristics should be described. The general description of the geology of the area supported with geological map(s) should be provided. It is recommended to include a topographical map of the area.

3.5.1.b. Physical characteristics of the offshore area (in case the project is off shore)

The following information should be provided to characterize the offshore area:

- Describe the bathymetry of the area, the topography of the seabed, the characteristics of the bottom sediment. In addition, sediment samples should be taken and analyzed. Also seabed sediment sampling and analyses should be carried out.
- Describe the characteristics (velocity and direction) of surface and subsurface currents in the area.
- Describe the wave regime in the area (length, height, and wave period)

3.5.2. Climate

A brief description of seasonal weather conditions in the area of the project (temperature, humidity, wind speed and direction, rain) and any seasonal storm data that might affect the area should be given. The information should be based on the most recent meteorological data obtained from the nearest meteorological station. The location of the meteorological station should be identified in relation to the site.

3.5.3. Water quality

- Describe the existing condition of any water body or groundwater that may be changed as a result of the project; discussion should focus on relevant characteristics that may alter as a result of the project such as:
  - The availability of surface water and ground water in and around the area of the project.
  - The water use in the area (water withdrawal from different sources for irrigation, industry or domestic use)
- Water analysis for the area is needed.

3.5.4. Air quality

- If ambient air quality is likely to change as a result of the project, the existing sources of pollution, either fixed (e.g. machines) or mobile (e.g. cars, etc) should be studied.
- Ambient air analysis is needed.

3.5.5. Noise

If noise is likely to be produced from the project, issues to consider include noise levels from fixed and mobile noise sources.

3.5.6. Flora and Fauna

If terrestrial or aquatic fauna or flora or their habitat are likely to be disturbed, issues to consider include:

- Identifying terrestrial and aquatic plant/animal habitats, ecological communities and where appropriate, populations and species in areas that may be directly or indirectly affected by the project, which is done through an extensive survey programme.
- The local and regional scarcity of these habitats, ecological communities, populations and species - if relevant identify the following:
  - Threatened, protected or rare species, populations or ecological communities
  - Areas or communities protected by law 102/1983 and successive laws.
  - List of protected species
  - The economic significance of any potentially affected species

3.5.7. Land use

Describe the pattern of land use in the area of the project and its surroundings, focusing on:

- The type and size of human settlements in the area (town, village, etc)
- Socioeconomic activity in the area (industry, recreation, agricultural, etc)
- Sites that are valued for their historic, scenic, cultural or archeological significance
- Nearby protected areas
- Other characteristics that might be affected by the project.

3.5.8. Socio-economic issues

Should address the demography, gender issues, and culture. In addition to social issues identified already, issues to consider include:

- Health and safety issues
- Employment issues
- Land displacement

3.5.9. Traffic

An onshore or offshore traffic study should be undertaken for some projects involving significant numbers of vehicle/ships movements. Studies could also be carried out where vehicle/trucks/rigs…etc movements are likely to significantly affect the related community because of the characteristics of the location.

3.6. Environmental Impacts of the Project

The following specific issues are nominated as potentially important in the assessment of impacts and for decision-making in relation to the project. The outline of the issues is not exhaustive and the degree of relevance of each will vary. The EIA should only deal with relevant issues as applicable to the particular project. The following should be included for any potential impact that is relevant for the assessment of a specific proposal:

3.6.1. Wastewater

Identify the sources of wastewater to be discharged from the project site municipal and/or industrial wastewater (process water, ballast water, water contaminants from spillage of fuels, oil or chemicals, etc.). The following information should be included:

- Estimate the quantity of wastewater to be discharged per day

- Describe the characteristics of each wastewater stream to be discharged
- If the waste water is to be discharged to the sea, describe any prior treatment to be carried out
- If the wastewater is to be collected and transported onshore for disposal, describe the onshore receiving facilities and method of treatment (if any) before disposal.
- Assess the impact of this discharge on land, surface water body, and ground water aquifers in the receiving area.
- Assess the impact of this discharge on terrestrial and aquatic biota in the receiving area
- Assess the possible biological accumulation of toxic constituents and resulting impacts on human health.

3.6.2. Solid Waste

Identify the sources of solid waste (municipal and industrial wastes) which will be generated from the proposed project. The following information should be considered:

- Describe the composition of each of the solid waste and classify the solid wastes into hazardous versus non-hazardous
- Describe the solid waste handling system which will be utilized from the source to the final disposal
- Estimate the expected quantity of solid wastes that will be generated from the proposed project.
- Describe the final disposal method
- Assess the impact of solid waste on human health, underground water and surface water near the final disposal area.

3.6.3. Gaseous Emissions

Identify the sources of gaseous emissions (sulphur oxides, nitrogen oxides, carbon oxides, total suspended particulate, hydrocarbons, hydrogen sulphide, …etc.). The following information should be included:

- Estimates of the expected levels of emissions from each source.
- Estimates of the expected short and long term effects of these pollutants on human health, and ecosystems in the project site and the surrounding area
- Methods of control of such pollutants
- Assess the impact of gaseous emissions on human health and surrounding air environment

3.6.4. Noise

Identify the sources of noise and the exposure time. The following information should be included:

- Baseline data on the existing acoustic environment
- Estimate the expected level of noise from each significant source.
- Estimate the possible impact of noise on human health in the working environment, and on the nearest residential area (if applicable).
- Mitigation measures.

3.6.5. Hazardous materials

Issues to consider include:

- Identify all hazardous materials, quantities and proposals for safe storage and handling
- Identify potential hazards from such materials during storage and handling

3.6.6. Environmental Impact Assessment

Based on the analysis carried out previously, the following impacts should be collected in this section. Direct or indirect impacts, reversible or irreversible impacts and accumulative impacts should be specified and discussed. It is recommended to attach a table (matrix), a model or GIS, or any other suitable assessment presentation method showing the main environmental impacts of each main issue described before with a suitable illustration.

- Impacts on land use
- Impacts on water quality
- Impacts on air quality
- Noise Impacts
- Impacts on Flora and Fauna
- Socioeconomic impacts
- Traffic impacts
- Impacts of Hazardous material on site

3.7. Mitigating Measures

The proposed mitigating measures to control impacts and to ensure compliance with relevant standards, including an estimate of how effective this mitigation is expected to be and consequences of failure, segregation of chemicals, fire fighting systems, use of inflammable materials…etc

3.7.1. Waste Water Management and Water Quality

Proposed mitigation controls to prevent contamination of water from maintenance repair activities or from accidental leakage or spillage of oil or potentially harmful substances by setting procedures for storage, transport and disposal of waste for all hazardous and dangerous materials used on land and water.

Description of the treatment plants for both industrial wastewater as well as municipal wastewater with the expected analysis of the final effluent.

3.7.2. Solid Waste Management

Proposed mitigating measures to be undertaken to dispose or recycle the hazardous solid waste as well as non-hazardous solid waste generated from the project.

Disposal of mud cuttings must be thoroughly and specifically addressed as a part of the waste management plan in drilling activities.

3.7.3. Air quality and Noise

Proposed mitigating measures to be undertaken to control air pollution and noise in the area of the project to enhance air quality and to reduce noise effects.

3.8. Alternatives

The EIA should include an assessment of adopting alternatives of the project (in design, technology, location, etc.), alternative decommissioning methods, as well as alternative mitigating measures. Consideration of alternatives should also be given to the consequences of not carrying out the proposal, the "DO NOTHING" alternative. The preferred alternative should be clearly stated, along with a justification for its choice.

3.9. Monitoring Plan

The proposed monitoring plan should be designed to determine the effectiveness of mitigation and to verify predictions and comply with the Egyptian environmental laws. The monitoring system should be outlined to determine whether mitigation actions have been implemented in accordance with an agreed schedule and are working as expected. The

monitoring plan could be used for the periodical assessment of the project, to introduce corrective measures if necessary.

3.10 Rehabilitation Programme

The followed programme to revert the site to the condition it was in before executing the project.

3.11. Environmental Management Plan (EMP)

An environmental management plan (EMP) is a document designed to ensure that the commitments in the EIA, subsequent assessment reports, approval or license conditions are fully implemented. It is a comprehensive technical document that is usually finalized during or after detailed design of the project, including any decommissioning measures, following approval of the development application. Although the level of detail required in an EMP is usually not considered necessary for the EIA, an outline of the structure of the EMP with a summary of the environmental management principles should be presented. Two sections should be included during the development phase: one setting out the program for managing the proposal, and the other outlining the monitoring program.

3.11.1. Environmental management outline

This section include details of:

- Materials management on site, including petroleum products, chemicals and fuel
- Water and air quality management
- Maintenance and site security plans
- Contingency plans to respond to emergencies, incidents or any breakdown in environmental performance
- Strategies to feed information from the monitoring program back into the management practices and action plans to improve the environmental performance and sustainability of all components of the scheme
- Training programs for operational staff and incentives for environmentally sound performance

3.11.2. Monitoring outline

This Monitoring program should be carefully designed and related to the predictions made in the EIA and the key environmental indicators that would demonstrate the potential ecological sustainability of the project. The EIA should outline the need for and use of any proposed monitoring, monitoring intervals and reporting procedures. Parameters that might be relevant include:

- Quality of water discharged or leaching to groundwater, surface water or soil
- Air quality and Noise
- Quantity and quality of wastes
- Any relevant public health indicators
- List of chemicals and their quantities

3.11.3. Emergency Response Plan

An estimate of the probability of potential accidents (e.g. blowouts, oil leaks) should be given, together with a thorough description of the measures to be adapted to contain such accident if they occur, and to address their impacts on the environment.

APPENDIX A

Non-exhaustive list of relevant legislation to oil and gas sector:

1. National Legislation:

- Environmental Protection Law 4/1994
- Executive Regulation 338/1995
- Law 102/1983 for the natural protectorates
- Law 124/1983 on catching fish and aquatic life.
- Law 53/1966 for agriculture
- Guidelines for Egyptian Environmental Impact Assessment (EEAA, 1996)
- Law 48/1982 protecting the River Nile and its waterways from pollution

2. International and Regional Legislation:

- Basal Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1995)
- United Nations Framework on Climate Change (1992)
- Convention on Biological Diversity (1992)
- International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC, 1990)
- Convention for the Conservation of Migratory Species of Wild Animal (Bonn 1983)
- United Nation Convention on the Law of the Sea (UNCLOS, 1982)
- Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment and Protocols (Jeddah, 1982)
- International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)
- Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona 1976)
- Convention for the Prevention of Marine Pollution from Land-based Sources (Paris, 1974)
- Convention for the Prevention of Marine Pollution (Paris, 1974)
- Convention for wetlands of international importance (RAMSAR 1971)

3. Maps

- Plant/Facility lay-out
- Project location map with components, the surrounding environment, roads, etc.