

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



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v2

**Palestinian National Authority
Energy & Natural Resources Authority**

Electric Utility Management Project (EUMP)

Environment and Social Safeguards Documents

- 1. Environmental Management Plan**
- 2. Resettlement Action Plan (RAP)**
- 3. Consultation**

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1 Environmental Management Plan

1.1 Project Background

The Electric utility Management Project (EUMP) which is funded by the World Bank and other donors aims to improve the performance of the Palestinian power sector through development of new transmission and distribution systems and institutional strengthening of PEA and regional distribution companies.

The Environmental Assessment and Management Plan (EAMP) covers the engineering works for the development of a four new high voltage (161kV) substations in West Bank (Jenin, Nablus, Ramallah & Hebron) and the development of the distribution system in the northern, central and southern areas of West Bank.

The EAMP covers many proposed locations of the high voltage substations and reflects more optimal proximity to load centers and available non-disputed/ agreeable land. It has been necessary to modify the locations of substation sites and introduce alternative locations to mitigate environmental and social impacts.

Following the submittal of the initial version of the EAMP in January of 2008 a Palestinian Environmental Specialist was commissioned to prepare an independent study on the legal context and biodiversity on the West Bank. This was to support local ownership and to ensure that the EIA covered all relevant aspects. The same specialist together with appropriate staff from PEA have also conducted field visits and impact assessments for the new substations sites.

To facilitate clarity while at the same time providing insight to the evolution of the assessments updates including inherent infrastructure and locations are specified in relation to their phased progression.

1.2 Project Works

It is important to understand the scope of the works in the EUMP, in order to also understand the approach in dealing with both the evaluation of the environmental impacts, and the subsequent reporting.

The summarized works items are shown in Table A below.

Table A. Components of the EUMP

| Component | | |
|---|--|--|
| Transmission system | Works Element | Activity |
| Substations | - Construction of 4 new substations in Jenin, Nablus, Ramallah & Hebron - Installation of NCC/ SCADA | - Techno-economic assessment - System analyses and design - Procurement and equipment installation |
| Distribution | | |
| Rehabilitation and extension of existing system | - System configuration and design - Installation of pre-paid and automatic meters - Development of distribution system | - Techno-economic assessment System analyses - Procurement and equipment installation |
| Institutional | | |
| Technical assistance and capacity building | - Improved customer service - Strengthening of NEDCO - Sector reforms - Consultancy services for: Detailed design and construction supervision of | - Technical assistance, improved customer metering, use of accounting and billing systems, operation and maintenance - Construction supervision for: detailed design and tender specs |

| | | |
|--|---|---|
| | transmission and distribution components - Promoting utilization of renewable energy sources, development of appropriate institutional and legal framework | - Policy formulation for, Palestinian Electric Regulatory Commission) and Palestinian Electricity Transmission Limited, promotion of renewable energy sources |
|--|---|---|

1.3 Policy, Legal and Administrative Framework

The World Bank Governing policy is OP 4.12. At present this project is categorized as “B”. This means all components of the Project with the exception of capacity building will be subject to Environmental Assessment (EA).

The Palestinian National Authority, Ministry of Environmental Affairs MEA has two formats for environmental assessment:

The first is an Environmental Scoping termed Initial Environmental Evaluation (IEE), which covers small projects, and/or projects that undertake works in already disturbed areas.

The second is a full Environmental Impact Assessment, which covers projects where impacts will occur to natural areas and/or to natural resources, as a result of new activities.

The regulations covering environmental assessment are covered principally by the Environment Law (No. (7) 1999) and the Environmental Assessment Policy (2000). In terms of this project, the works are covered under Annex 1 of the latter.

The work associated with construction of the four substations brings the need of compensation as all the four sites land owners are private owners. For this purpose PEA has prepared a Resettlement Policy Framework (RPF) and public consultation will be held to be led by Ministry of Finance (MOF) for the compensation purpose.

For the distribution component where existing structures are likely to limit access and OP4.12 may be triggered in by:

- Encroachments - resulting from locations where the right of ways of new medium voltage overhead lines conflict with existing structures, properties etc.
- Unforeseen events, accidents, and by minor changes in project specifications that may cause damage to or loss of assets. In areas where dwellings, fences, etc. are close to proposed infrastructure rehabilitation and access is very confined.

Then a public consultation with the relevant stakeholders to be led by the distribution utilities will be implemented before the commencement of the distribution development component.

1.4 Environmental Impacts

Overall

Overall, once the works are completed, there will be a significant net positive social and environmental benefit to the people of the West Bank and Gaza. However, limited and temporary negative environmental and social impacts will occur for short periods during the works stage. By careful pre-planning by the organisation contracted to undertake the rehabilitation works all the negative impacts can be addressed through an EMP. Compensation issues if any arising from damage or destruction to assets will also be addressed.

The bulk of the impacts fall under Construction phase works, mainly excavation works for site preparation, foundations (distribution towers and poles) and transformers and stringing of overhead wires.

The secondary or indirect impacts of the line installation works will be disruptions to traffic, pedestrians, and safety issues where right of ways are located along pedestrian pathways and where they may block access to private and/or public property in both residential and commercial areas.

These impacts can be minimised, in terms of severity and duration, by ensuring that the excavation and construction works are limited to short working sections, and that works are carried out rapidly and efficiently. The remainder of the impacts will be site specific, and generally within the operating sites of PEA and regional distribution companies.

The EMP for the project has been drawn up according to the anticipated impacts from all the Project components, starting with construction to the rehabilitation works and subsequent operating phases.

The substation sites in Jenin, Nablus, Ramallah and Hebron do not entail to any significant extents additional on-site impacts and/ or concerns compared to the sites that already have been assessed.

1.5 Conclusions

The representative works as identified (construction of the distribution grid) will entail limited land acquisition for tower foundations and substations. In addition, to enable stringing of overhead wires (conductors) and line maintenance clearing of for the right of way (ROW) will be necessary. The proposed network will be routed to avoid conflicts with existing houses and any special habitats (e.g. remnant forests). Destruction of houses and any movement or resettlement of people will not be done. If assets are damaged or people's lives disrupted, the RPF has been prepared to compensate for these actions.

From the impact assessment carried out the environmental acceptability of the project may be summarized thus:

Terrestrial Ecology: None of the current proposed substation locations in Jenin, Nablus, Ramallah and Hebron entail significant impacts on the terrestrial ecology. In all cases any negative impacts will be minor, capable of being reduced to an acceptable level through environmental management planning.

Water Quality: Potential serious negative impacts on groundwater quality can result from accidental leakage or spills of oils, lubricants from construction machinery and/ or transformers. The risk of such impacts will consequently need to be managed through safety procedures and installation of structures for containment of spills (i.e. for transformers).

Air and Noise Quality: Minor negative impacts associated with dust, fumes and noise from construction works and rock blasting.

Landscape: Very small-scale and largely temporary negative impacts associated with works areas.

Socio-Economic and Cultural Environment: Minor short-duration socio-economic impacts associated with construction works. Land owners will need to be compensated for permanent land take from the erection of towers, temporary loss of cropping income for clearing and maintaining of RoWs and decreased property value due to the presence of the transmission line.

Mitigation is possible through an effective environmental management plan and resettlement policy framework.

Environmental Management Plans for the Substation and Distribution System: The construction of substations and electrical distribution networks is undertaken according to the recommendations of the

environmental assessment and EMP in a way that is respectful to the local people and their land and resources. All operations will be managed in a manner that protects the environment, health and safety of employees, customers, contractors and the public. A “Measures Plan” is prepared that establishes the steps required to ensure conformity with the principles and procedures laid down in the national environmental legislation during the planning/project design, construction and operation activities of the proposed Electrical Distribution System and Substations project in the northern, central and southern parts of West Banks.

Table B. Measures Plan table for the Construction of the Electrical Distribution System and substations:

| Stage | activity | Measures to be Taken | Responsible Agency/Party |
|--------------|---|--|--------------------------|
| Construction | Earth-moving wastes | Earth-moving wastes to be excavated in scope of this project shall be disposed safely in areas permitted by the relevant Municipality. | Contractor |
| | Historical, cultural and archeological assets | In case any historical, cultural or archeological assets is encountered during excavations, the excavation work shall be stopped and the Provincial Culture and Tourism Directorate shall be informed thereof. The work will carry on after reaching an agreement | Contractor |
| | Dust/air pollution | The vehicles transporting materials shall be covered. In particular, the work sites shall be watered under warm, dry and windy weather conditions. | Contractor |
| | Noise | The noise levels of the excavation and work machines shall not exceed the levels indicated in the Regulation on the Evaluation and Management of Ambient Noise; Impulse noise may not exceed 70 dBA Construction | Contractor |
| | Exhaust Emission | Whether each vehicle used for construction works has measured its exhaust emission levels in accordance with the criteria set by the Ministry of Environment and Forestry as well as their “Motorized Vehicle Exhaust Emission Measurement License” shall be checked and supervised. | Contractor |
| | Excavation | In order to avoid any damage on other infrastructure systems (water, natural gas, sewerage, communication, transportation, etc.), the related agencies and utilities shall be informed in writing before starting excavation works. | Contractor |
| | Public Safety | In order to avoid any danger that may be posed by the project against public safety (particularly for children), | Contractor |

| | | | |
|--|----------------------------------|--|------------|
| | | people must be prevented from entering the construction sites, using plastic stripes, barriers as well as phosphorous enlightened warning signs. Furthermore, the necessary measures shall be taken to ensure a safe flow of traffic in cooperation with the related agencies. | |
| | Restoration of Construction Site | The Construction Site shall be restored to its previous position. | Contractor |

A monitoring plan table has been provided to potential contractors, this table shows the monitoring stages required to ensure conformity with the principles and procedures laid down in the national environmental legislation during the planning project design construction and operation activities of the proposed Electrical Distribution System and Substations.

Table D. Monitoring plan table for the Construction of the Electrical Distribution System and Substations:

| Stage | What are the parameters to be monitored? | Where will be the parameters are monitored? | How will the parameters be monitored/what are the monitoring instruments? | When will the parameters be monitored? Measurement frequency/ continuous measurements | Responsible Agency/Party |
|--------------|---|---|---|---|-----------------------------|
| construction | Earth-moving wastes | Construction routes/storage areas | Visual | continuously | EQA & the Contractor |
| | Historical, cultural and archeological assets | Construction route | Visual | If cultural assets encountered | EQA , MOTA & the Contractor |
| | Dust/air pollution | Construction site and vehicles moving materials | Visual | continuous | Contractor |
| | Noise(work machinery and transportation vehicles) | Work machinery at the Construction site | Noise measurement shall be performed at the site | Monthly, or when the people living in the environs complain | Contractor |
| | Excavation | Construction site | The permits received must be checked for properness and the durations of permits must not be exceeded | Once, when vehicles enters work site for first time (expiration date of license) | Contractor |
| | Public Safety | Construction route | Visual | continuously | Contractor |
| | Restoration of Construction Site | Construction site | Visual | At the end of Construction period | Contractor |