7.1 INTRODUCTION

The environmental management plan (EMP) will start in an early stage beginning usually with the detailed route design for the pipeline. As mentioned in the route description, the route is sometimes modified to avoid interactions with other existing facilities and consequently avoid more negative impacts from taking place. For example, deviations for the route (crosses) are sometimes applied to avoid passing by critical facility like residential areas, high-tension towers or industrial areas. During construction, solid wastes (domestic & excavated material) will be classified; excavated materials will be reburied after laying the pipes. Domestic wastes will be sent to the nearest local landfill.

During operation phase, an important part of the management plan, which is the staff training plans, will be applied on a short time interval to cover several activities such as:

- Upgrading the environmental awareness
- Understanding the rationale for the recommended mitigating measures
- Proper evacuation procedures during emergency

Also, restoration plan will be applied to reclaim and repair all damages happen to the road access and any other important land uses, construction contractors are committed to do so as well as any other reinstatements needed.

7.2. AIR EMISSIONS

There is no significant air emissions sources expected to be associated with the various pipeline's activities included in the scope of the proposed project.

Construction
Air quality impact from combustion sources during construction phase should minimized through routine inspection and maintenance of combustion emissions sources such as generators, diesel engines …etc. maintenance will ensure that equipment is operating efficiently and not producing excessive emissions.
Operation
The only emissions during operation phase are fugitive from pipeline's valves, flanges and intermittent venting from the sectionalizing valves provided along with the pipeline.

Engineering design approach shall avoid/minimize emissions to the atmosphere from fugitive emission sources by applying good engineering practice by selecting suitable valve packing, seals...etc.

Inspection and maintenance program will be implemented during the operational phase to control fugitive emissions from the above-identified sources.

7.3. DUST

Construction & Operation
Construction and operation of the pipeline will result in increased levels of dust generation. The effects of these upon local residents will be minimal as the pipeline route generally traverses land that is sparsely populated, with the exception of agricultural areas (23 KM from start point in the north bank of El-Sheikh Gaber canal, in the vicinity of reclaimed agriculture land LOOP#1; and 2 KM of reclaimed agriculture land near the end point of LOOP#2). Dust control measures will be considered include the following:

- Watering-down work areas.
- Efficient scheduling of sand deliveries.
- Maintain stockpiles at minimum height and keep any long-term stockpiles to the optimum shape to reduce the wind erosion.
- Any drilling and blasting activity should be restricted to daylight hours.
- Attention should given to maintaining routes, especially at extensive agricultural areas, from medium/heavy use vehicles.
- Appropriate speed limits will be established and enforced.
- Vehicles transporting materials with significant dust content to/from the site should be covered with dustsheet.
7.4. NOISE and VIBRATION

Construction

It was concluded that the significance impact of noise and vibration are "low". However, the following measures are recommended to be considered in order to control/minimize the noise impacts associated with the various facilities construction activities:

- Air compressors (if used during the construction phase) should be of the type, which is sound reduced with properly, lined and sealed acoustic cover and to be operated with the covers closed.
- All pneumatically operated tools should be fitted with properly maintained mufflers or silencer of the type recommended by the manufacturers.
- Any machinery, which is intermittent in use, should be shut off in periods of non use or, where this is impracticable to be throttled back to a minimum.

7.5 SOILS

Construction

Measures will be employed to minimize the overall environmental impact of soil erosion. Where possible, the clearing of vegetation will be limited and roots to left in-situ if practically possible. Particularly vulnerable areas will be protected by appropriate erosion control. Re-vegetation of areas particularly to erosion will be undertaken to minimize the mobilization of soil through wind.

It is recommended that all topsoil removed during the excavation works of the pipeline trench to be stockpiled and backfilled once the pipeline has been installed. The location of the topsoil stockpiling should be defined before starting the construction activities. Waste reduction, minimization, reuse and recycling and spill prevention measures should be incorporated into the management system of the construction phase of the project.

The main mitigation methods needed to avoid unnecessary damage to the important topographic features identified along the route are to control access to
these areas by providing temporary fencing, and to prevent vehicles driving in the desert areas, except along the right of way.

The supply of gatch should be controlled and be from non-sensitive areas away from the pipeline route corridor.

7.6. GROUNDWATER SOURCES

To minimize the potential for Impact on the quality of the groundwater, the following control measures will be undertaken:

- All fuel storage will be appropriately bunded and refueling will be undertaken.
- If any leakage or spillage occurs, construction contractor will implement spill response measure to contained and clean up any contaminated soil before reaching groundwater.

Waste reduction, minimization, reuse, recycling, and spill prevention measures should be incorporated into the management system of the construction phase of the project.

7.7. SURFACEWATER

The risk of adverse environmental impacts to surface water quality during construction and operation of the pipeline will be minimized by adopting appropriate soil conservation measures, reducing the disturbed area and scheduling work, where practical, to avoid periods of high rainfall.

The slopes and slope lengths of steeper sections of the pipeline route and any areas of cut and fill will be minimized and drains installed to intercept and divert run-off water. Road crossings and other traffic areas will be located and constructed to minimize the concentration or diversion of water in drainage lines. Where practical, surface cover will be maintained in these areas.

During backfilling, soil in the pipeline trench will be compacted and the material graded off such that surface water flow will not be impeded/diverted.

Disturbed natural drainage lines will be restored to their original level/contours and access tracks and any borrow pits will be constructed and aligned.
7.8. ECOLOGICAL IMPACTS

The recommended mitigation approach depends on control of construction works and minimizing the ‘ecological footprint’.

The principal control mechanism is to restrict all activities, as far as practicable, to the ROW corridor. Development of temporary access roads should also be limited to the minimum necessary.

Recovery of any vegetation would be improbable if it was damaged excessively by heavy vehicle movements or earthmoving activity. Particular care should be taken not to damage unnecessarily the vegetation of neighboring areas during trenching of the pipeline as identified. Only existing tracks should be used as practical as possible.

Prevention and restriction of unnecessary damage to vegetation and in fact considered in the pipeline route selection. Without vegetation, the fauna will also disappear.

In addition to the above recommendations, the following mitigation measures are recommended to be implemented during the construction of the pipelines in order to control/minimize the potential impact on the terrestrial habitats:

- Vegetation clearance should be confined to that necessary for the establishment of the pipeline.
- The establishment of 20m wide construction corridor will minimize impact on vegetation communities and disturbance of wildlife/domestic life along the route of the proposed pipeline.
- The movement of vehicles should be managed to ensure minimal loss of vegetation.
- As the retention of rootstock is an essential element of the subsequent restoration program, the root of cleared vegetation should be, where possible, left in place and cleared vegetation should be spread along the pipeline corridor to encourage re-seeding.
7.9. LANDSCAPE AND VISUAL IMPACTS

The disturbed and cleared appearance of the corridor will only be a short term visual characteristic because rehabilitation will be undertaken progressively once the pipe has been laid.

This will include stabilization and re-vegetation of the disturbed areas in reclaimed agricultural areas in from start point to KM point 23+00 in LOOP#1, and the last 2 KM in LOOP#2. As the rehabilitation becomes established, the visual prominence of the pipeline corridor will gradually reduce.

Rock dumping or backfilling on slopes which are visible from existing roads should be minimized as much as possible.

7.10. ARCHAEOLOGY AND CULTURAL HERITAGE

In view of the pipeline route from an archaeological perspective, it is recommended that a watching brief should be maintained during construction in the event that any archeological artifacts or fossil appear.

It is worth mentioning that before determining the route of the pipeline, a consultation with the Egyptian Archeological Agency was made to identify any archeological or historical sites known along the pipeline route. An approval and permission of the route were given from the agency. Also, during the site survey, no archeological or historical sites were noticed. However, any finds of archeological materials should be reported immediately to the Egyptian Archeological Agency.

7.11. EROSION CONTROL & SITE RESTORATION

Increased erosion may occur in, or as a result of disturbed areas such as the pipeline corridor and access tracks. Where possible, the clearing of vegetation will be limited and rootstock left in-situ. Re-vegetation of disturbed areas will be undertaken.
7.12. SOCIO-ECONOMIC IMPACTS

7.12.1. Landuse Effects

Construction and Operation
Prepare a detailed photographic and remedial management plan for significant locations and appoint appropriate specialists to monitor re-construction.

The landowners encompassed by the pipeline route will be compensated, which may temporary or permanently in case of valve room. There is has already been a formal compensation agreement to compensate the landowners along the pipeline route (see Appendix 5)

Public hearing/consultation will be held with the landowners and relevant NGOs, at areas may be impacted.

7.13. WASTE

Construction & Operation
The construction phase of the project is the one when most waste is likely to be generated. Providing these wastes are handled and disposed off in accordance with EGAS/GASCO procedures, adverse impacts are not expected and no specific mitigation measures should be needed.

Detailed waste management plan should be developed and implemented for the construction phase of the proposed project including the following:

- Waste storage, transfer and handling.
- The requirements for consignment notes.
- Inspection and auditing.

Additionally, all personnel employed for the construction phases of the proposed project should receive formal waste management awareness training, particularly regarding the correct waste segregation, storage and labeling procedures and potential recycling of wastes if possible.

Generally, in pipeline projects, the hazardous wastes that may be generated are the such as empty paints, used oil (classified as "List S" hazardous waste) resulting after painting and coating processes of pipelines onsite. In the case of Abr Sinai pipeline project, the pipelines shall be painted and coated in the
factory. No painting or coating shall be done onsite. However, if any non-significant residues arisen due to sudden need of painting on site.

The Waste Management Plan specifies the types of wastes that will be generated as part of the construction process as follows:

- Aqueous waste (comprising hydrotest water, drainage water, untreated sewage water);
- Non-hazardous waste; solid and liquid (domestic refuse, industrial refuse, sewage sludge);
- Gaseous wastes (vents, exhausts, fire-fighting agents, refrigerants).

Data relevant to the waste produced as a result of Contractor's constructional activities shall be monitored and recorded into an environmental register on an ongoing basis and will be made available for inspection.

7.14. TRAFFIC

Because of the location of the pipeline, nuisance issues such as noise and dust are unlikely to require particular mitigation due to lack of populated areas along most of the route.

However, some controls may be required in the identified sensitive receptors, particularly if access routes are to be selected close to the residential areas. Restrictions on lorry movements to prevent noise nuisance in the early morning/late evening may also need to be considered near sensitive areas.

A high degree of control will be needed over contractors’ vehicles to prevent encroachment/damage to the desert surface outside the work area. There should be prohibition on uncontrolled off road driving.

It is recommended that a specific transport / journey management plan be drawn up by the contractor and approved by EGAS/GASCO prior to works commencing. This should address the need to minimize environmental impacts from traffic and the proposed mitigation approach.
7.15. EMERGENCY RESPONSE PLAN

EGAS/GASCO have plans (see appendix 2) which can be acted on upon an emergency, elements of this are designed that proposed pipeline project will control any major environmental negative impact that may. The plan will cover both construction phase and operation phase.

7.15.1. Objectives Of The Emergency Plan

With the nature of the emergency defined it is possible to state the objectives of the intervention. These will be dependent upon the perceived nature of the emergency but will have Two main goals:

1. To eliminate the emergency at source
2. To minimize adverse effects on people, environment, and property.

7.15.2. A Fast Effective Response

An emergency may not be preventive but a speedy reaction to an accident can minimize both the scale and the effects. It means acting fast and thinking on your feet.

Rapid response to an emergency requires a site accident controller, plus the need for pre-emergency planning, good procedures, familiarization through regular practice and the strategic sitting of alarms.

The prime aim for emergency planning is to ”avoid the need to manage crisis”. Safety cannot be left to chance, neither can there be absolute safety. Safety should be planned, and should form an integral part of design, operations and maintenance.

7.15.3. During construction phase

Health and Safety division will set contacts with competent authorities (along the whole route) to organize responses for control and repair of sudden road damages or traffic jams (especially near settlements) during equipment mobilization and pipes convey. Same thing will be applied during de-mobilization.
H.S. division also will coordinate with all hospitals near the route for treatment of injuries which result from sudden accidents (welding, lifting, coating, sand blasting, etc.). First Aid treatment will be available at the sites to deal with minor accidents. During using corrosion inhibitor for pipes pressure test all recommendations and precautions (will be received by the supplier later), for storing, handling, and using, will be followed carefully and monitored by H.S. division to avoid negative impacts.

7.15.4 During Operation Phase

Any leakage signal received by the control room will be followed by immediate separation for the relevant section and maintenance operation takes place to minimize amount of gas discharged. Coordination with all fire extinguishing stations available around the route will be made to combat any fire accidents may occur or explosions. The probability of fire and explosions occurrence is very small due to the use of "GASCO" automatic control system that covers the whole line.

Definition of A Major Emergency

The following definition provides some guidance on the severity categorization of emergencies.

There is a gradation of emergencies from small accidents to catastrophic ones. It is therefore useful to consider four categories:

**Category "0" Minor Accident:**
Can be handled by the resources of the unit concerned.

**Category 1 Accident**
Accident requiring assistance from elsewhere in the work place area.

**Category 2 Accident:**
Assistance required from the local fire and police services.

**Category 3 Accident:**
Accident of disaster proportions requiring considerable outside assistance from fire, police, medical and municipal emergency services.
7.16 REINSTATEMENT OF ROW & SITE

- This work will be carried out under a general permit to work and will be monitored and supervised at all times by an operations engineer and company site representative.
- EGAS/GASCO will reinstate and clean up the ROW.
- All creeks, water courses, wells, siphons, drains, streams, ditches and irrigation channels will be reinstated to their former condition and if necessary their banks will be pitched with stone and/or faced with gabions to prevent washing out or erosion.
- The stripped top soil will be replaced carefully in position after the completion of the pipe laying operation. The top soil will be spread between the track at the side of the working width and the pipe trench and the remainder.
- All walls, fences, tracks, roads…etc. will be reinstated to their original condition.
- Excess excavated material to be removed and disposed of in line with local regulations.
- EGAS/GASCO will pay attention to the condition of the backfilled trench to ensure that this has been properly consolidated before allowing the passage of plant or equipment across the backfilled area.
- The centre line of the pipeline will be accurately located and indicated by suitable means.

7.17. EMPLOYEE HEALTH AND SAFETY

During the construction activities of proposed pipeline, emphasis will be placed on providing a safe and healthy environment for the site workers. Antidote against reptiles and poisonous snakes will be available at site's clinic. A health and safety plan will be implemented to ensure compliance with the regulations of the Egyptian working laws. Occupational Safety & Health plans will be implemented in the following areas:
Accident Prevention and Management operations accident prevention and management will be effected via the company safety program. This will commence along with the construction phase until the cessation of site activities. The program will include the following:

- Hazard identification and control.
- Monitoring and reporting of accidents.
- Training or education of employees in first aid.
- Fire Safety & Preparation.
- Hazard Identification and Control

Table 7.1 lists the potential hazards in different phases of the activities and the preventative and remedial activities necessary for their elimination and control. If this is not possible or feasible and the hazard cannot be eliminated, then the employees will be provided with the necessary safety protective gear to prevent any injuries during the work process. Hazard identification and reporting will constitute an ongoing activity in which the employees’ participation will be considered an integral part of his work functions. The supervisor/manager has the obligation to:

- Inspect all machinery and equipment for the existence of potential hazards and ensure that they are in working order.
- Inform the worker if any hazards are present.
- Instruct the employee in the correct safe work procedure to prevent any injuries and ensure that those instructions are followed.
- Provide the necessary safety protective gear when required.
Table (7.1) Potential Hazards during Construction Phase

<table>
<thead>
<tr>
<th>Phase</th>
<th>Potential hazard</th>
<th>Protective &amp; preventative Safety measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing of Site - removal of topsoil &amp; overlying vegetation</td>
<td>Insect Bites</td>
<td>Use of insect repellents</td>
</tr>
<tr>
<td></td>
<td>Snake Bites</td>
<td>Provision of snake bite kits</td>
</tr>
<tr>
<td>-Excavation of trenches &amp; transportation along the pipeline route.</td>
<td>Minor Trauma to Extremities</td>
<td>Use of safety shoes &amp; gloves</td>
</tr>
<tr>
<td></td>
<td>Lacerations from use of sharp tools</td>
<td>Use of clear goggles</td>
</tr>
<tr>
<td></td>
<td>Inhalation of fugitive dusts</td>
<td>Use of dust/mist respirators</td>
</tr>
<tr>
<td>-Operation of Power generators</td>
<td>High noise levels from working of heavy duty vehicles – trucks, tractors etc.</td>
<td>Use of ear plugs</td>
</tr>
<tr>
<td>-Maintenance shop operations</td>
<td>High noise levels</td>
<td>Wearing of air plugs</td>
</tr>
<tr>
<td></td>
<td>Contact dermatitis skin irritation from exposure to grease</td>
<td>Use of barrier creams &amp; detergents on hands</td>
</tr>
<tr>
<td>Backfilling of mined out areas</td>
<td>High noise levels</td>
<td>Use of air plugs</td>
</tr>
<tr>
<td></td>
<td>Fugitive / wind blown dust into eyes</td>
<td>Use of clear goggles</td>
</tr>
<tr>
<td></td>
<td>Inhalation of fugitive dust</td>
<td>Use of dust/mist respirators</td>
</tr>
<tr>
<td>-Excavation of trenches &amp; pipeline construction / installation along the pipeline route in lake area.</td>
<td>Fall in lake water</td>
<td>Use of life jacket.</td>
</tr>
</tbody>
</table>

The employee on the other hand has the obligation to:

- Cease work once a hazard is perceived.
- Report the hazards to the supervisor who will in company with the safety representative inspect the condition or circumstance and determine its validity.
- Obey the instruction to perform alternative work or cease work completely as directed by the supervisor.
- Return to the site or proceed once the hazard has been adequately dealt with or eliminated.

7.18. OCCUPATIONAL HYGIENE

The main environmental occupational hazards to which employees will be exposed during the construction phase of Abr Sinai pipeline are:

- Dust
- Noise
- Heat
7.18.1. Dust Exposure

The construction/installation activities of pipeline including: route clearing, excavation, transportation, earth levelling and may be blasting of hard rock will also occur. As a consequence the construction activities may result in the dispersion of particulate matter into the air. Particulate matter dispersed into the air will be fugitive wind blown dust from the excavation, blasting and transportation. Calculations (section 6.0) revealed that around seventy percent (70%) of dust particles are less than 10 microns (PM10) in size. ILO and WHO guidelines state that the danger from particles occur for diameters less than 10 microns and especially those with a diameter between 0.5 and 3 microns since those particles when inhaled can reach the alveoli and lead to lung impregnated disease. Development of respiratory disease due to inhalation of respirable dust has been shown to be in direct proportion to the total load of dust inhaled over a time period. This in turn is a function of:

- The dust particle size
- The concentration of particles in the atmosphere.
- The duration of exposure

The concentration of dust particles in the air is not expected to be consistently above acceptable standard since it is basically wind blown dust. The development of respiratory disease due to inhalation of dust is very low and will probably need exposure time far in excess of twenty five years to develop. Notwithstanding the abovementioned, the following measures will be implemented in order to decrease or eliminate respirable dust inhalation and prevent any adverse effects on workers:

1. Provision of dust respirator with filters to employees exposed during the route clearing, excavation and transportation phases of the operation
2. Sitting of camps a convenient distance from the construction activities and on the upwind side.
3. Chest X-Rays of all employees once/yearly in order to detect any incipient pulmonary disease such as persistent coughing and/or shortness of breath.

These measures will assist to eliminate or reduce further the very low risk of the development of lung impregnated disease by employees exposed to dust. Workers in the excavation and transportation phases are exposed to wind blown/fugitive dust being blown into the eyes and causing eye irritation and conjunctivitis. These employees should provided with clear goggles and eye wash lotion will at all times be available for washing the affected eyes.

7.18.2. NOISE

The following measures will be implemented to address worker health and safety related to noise associated with the operation:

1. Control of noise levels at source via installation of silencers on exhaust system of power generating plant.
2. Provision of hearing protection to employees exposed to high noise levels: ear muffs for employees in the maintenance shops and generating plant areas.
3. Earplugs for employees who operate heavy duty machines.
4. Sitting of power generators and compressor in location away from the living camp of site workers.
5. Hearing conservation program for employees exposed to noise. This will consist of:
   a) Audiological examination to establish baseline hearing capacity.
   b) Yearly audiological testing of employees exposed to high noise levels.
   c) Acquisition of a portable sound level meter
   d) Measurement of sound levels in instances where it is suspected that deviations from the previous levels are occurring.
7.18.3. HEAT

Abr Sinai pipeline lays in North Sinai areas, which is warm most of the year especially during summer season. There are number of options to help preventing temperature related incidents:

For heat exposures, rotating work schedules with adequate work/rest rotations can be used. Cooled rest areas should be provided. Workers should receive training in recognizing early signs of heat related incidents. Personal protective equipment can be used to help prevent heat related injuries. Aluminized reflective clothing has been recommended for use in hot environments. Full suits made from aluminum-coated material may hinder the evaporation of sweat from the body, thereby, increasing the overall heat burden on the body. If aluminized clothing is used, an aluminized apron can reflect radiant energy without hindering sweat evaporation.

For hot situations it is imperative that workers maintain proper fluid levels. Water intake should equal the amount of water lost through sweating. The body's thirst mechanism is not an adequate indication of water loss and should not be used to determine needed fluid intake. Workers should drink 16 ounces of water prior to beginning work. Water should be 10 to 15 degrees C. During the course of work approximately 3 to 5 liters of water are recommended, although more may be required in certain conditions and work environments. Salt supplements can be used to help replenish the body's reserves; however, use of salt supplements should be discontinued after few days. At this point, additional salt supplements may affect the body's mechanisms for regulating salt concentration.

Acclimatization should be used for all workers exposed to hot environments. In acclimatization, conditioning through daily exposures to heat helps individuals work in hot environments with lower core body temperatures, lower heart rates, and high rates of sweat production. Another advantage of acclimatization is that the sweat composition for an acclimatized worker has a lower salt content, thus conserving the body's salt reserves.
NIOSH recommends six day acclimatization for workers in hot environments. Acclimatization to dry heat also improves the worker's ability to work in wet heat. Obesity, age, lack of physical fitness, and degenerative diseases all have an adverse effect on acclimatization.
7.19. ACTION PLAN

<table>
<thead>
<tr>
<th>Category</th>
<th>Action</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Air Quality Inspection &amp; Maintenance (I&amp;M) program should be implemented during the project phases to control/minimize fugitive emissions from all identified sources                                             Petrojet/GASCO/EGAS</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Air Quality Minimization of dust generation is recommended to be accomplished through dust control/suppression measures especially near the above-identified sensitive receptors.                                  Petrojet</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Air Quality Air quality impacts from combustion sources should be minimized through routine inspection and maintenance of combustion emission sources such as generators, diesel engines, etc. Maintenance will ensure that equipment is operating efficiently and not producing excessive emissions. Petrojet</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Noise Noise specifications of the sectionalizing valve system should be confirmed and complied with local regulation.                                                                                  GASCO/EGAS</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Noise Air compressors (if used during the construction phase) should be of the type, which is sound reduced with properly sealed acoustic cover and to be operated with the covers closed.                Petrojet</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Noise All vehicles, plants and machinery should be maintained in good repair and in accordance with the manufacturers instructions.                                                                 Petrojet</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Noise All pneumatically operated tools should be fitted with properly maintained mufflers or silencer of the type recommended by manufactures.                                                          Petrojet</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Noise Any machinery, which is intermittent in use, should be shut off periods of non use or, where this is impracticable to be throttled back to minimum.                                                 Petrojet</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Action</td>
<td>Responsibility</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>9 Noise</td>
<td>Camp(s) locations and transportation routes should be carefully selected to be far enough from the identified noise sensitive receptors.</td>
<td>Petrojet</td>
</tr>
<tr>
<td>10 Soil &amp; Groundwater</td>
<td>Environmental management procedures will be developed and implemented of the proposed project.</td>
<td>Petrojet/GASCO/EGAS</td>
</tr>
<tr>
<td>11 Soil &amp; Groundwater</td>
<td>Accidental spill management plan will be developed including clear procedures for spill prevention, monitoring and management procedures.</td>
<td>Petrojet/GASCO/EGAS</td>
</tr>
<tr>
<td>12 Soil &amp; Groundwater</td>
<td>It is recommended that all topsoil removed during the excavation works of the pipeline trench to be stockpiled and backfilled once the pipeline has been installed. The location of the topsoil stockpiling should be defined before starting the construction activities.</td>
<td>Petrojet</td>
</tr>
<tr>
<td>13 Soil &amp; Groundwater</td>
<td>Waste reduction, minimization, reuse, and spill prevention measures will be incorporated into the management system of the construction activities</td>
<td>Petrojet</td>
</tr>
<tr>
<td>14 Soil &amp; Groundwater</td>
<td>The supply gatch will be controlled and be from non-sensitive areas away from the pipeline route corridor.</td>
<td>Petrojet</td>
</tr>
<tr>
<td>15 Ecology</td>
<td>Restrict all construction activities, as far as practicable, to the ROW corridor. Development of temporary access roads should be limited to the minimum necessary.</td>
<td>Petrojet</td>
</tr>
</tbody>
</table>
### Section 7: Environmental Management Plan

<table>
<thead>
<tr>
<th>Category</th>
<th>Action</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 Ecology</td>
<td>Particular care should be taken not to damage unnecessarily the vegetation of neighboring areas during trenching of the pipeline.</td>
<td>Petrojet</td>
</tr>
<tr>
<td>17 Ecology</td>
<td>The establishment of 20m wide construction corridor will minimize impact on vegetation communities and disturbance along the route of the proposed pipeline. The movement of vehicles should be managed to ensure minimal loss of vegetation.</td>
<td>Petrojet</td>
</tr>
<tr>
<td>18 Socio-economic</td>
<td>It is important to take all appropriate steps to minimize nuisance and disturbance to local residents. This will include controls on construction activities giving rise to noise and dust.</td>
<td>Petrojet</td>
</tr>
<tr>
<td>19 Socio-economic</td>
<td>A transport plan will be developed for the pipe laying operation, which addresses the need to avoid as practically possible routing heavy lorries through or near residential areas.</td>
<td>Petrojet</td>
</tr>
<tr>
<td>20 Socio-economic</td>
<td>Landowners along the pipeline route will be compensated due to temporary / permanently land take.</td>
<td>GASCO / EGAS</td>
</tr>
<tr>
<td>21 Archaeology</td>
<td>Any finds of archaeological material will be reported to the relevant authority.</td>
<td>Petrojet/GASCO/EGAS</td>
</tr>
</tbody>
</table>