Government of Pakistan

Electricity Distribution Efficiency Improvement Project (EDEIP)

Environmental and Social Management Plan (ESMP)

70 Feeders Proposed

Under EDEIP

December 2023

MULTAN ELECTRIC POWER COMPANY (MEPCO) MULTAN

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1. Introduction

Multan Electric Power Company (MEPCO) is the largest power distribution company in the country operating exclusively in 13 administrative districts of Southern Punjab. The districts covered by MEPCO include Multan, Muzaffargarh, Layyah, Dera Ghazi Khan (DG Khan), Rajanpur, Lodhran, Bahawalpur, Rahim Yar Khan, Khanewal, Sahiwal, Pakpattan, Vehari and Bahawalnagar.

The Government of Pakistan (GoP) through MEPCO is implementing the **Electricity Distribution Efficiency Improvement Project** (EDEIP) financed by the World Bank (WB). Under this project, MEPCO being implementing agency (IA) intends to undertake expansion and rehabilition of High Tension (HT) [1]lines or distribution feeders to strengthen its electricity distribution network to ensure reliable supply of electricity to its consumers.

The objective of this sub-project is to improve electricity supply and to reduce overloading, voltage drop and length of selected feeders in MEPCO jurisdiction through expension and rehabilition of 70 (seventy) 11 KV feeders.

To address the potentially adverse environmental and social impacts associated with the expansion and rehabilition of proposed selected feeders, this **Environmental and Social Management Plan (ESMP)** has been prepared, in accordance with the local regulatory requirements and WB Environmental and Social Framework (ESF).

1.1. Environmental and Social Management

Expansion and rehabilition of HT feeders may result in potential environmental and social impacts and risks that are largely localized, short term in duration and can be managed through implementation of appropriate mitigation measures.

The potential environmental and social impacts during the execution/installation and operation phase of HT feeders would include (a) tree cutting, loss of vegetation, damages to crops (b) public health issues (c) damage to irrigation network and public infrastructure (d) safety issues (e) noise and vibration (f) influx of Labour (g) gender issues (h) child Labour, (i) soil contamination, water contaimination and air contamination and (J) impacts on sites of historical, cultural, archaeological or religious significance. The mitigation measures are proposed to tackle these environmental and social impacts during design, construction and operation phases of the project. These mitigation measures will be

[1] Feeders or High Tension (HT) lines are used in residential areas to feed the local transformers, which then distributes power to the building in areas.

implemented at construction sites.

2. Description of the Sub-Project

2.1. Circle wise Location and scale of subproject

Expansion and rehabilitation of feeders is an important sub-project of MEPCO under Energy Distribution Efficiency Improvement Project (EDEIP). A total of 70 feeders among the MEPCO distribution network covering all 09 operation circles are selected, where the rehabilitation work will be carried out. Out of 70 feeders, 46 feeders are highly overloaded and require rehabilitation work to reduce overloading while the remaining 24 feeders face high voltage drop and have long lengths. The rehabilitation works include reconductoring, installation of new poles and conductors of selected feeders. The detail of selected feeders is given in Table-1

Table 1: Circle wise detail of selected feeders under Sub-project.

Sr. No.	Name of Circle	Grid Station	Name of feeder	Key Activities to be carried out as part of this subproject
1	Multan	132 KV Shujabad	Pir Imam Shah	Reconductoring, Bifurcation
2	Multan	132 kV Jalal Pur Pir.W	Noraja Bhutta	Reconductoring
3	Multan	132 kV Jalal Pur Pir.W	Industrial JPP	Re-routing, Reconductoring. Bifurcation.
4	Multan	132 kV Ind.Estate	Garden Town	New Line/Extension, Reconductoring
5	Multan	132 kV Kwl. Road	Sanghi	New Line/Extension, Reconductoring
6	Multan	132 kV Man Kot	New Sanghi	New Line/Extension, Reconductoring
7	Multan	132 kV Lar	Pir Buksh Maral	New Line/Extension, Reconductoring
8	Multan	132 kV Bosan Road	Pir Khursheed & Nawab Pur Road	New Line/Extension, Reconductoring
9	Multan	132 kV Suraj Miani	Muhammad Pur	New Line/Extension,

Sr. No.	Name of Circle	Grid Station	Name of feeder	Key Activities to be carried out as part of this subproject
				Reconductoring
10	Multan	132 kV Bosan Road	Garay Wala Khan Village Usaman Abad	New Line/Extension, Reconductoring
11	Multan	132 kV Bosan Road	Sabzazar	Bifurcation, Reconductoring
12	Vehari	132 KV Garh More	Chak Shahana	Bifurcation, Reconductoring
13	Vehari	132KV Chak 83/12-L	Al-Rehman	Bifurcation, Reconductoring
14	Vehari	132 kV 83/12-L	Baba Farid & Kamand	Bifurcation, Reconductoring
15	Vehari	132 kV Garh More	Mitru (Re)	Bifurcation, Reconductoring
16	Vehari	132 kV Azeem Abad	Dallon Banglow	Bifurcation, Reconductoring
17	Sahiwal	132 KV kameer	Kameer City	New Line/Extension, Reconductoring, Bifurcation
18	Sahiwal	132 KV Hoota	Baba Mohsin Shah	Bifurcation, Reconductoring
19	Sahiwal	132 KV Sahiwal New	Noor Shah	Bifurcation, Reconductoring
20	Sahiwal	132 KV kameer	Baba Qutab Shah	Bifurcation, Reconductoring
21	Sahiwal	132 kV Chichawatni	Hazoor Abad	Bifurcation, Reconductoring
22	Sahiwal	132 KV Bonga hayat	Sikandar Chowk	Bifurcation, Reconductoring
23	Sahiwal	132 kV Sahiwal -III	Qutab Shahana	New Line/Extension, Reconductoring, Bifurcation
24	Sahiwal	132 kV Pakpattan	Mehboob Shah	Bifurcation, Reconductoring
25	Sahiwal	132 kV Qadir Abad	Qadir Abad	Bifurcation, Reconductoring
26	Sahiwal	132 kV Pakpattan	Chak Shafi	Bifurcation, Reconductoring
27	Sahiwal	132 kV Qaboola	Ch Naseem	New Line/Extension, Reconductoring, Bifurcation
28	Rahim Yar Khan	132 KV N. Abad	Kot Sabzal	Bifurcation, Reconductoring
29	Rahim Yar Khan	132 kV R.Y.Khan-I	Jinnah	Bifurcation, Reconductoring
30	Rahim Yar Khan	132 kV Nawazabad	Jaffar Lal	Bifurcation,

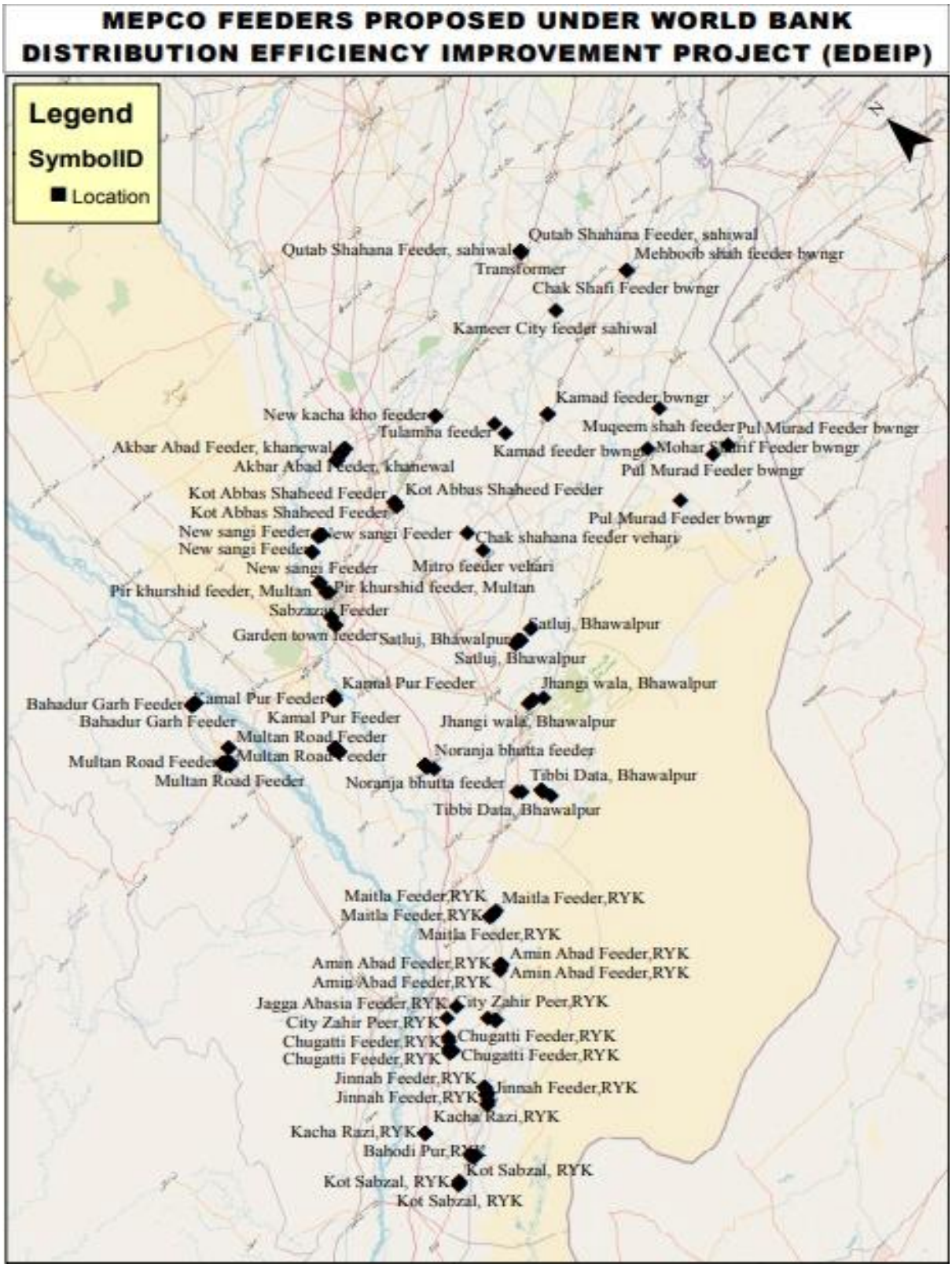
Sr. No.	Name of Circle	Grid Station	Name of feeder	Key Activities to be carried out as part of this subproject
				Reconductoring
31	Rahim Yar Khan	132 KV Khan Pur	Jajja Abbasia	Bifurcation, Reconductoring
32	Rahim Yar Khan	132 kV R.Y.Khan II	Sultan Pur	Bifurcation, Reconductoring
33	Rahim Yar Khan	132kV M.W Qureshi	Muhammad Nagar (MWQ-2)	Bifurcation, Reconductoring
34	Rahim Yar Khan	132kV Jamal Din Wali	Feeder No. 08 Kacha Razi	New Line/Extension, Reconductoring,
35	Rahim Yar Khan	132kV M.W Qureshi	City Zahir Peer	New Line/Extension, Reconductoring,
36	Rahim Yar Khan	132kV M.W Qureshi	Chughati (MWQ-4)	Bifurcation, Reconductoring
37	Rahim Yar Khan	132 kV Feroza	Amin Abad	Bifurcation, Reconductoring
38	Rahim Yar Khan	132 kV R.Y.Khan II	Shah Garh	New Line/Extension, Reconductoring,
39	Rahim Yar Khan	132 kV Liaqat Pur	Maitla	New Line/Extension, Reconductoring,
40	Rahim Yar Khan	132 kV Jamal Din Wali	Feeder No. 03 Bahodi Pur	New Line/Extension, Reconductoring,
41	Rahim Yar Khan	132 kV Sadiqabad	Jinnah Town	New Line/Extension, Reconductoring, Bifurcation
42	Muzaffargarh	132 kV Mara Khas	Mondka	New Line/Extension, Reconductoring,
43	Muzaffargarh	132 kV Khan Garh	Kamal Pur	New Line/Extension, Reconductoring,
44	Muzaffargarh	132 kV Kot Sultan	Pir Jaggi	New Line/Extension, Reconductoring, Bifurcation
45	Muzaffargarh	132 kV Mara Khas	Rohilan Wali	New Line/Extension, Reconductoring, Bifurcation
46	Bahawalpur	132KV Karor Pacca	Burhan Pur	New Line/Extension, Reconductoring, Bifurcation
47	Bahawalpur	132kV Karoor Pacca	Bukhari Wahin	Bifurcation, Reconductoring
48	Bahawalpur	132 kV Karoor Pacca	Satluj KP	New Line/Extension, Reconductoring, Bifurcation
49	Bahawalpur	132 kV Baghdad-ul-Jadid	Jhangi Wala	New Line/Extension, Reconductoring, Bifurcation
50	Bahawalpur	132kV Head	Head Rajkan	New Line/Extension,

Sr. No.	Name of Circle	Grid Station	Name of feeder	Key Activities to be carried out as part of this subproject
		Rajkan		Reconductoring, Bifurcation
51	Bahawalpur	132 kV K.P.T	Kotla Qaim Khan	Bifurcation, Reconductoring
52	Bahawalpur	132 kV Mubarak Pur	Tibbi Data	Bifurcation, Reconductoring
53	Bahawalnagar	132 kV Chistian	Mohar Shareef	Bifurcation, Reconductoring
54	Bahawalnagar	132 kV Minchan Abad	Mehmood	Bifurcation, Reconductoring
55	Bahawalnagar	132 kV Minchan Abad	Fidai Shah	Bifurcation, Reconductoring
56	Bahawalnagar	132 kV Dahranwala	Al Murad	New Line/Extension, Reconductoring, Bifurcation
57	Bahawalnagar	132 kV Noor Sar	Muqeem Shah	Bifurcation, Reconductoring
58	Bahawalnagar	132 kV Haroon Abad	Pul Murad	Bifurcation, Reconductoring
59	Khanewal	132 KV Jahanian	Pir Hajan Sher	New Line/Extension, Reconductoring, Bifurcation
60	Khanewal	132 kV Mian Channu	Chak-98	New Line/Extension, Reconductoring, Bifurcation
61	Khanewal	132 kV Mian Channu	Chak-95	New Line/Extension, Reconductoring, Bifurcation
62	Khanewal	132 KV Mian Channu	New Kacha Khu	New Line/Extension, Reconductoring, Bifurcation
63	Khanewal	132 kV Mian Channu	Tulamba	New Line/Extension, Reconductoring, Bifurcation
64	Khanewal	132 kV Bhati Bangla	Akbar Abad	New Line/Extension, Reconductoring, Bifurcation
65	Khanewal	132 KV Khanewal	Kot Abbas Shaheed	New Line/Extension, Reconductoring, Bifurcation
66	Khanewal	132 kV Kabir Wala	Kukar Hatta	New Line/Extension, Reconductoring, Bifurcation
67	D.G Khan	132 kV S.S.Din	Bahadar Garh	Bifurcation, Reconductoring
68	D.G Khan	132 kV Noor	Old Vehova	Bifurcation,

Sr. No.	Name of Circle	Grid Station	Name of feeder	Key Activities to be carried out as part of this subproject
		Ahmed Ali		Reconductoring
69	D.G Khan	132 kV D.G Khan	Multan Road	Bifurcation, Reconductoring
70	D.G Khan	132 kV D.G.Khan-II	Model Town -II	Reconductoring, Bifurcation

These selected feeders among the MEPCO existing distribution network/feeders are passing through the cultivated/uncultivated private and government lands, roads, paths, canals, watercourses, over and near physical structures including houses, factories, shops etc. The execution of expansion/rehabilitation works may cause temporary loss and disruption to crops, trees, and business activities and physical structure. Therefore, to minimize the social impacts and safety hazards, realignment and alternate routes are proposed. Figure-1. depicts the location of all selected feeders under EDEIP sub-project in MEPCO Jurisdiction.

Figure 1: ***Map showing all feeders proposed under EDEIP.***



This ESMP is based on detailed study carried out by field formation under MEPCO operation circles keeping in view overloading, length, voltages drop, less clearance and safety hazards. During survey, alternative routes/realignment are proposed to minimizes

the environmental and social impacts. The detail study then submitted to the design department, who determine the line profiles and poles locations. The ESMP is, therefore based on line routes proposed by concerned MEPCO Operation Divisions during site visits of feeders route (barring any unforeseen occurrence).

2.2. Sub-project needs and objectives.

Domestic, commercial, and industrial power demands in MEPCO jurisdiction (Fig-1) is increasing rapidly, especially in summer season, the existing distribution network unable to cater the load to provide smooth, improved, and un-interrupted electricity supply to the consumers.

Rapid development, living style, construction new housing societies/colonies, roads network and infrastructure causing to ground level up under existing distribution network that creates safety hazardous and causing fatal and non-fatal accidents.

To cope with the increasing demands of the domestic, commercial, and industrial sectors and to resolve the issue of long length, voltage drops and removal of hazardous points, rehabilitation, and expansion of existing 11 KV distribution network is proposed. Therefore, 70 (seventy) feeders among the existing 11kv distribution network are selected under this sub-project to overcome above mentioned issued in MEPCO jurisdiction.

These selected feeders are passing through the cultivated/uncultivated private and government lands, roads, paths, canals, watercourses, over and near physical structures including houses, factories, shops etc. The pictorial evidence with brief description of feeders' route is given in annextures.

2.3. Construction Methodology

To resolve the issue of long length, voltage drops and removal of safety hazardous points, rehabilitation, and expansion of existing 11 KV distribution network is proposed to cope with the increasing demands of the domestic, commercial, and industrial sectors. As mentioned earlier in section 2.1 that a total of 70 feeders out of which 46 feeders are highly overloaded 24 feeders facing high voltage drop and have long lengths are selected for bifurcation, extension and rehabilitation which includes reconductoring, mid spanning and safety hazards removal. To perform these key activities the following steps are adopted.

2.3.1. Route Identification

The field formation under MEPCO operation circles keeping in view overloading, length, voltages drop, less clearance and safety hazards adopted existing route for bifurcation, reconductoring and rehabilitation. However, for extention and new lines best routes are proposed to minimizes the environmental and social impacts.

These selected feeders are passing through the cultivated/uncultivated private and government lands, roads, paths, canals, watercourses, over and near physical structures including houses, factories, shops etc. The pictorial evidence with a brief description of feeders' route is given in annextures/photographs.

2.3.2. Layout Profile

The detail study then submitted to the design department, who determine the line profiles and poles locations. The ESMP is, therefore based on line routes proposed by concerned MEPCO Operation Divisions during site visits/feeders route (barring any unforeseen occurrence).

2.3.3. Execution activities of the feeders

a. Excavation

Excavation is a process or act of digging for fixation and erection of poles. This project would require excavation to make concrete foundation of steel structured and digging for erection of cemented poles and stay wires fixation. Excavator and pole digger machine would be used for the digging and excavation.

b. Foundation

Steel structured poles required concrete foundation for erection. In this project there are 1798 steels structured poles are proposed ranging from 31 ft to 58 ft height as per layout and requirement.

c. Transportation of Poles

Transportation of poles is very important and critical to avoid road access/blockage, carefully loading and unloading save them from damages and ultimate prevention from accident.

d. Erection and Installation of poles

After foundation, poles are erected using cranes and hydraulic. erection activities are very important and need special health & safety and precautionary measures near the area encompassing the pole range to avoid accidents.

e. Stringing or reconductoring

After erection and installation of poles, stringing or reconductoring activities are performed. The major work under this project is reconductoring i.e. replacement of old conductor with new one i.e Gopher to Rabit, Rabit to Dog and Dog to Osprey etc. However, 500 MCM cable for bifurcation and stringing for extension and new lines are also included under this project. Therefore, best HSE practices are

recommended for execution of stringing works i.e. Permit to Work (PTW) and use of Personal Protective Equipment (PPEs).

f. Restoration of site

After execution of works to ensure the site at least as per precondition.

2.4. O&M Activities

The following Operation and Maintenance (O&M) Activities are performed on a regular basis after completion of the project activities.

- Tree cutting, and trimming are performed for public safety, fire prevention and electricity reliability. Tree cutting and trimming is also performed to save and prevent people from electrocution, climbing or working around the trees adjacent to power line.
- Feeder shutdown.is taken to perform maintenance task, restoration of electricity and fault removal.
- Routine maintenance is performed from the month October to December annually for disk cleaning and maintenance.
- Emergency maintenance.is performed when electricity supply get failure due to transformer damages, falling or broken wires, poles etc.. To restoration of electricity supply emergency maintenance are made.
- Maintenance of loose jumpers, because loose jumpers can cause to an electric shock, or fire besides line loss
- Augmentation of overloaded ttransformer is a major activity that comes under operation and maintenance. Overload can cause the transformer to overheat and damage its insulation and reduce its lifespan. So, to prevent it from damage and improved voltages they are replaced with high capacity.
- Less clearance works.: Low sag clearance complying with the minimum permissible limit for horizontal and vertical limit.
- Safety hazard removal works.: Feeders passing from near/ over or in front the building/houses/shops/ narrow streets and trees can cause accident, to prevent from the accident’s hazards are removed.

2.4.1. Existing Environmental and Social Conditions

Sr. No.	Name of feeder	Grid Station	Nature of Feeder (Urban/Rural/Mix)	E&S Conditions
1	Pir Imam Shah	132 KV Shujabad	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. No tree cutting.
2	Noraja Bhutta	132 kV Jalal Pur Pir.W	Urban	No environmental receiver will be disturbed. Places of social will not be disturbed.
3	Industrial JPP	132 kV Jalal Pur Pir.W	Mix	Passes from urban and rural areas. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
4	Garden Town	132 kV Ind.Estate	Mix	Passes from urban and rural areas. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
5	Sanghi	132 kV Kwl. Road	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
6	New Sanghi	132 kV Man Kot	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
7	Pir Buksh Maral	132 kV Lar	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming

Sr. No.	Name of feeder	Grid Station	Nature of Feeder (Urban/Rural/Mix)	E&S Conditions
8	Pir Khursheed & Nawab Pur Road	132 kV Bosan Road	Urban	No environmental receiver will be disturbed. Places of social will not be disturbed.
9	Muhammad Pur	132 kV Suraj Miani	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
10	Garay Wala Khan Village Usaman Abad	132 kV Bosan Road	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
11	Sabzazar	132 kV Bosan Road	Urban	Mostly passes from urban area. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
12	Chak Shahana	132 KV Garh More	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
13	Al-Rehman	132KV Chak 83/12-L	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
14	Baba Farid & Kamand	132 kV 83/12-L	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
15	Mitru (Re)	132 kV Garh More	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
16	Dallon Banglow	132 kV Azeem Abad	Rural	Mostly passes from agricultural, rural communities using existing routes

Sr. No.	Name of feeder	Grid Station	Nature of Feeder (Urban/Rural/Mix)	E&S Conditions
				along the roadside/street.
17	Kameer City	132 KV kameer	Urban	Tree trimming
18	Baba Mohsin Shah	132 KV Hoota	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
19	Noor Shah	132 KV Sahiwal New	Rural	Tree trimming
20	Baba Qutab Shah	132 KV kameer	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
21	Hazoor Abad	132 kV Chichawatni	Rural	Tree trimming
22	Sikandar Chowk	132 KV Bonga hayat	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
23	Qutab Shahana	132 kV Sahiwal -III	Rural	Tree trimming
24	Mehboob Shah	132 kV Pakpattan	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
25	Qadir Abad	132 kV Qadir Abad	Rural	Tree trimming
26	Chak Shafi	132 kV Pakpattan	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
27	Ch Naseem	132 kV Qaboola	Rural	Tree trimming
28	Kot Sabzal	132 KV N. Abad	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
29	Jinnah	132 kV R.Y.Khan-I	Urban	Mostly passes from urban area. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
30	Jaffar Lal	132 kV Nawazabad	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
31	Jajja Abbasia	132 KV Khan Pur	Rural	Tree trimming
32	Sultan Pur	132 kV R.Y.Khan II	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.

Sr. No.	Name of feeder	Grid Station	Nature of Feeder (Urban/Rural/Mix)	E&S Conditions
33	Muhammad Nagar (MWQ-2)	132 kV M.W Qureshi	Rural	Tree trimming
34	Feeder No. 08 Kacha Razi	132 kV Jamal Din Wali	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
35	City Zahir Peer	132 kV M.W Qureshi	Rural	Tree trimming
36	Chughati (MWQ-4)	132 kV M.W Qureshi	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
37	Amin Abad	132 kV Feroza	Rural	Tree trimming
38	Shah Garh	132 kV R.Y.Khan II	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
39	Maitla	132 kV Liaqat Pur	Rural	Tree trimming
40	Feeder No. 03 Bahodi Pur	132 kV Jamal Din Wali	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
41	Jinnah Town	132 kV Sadiqabad	Urban	Mostly passes from urban area. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
42	Mondka	132 kV Mara Khas	Rural	
43	Kamal Pur	132 kV Khan Garh	Rural	
44	Pir Jaggi	132 kV Kot Sultan	Rural	
45	Rohilan Wali	132 kV Mara Khas	Mix	Mostly passes from urban area. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
46	Burhan Pur	132 KV Karor Pacca	Rural	Mostly passes from urban area. No tree cutting. No environmental receiver will be

Sr. No.	Name of feeder	Grid Station	Nature of Feeder (Urban/Rural/Mix)	E&S Conditions
				disturbed. Places of social will not be disturbed.
47	Bukhari Wahin	132 kV Karoor Pacca	Rural	Mostly passes from urban and rural area. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
48	Satluj KP	132 kV Karoor Pacca	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street. Tree trimming
49	Jhangi Wala	132 kV Baghdad-ul-Jadid	Mix	Mostly passes from urban and rural area. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
50	Head Rajkan	132 kV Head Rajkan	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
51	Kotla Qaim Khan	132 kV K.P.T	Rural	Tree trimming
52	Tibbi Data	132 kV Mubarak Pur	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
53	Mohar Shareef	132 kV Chistian	Rural	Tree trimming
54	Mehmood	132 kV Minchan Abad	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
55	Fidai Shah	132 kV Minchan Abad	Rural	Tree trimming
56	Al Murad	132 kV Dahranwala	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
57	Muqeem Shah	132 kV Noor Sar	Rural	Tree trimming
58	Pul Murad	132 kV Haroon	Rural	Mostly passes from agricultural, rural

Sr. No.	Name of feeder	Grid Station	Nature of Feeder (Urban/Rural/Mix)	E&S Conditions
		Abad		communities using existing routes along the roadside/street.
59	Pir Hajan Sher	132 KV Jahanian	Rural	Tree trimming
60	Chak-98	132 kV Mian Channu	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
61	Chak-95	132 kV Mian Channu	Rural	Tree trimming
62	New Kacha Khu	132 KV Mian Channu	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
63	Tulamba	132 kV Mian Channu	Mix	Mostly passes from urban and rural area. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
64	Akbar Abad	132 kV Bhati Bangla	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
65	Kot Abbas Shaheed	132 KV Khanewal	Rural	Tree trimming
66	Kukar Hatta	132 kV Kabir Wala	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
67	Bahadar Garh	132 kV S.S.Din	Rural	Tree trimming
68	Old Vehova	132 kV Noor Ahmed Ali	Rural	Mostly passes from agricultural, rural communities using existing routes along the roadside/street.
69	Multan Road	132 kV D.G Khan	Urban	Mostly passes from urban area. No tree cutting. No environmental receiver will be disturbed. Places of social will not be disturbed.
70	Model Town - II	132 kV D.G.Khan-II	Urban	Mostly passes from urban area. No tree cutting. No environmental receiver will be

Sr. No.	Name of feeder	Grid Station	Nature of Feeder (Urban/Rural/Mix)	E&S Conditions
				disturbed. Places of social will not be disturbed.

3. Stakeholder Consultations

Consultation with affected people and other stakeholders were held during the impact assessment and preparation of ESMP. The representatives of government departments, educational institutions, non-governmental organizations and community members participated in these consultations. The views of the participants on potential environmental and social impacts, suggested mitigation measures, engagement with the project and future consultations were noted. A stand-alone Stakeholder Engagement Plan (SEP) has been prepared for the overall EDEIP, which includes communications strategy to inform key stakeholders, including the affected communities, to effectively understand, engage in and support the development of the project.

MEPCO also held a workshop on June 15, 2021 at MEPCO Head office Multan to seek feedback from a spectrum of stakeholders. The concerns and suggestions provided through this platform were focused on the management of enviromental and social risks on vegetation/trees, impacts on settlements, cultural heritage and other aspects, incorporation of input from grassroot stakeholders and an effective and accessible GRM.
Other concerns were raised on the impact of electromagnetic field and safety consideration for transmission lines. Questions were also raised on legal mechanisms for possible land acquistion and payment of compensation. The summary of consultative workshop carried out with all stakeholders is given below.

4. Consultative Workshop with Stakeholders

Stakeholders Comments and Suggestions	MEPCO Response
Whenever there will be construction of new transmission lines and new grid stations, there will be positive social impacts on the local people. People will be financially strong. New job opportunities will be created. New factories can be established with the reliable and continuous power transmission and people of the areas will get more jobs and earn livelihood. There will be improvement in agriculture. The areas where canal water is not available people can install new tube wells with this power and can irrigate their fields. The electromagnetic field is harmful for birds and plants, and it is also harmful for human health. These are reported in various studies. There are negative impacts of these transmission lines which include depression, aesthetic harm, noise and danger for air traffic.	MEPCO acknowledged and thankful that you highlighted both positive and negative impacts of the project. The project will comply with the World Bank Group environmental health and safety guidelines/WHO recognized standards on electric and magnetic fields through design considerations.
These days the focus of the government is to produce electricity from solar. The people who produce electricity from solar and that is included in the grid through reverse metering system. Is there any mechanism in MEPCO to give incentive or promotion to such producers or community?	Net Metering cell is already established and working in MEPCO to purchase electricity from the community which is produced through solar system.
It is mentioned that the trees will be cut down to avoid electrocution and new trees will be planted in other areas. When one mature tree is	The clearance of trees and structures under the transmission line is necessary and cannot be avoided. The Right of Way (RoW) should

Stakeholders Comments and Suggestions	MEPCO Response
cut down that absorb the 48 pounds of carbon dioxide from the atmosphere and new planted tree takes time to absorb carbon dioxide. It is a good initiative but there should be other ways to protect the flora of the area which will be impacted by the transmission lines.	be cleared of vegetation to avoid electrocution. We cannot replant trees under the transmission line and other areas are selected for that purpose. The type of tree is selected keeping in the view the area. We are aware of this issue and exploring to plant the new trees. A tree plantation plan for the project will be prepared and will ensure that the plantation ratio should be from 1:3 to 1:5.
The areas from where the transmission line passes, the value of land is reduced underneath these transmission line. You did not acquire that land and only compensation for crop losses is paid. The permanent value of land is reduced. There should be policy to compensate landowners as the value of land is reducing permanently	MEPCO agreed land under the transmission lines, Land get devalued, whereas in other projects, like roads the value of land is increased. But overall, it benefits to large community.
The involvement of school children in planting trees will be very helpful.	It is very good suggestion and shall be considered.
Public consultation is required to resolve the issues of affected people. In tree plantation, involve the district management (DCs) and they will bound the government departments to carry out the plantation. Is there any technique available to reduce the impact of electromagnetic waves?	One solution could be that underground cables, It could be a possibility in the near future. However, for this project it will be constructed overhead. No other option is currently available.
How can we handle the losses which occur due to the rains and how can we ensure the safety of the houses from where the transmission line	MEPCO safety cell will provide awareness to the people about the electric wires. Particularly in rainy season people/consumers are aware through

Stakeholders Comments and Suggestions	MEPCO Response
passes?	awareness campaign by electronic and print media to keep them away from electric poles and wires.
The labour department suggested that they can help MEPCO in planting trees through the factories. The number of trees to be planted can be assigned to the factories keeping in view the size of factory.	It is a good suggestion. MEPCO shall involve Labour department during the implementation stage of the project.
Create WhatsApp group of the stakeholders and share your work progress in the group.	It is a good suggestion. MEPCO shall look into it.
Make a portal of the project and provide awareness to the people. People should use that portal to launch their complaint.	MEPCO shall consider this suggestion.
All the communities are not educated and cannot use portal. The mechanism should be simple. The project should share a phone number with the communities to launch the complaints.	It is our practice that whenever we go in the field, we share our number with the communities and particularly among the affected persons.
The complaints received by MEPCO from communities always remained very common like tripping of unit, load shedding etc. Instead of a centralized grievance redressal system you should form small units in different areas to resolve the grievances of people at the spot. It will be helpful.	MEPCO shall consider this suggestion

4.1.1. Summary of consultations for proposed feeders.

Community consultations were carried out to get their feedback about the proposed project. Consultation with male and female members of the community were conducted. The list and feedback of the male and female consultation is given below. And pictorial evidence are given in Annex (Consultation Photographs)

4.1.2. Number of Male participants. (Multan)

Sr. No	Name of participants	Occupation
1	Saeed Ahmed	Electric Shop
2.	Dr. Amir	Dentist
3	Rana Waqas	Govt Employee
4	Muhammad Javid	Govt Employee
5	Hafiz Nazeer Ahmed	Teacher
6	Adnan	Hair Salon
7	Mazhar Abbas	Rent a Car

4.1.3. Number of male Participants (Khanewal)

Sr. No	Name of participants	Occupation
1	Rao Taufeeq Ahmed	UC Chairman
2.	Muhammad Tariq	Govt. Servant
3	Khalid Hussain	Shuttering Service
4	Muhammad Safdar	Sweet Shop
5	Muhammad Ahsan	Shop
6	Ahmed Ali	Job in Polic
7	Muhammad Aslam	Landlord
8	Muhammad Ashraf	Landlord

4.1.4. Number of Male Participants (DG Khan)

Sr. No	Name of Participant	Occupation
1	Muhammad Ibrahim	Farmer
2	Fazil Din	Farmer
3	Muhammad Ibrahim	Farmer
4	Taj Muhammad	Farmer
5	Naeem- al- Musadiq Hussain	Farmer
6	Ghulam	Farmer
7	Hussain Muhammad Younis	Farmer

4.1.5. Number of Male Participants (Mian Channu)

Sr. No	Name of Participant	Occupation
1	Muhammad Ahmad	Farmer
2	Umair khalid	Farmer
3	Khurshed anwar	Farmer
4	Muhammd Sajid	Farmer
5	Taimoor Hashmat	Land lord
6	Ali Abbas	Private job
7	Dr. Saleem	Doctor
8	Liaqat	Farmer
9	Sadat mansoor	Farmer

4.1.6. Number of Male Participants (Shujahabad)

Sr. No	Name of Participants	Occupation
1	Fida Hussain	Farmer
2	Haji Allah Dita	Farmer
3	Gulshad Ahmed	Farmer

4	Mukhtiar ahmed	Farmer
5	Asif shahzad	Employee in medicle store
6	Haq nawaz	Farmer
7	Muhammad nawaz	Farmer
8	Kashif	Farmer
9	Muhammd waqas	Farmer
10	Sajad hussain	Farmer

4.1.7. Number of Male Participants (Jalapur Pir Wala)

Sr. No	Name of Participants	Occupation
1	Haji fazal Ahmed	Farmer
2	Mehboof ahmed	Farmer
3	Abdul hameed	Farmer
4	Muhammad shan	Farmer
5	Muhammad Afzal	Farmer
6	Mustafa	Farmer
7	Muhammad mujahid	Farmer
8	Muhammad akhtar	Tailor
9	Muhammad ishaq	Farmer
10	Naveed	Employee at clinic
11	Muhammad ishfaq	Kiryana store (Shop)
12	Muhammad junaid	Business of spare parts of motor bikes

4.1.8. Feedback received from the male participants.

- Feeders are lengthy, if fault occurs, they face long duration shutdown, force load shedding as constraints are not removed timely.
- Continuous power fluctuation causes to burn and damage their electric appliances.
- They face problems due to transformer tripping caused by low quality wires.
- Conductor is old and weak and heavy wind cause to break it.

- Length of a feeder is also a main issue and fault is not found/traced easily.
- No of transformers are less and with low capacity are overloaded.
- The usage of stabilizer and UPS (Uninterrupted Power Supply) for appliances results in over billing.
- Electricity shutdowns cause to delay routine work and disrupt communication.
- This project (HT proposal) will help to get better supply of electricity without voltage drop.
- Machinery doesn't work due to unavailability of long-term load shedding.
- Business work disturb and loss of time and customers.
- Increase death rate in rainy season due to short circuits, electrocution due to faulty electrical equipment's, carelessness of people and contact with electricity.
- For office workers, computer works remain incomplete and hard to meet deadline.
- Delayed meeting products delivery due to extended power outages.
- It is hard for students to complete assignments and those who are doing freelancing, it creates problem because they are not able to complete their task which are mainly completed by internet/WIFI (Wireless Fidelity)
- In a restaurant, customers get aggressive due to unavailability of electricity.
- For unexpected crisis it becomes difficult to cover the whole area at the same time to overcome the problem because the less numbers of workers/staff shortage.
- The benefit of this project is that it will require less manpower, less petrol expenses and Labour.
- They suggested to execute project work (HT proposal) in winter season.
- They may inform/communicate in advance about load shedding schedule/timing, so that they may execute/manage their important work.
- They can compromise load shedding during execution of project activities for their future relief.
- They preferred social media i.e., WhatsApp group to aware and contact with affected people,
- Overall, they appreciate this project.

4.1.9. Female participants. (Multan)

Sr. No	Name of participants	Occupation
1	Musawir Rizvi	Housewife
2	Ghayas Baig	Housewife
3	Kashir Baig	Beautician
4	Ayesha	Student
5	Munnaza	School Teacher
6	Ghazal Bukhari	Housewife
7	Momina	Tailor
8	Qirat Rizvi	Housewife

4.1.10. Female Participants (D.G Khan)

Sr. No	Name of Participant	Occupation
1	Shahzad Bibi	Student
2	Zubaida	Housewife
3	Maryam	Housewife
4	Samina mai	Housewife
5	Muskan	Housewife
6	Kundan	Housewife
7	Sakina	Housewife
8	Shaheena bibi	Housewife
9	Pathani	Housewife

4.1.11. Female participants (Mian Channu)

Sr. No	Name	Occupation
1	Fazeelat	Wholesale cloth shop
2	Nayer shakir	Housewife
3	Naseem fazal	Lady health worker
4	Anees bibi	Housewife
5	Farzana	Polio worker
6	Bakhtawar	Housewife

4.1.12. Female Participants (Jalalpur Pir Wala

Sr. No	Name	Occupation
1	Aziz Mai	Housewife
2	Sagheer	Housewife
3	Kundan Mai	Housewife
4	Kalsoom	Housewife
5	Jeevan mai	Housewife
6	Kaneez	Housewife
7	Zareena	Housewife
8	Shazia	Housewife
9	Sajida	Housewife
10	Sarwar	Housewife
11	Nasreen	Housewife
12	Nasreen mai	Housewife
13	Naseem	Housewife

4.1.13. Female Participants (Khanewal)

Sr. No	Name of participants	Occupation
1	Asma Bibi	Housewife
2	Gulshan	Housewife
3	Waheeda Bibi	Housewife
4	Anum	Housewife
5	Amna	Housewife
6	Ghazal Bukhari	Housewife
7	Nadra	Housewife

4.1.14. Feedback received from the Female participants.

- Due to load shedding it becomes difficult to do household work, like cleaning, washing, and cooking.
- Water supply problems due to long load shedding.
- For those who are running small business or working from home face loss in productivity.
- Long hours load shedding cause stress and anxiety in women to tackle multiple responsibilities.
- Without light they face problem in doing make-up at a function or wedding ceremony.
- Unscheduled load shedding, often cause domestic conflict.
- They suggested to execute project work (HT proposal) in winter season.
- They may inform/communicate in advance about load shedding schedule/timing, so that they may execute/manage their important work.
- They can compromise load shedding during execution of project activities for their future relief.
- They preferred social media i.e., WhatsApp group to aware and contact with affected people,
- Overall, they appreciate this project.

4.2. Institutional Arrangements

MEPCO is responsible for the overall management, supervision, and execution of the project through the Project Management Unit (PMU). The overall responsibility of environmental and social performance, including ESMP implementation, will rest with the PMU. MEPCO has an existing environmental and social unit (ESU), which needs to be fully staffed for the management of environmental and social impacts of the project to ensure the effective implementation of ESMPs.

In addition, PMU will also hire independent consultants for the preparation of safeguard instruments for the proposed subprojects. Construction contractors will have to adequate environmental, health and safety specialists to implement the environmental and social management plans (ESMP).

Regulatory Policy Framework

4.3. National Regulatory Framework

The national as well as provincial regulatory framework for decision making and policy formulation for environmental and conservation aspects is briefly described below in Table No.2:

Table 2: Legislations/Acts/Policies Related to Environmental and Social Aspects and their Relevance to the Project

Sr. No	Act	Brief Coverage	Relevance to the Project
1.	Pakistan Labour Policy, 2010	The main objective of the Labour Policy, 2010 is the social and economic well-being of the Labour of Pakistan. The Labour Policy, 2010 has following 4 parts: i. Legal Framework. ii. Advocacy: rights of workers and employers. iii. Skill development and employment; and iv. Manpower export.	The Labour will be employed to execute project activities. Therefore, the provision of policy will apply to all the Labour employed.
2.	Punjab Environmental Protection Act	The Punjab environmental protection Act is comprehensive legislation and provide the legislative framework for protection, conservation, rehabilitation, and improvement of the environment. The 'environment' has been defined in the Act as: (a) air, water and land; (b) all layers of the atmosphere;	The project will follow the requirements of Punjab Environment Protection Agency (EPA). All the environmental approvals will be obtained from the Punjab EPA. All efforts will be made to protect the environment and comply with environmental quality

Sr. No	Act	Brief Coverage	Relevance to the Project
		(c) all organic and inorganic matter and living organisms; (d) the ecosystem and ecological relationships; (e) buildings, structures, roads, facilities and works; (f) all social and economic conditions affecting community life; and (g) the interrelationships between any of the factors specified in sub-clauses 'a' to 'f'. The important points of the law are: • No proponent of a project shall commence construction or operation unless he has filed with the Agency an IEE or, where the project is likely to cause an adverse environmental effect, an EIA, and has obtained from the Agency approval in respect thereof. • Prohibition of certain discharges or emissions. • Handling of hazardous substances • Prohibition of action adversely affecting environment • The Agency shall carry out or arrange environmental	standards during the execution phase of the project.

Sr. No	Act	Brief Coverage	Relevance to the Project
		monitoring of all projects in respect of which it has approved an initial environmental examination or environmental impact assessment to determine whether the actual environmental impact exceeds the level predicted in the assessment and whether the conditions of the approval are being complied with. • The Agency shall from time to time require the person in charge of a project to furnish, within such period as may be specified, an environmental audit or environmental review report or environmental management plan containing a comprehensive appraisal of the environmental aspects of the project. • Environmental Quality Standards (EQS) for wastewater, air emissions and noise • Provincial Government can issue notices and enforce them to protect the environment.	

Sr. No	Act	Brief Coverage	Relevance to the Project
3.	Punjab Environmental Protection Agency, (Review of IEE and EIA) Regulations	These regulations set out: • Key policy and procedural requirements for filing an IEE and EIA. • The purpose of environmental assessment. • The goals of sustainable development. • The requirement that environmental assessment be integrated with feasibility studies. • The jurisdiction of the Federal and Provincial EPA's and Planning &Development (P&D) Departments. • The responsibilities of proponents. • Duties of responsible authorities. • Provides schedules of proposals that the project requires either IEE or an EIA. • The environmental screening process of the projects under schedule I, II and III; and • The procedure for the environmental approval for filing the case with the concerned	The provisions of these regulations are applicable for environmental screening of the project, which implies that an EIA would be required for the proposed project. The process described in the regulation will be useful for MEPCO to follow the procedure to file an IEE/EIA with EPA Punjab to understand its review process along with timelines to be followed

Sr. No	Act	Brief Coverage	Relevance to the Project
		EPA for the granting of the NOC.	
4.	Land Acquisition Act (LAA), 1894	The primary law for acquisition of land for public purposes in Pakistan is the "Land Acquisition Act, 1894 with successive amendments" (hereinafter referred as the Act). The land acquired under the Act vests in the province, and it is only thereafter that the province may transfer it to someone else.	Although land will not be acquired for this project i.e., rehabilitation of feeders will be carried out at exiting poles, however, if any pole required land acquisition this law will be relevant to this project.
5.	The Telegraph Act, 1885	The Telegraph Act (Section 11) confers powers to enter private lands and (Section 10) construct/maintain electric poles and lines without the need to acquire the land affected and paying compensation for it. However, the sub-section 10 (d) referred to avoid causing unnecessary damages to the affected land and associated assets. Finally, the Section 16 provides that if any such damage occurs, (i.e., damages to crops, irrigation facilities, land quality or land income). The proponent has to provide compensation for the damages.	This Act makes a provision of installing poles/towers without acquiring any land. However, provision is there for temporary acquisition of land during the construction period. As such, compensation is made for the loss of crops/trees/business or any structure for a specific period.

Sr. No	Act	Brief Coverage	Relevance to the Project
6.	Protection of Trees and Brushwood Act, 1949	The Protection of Trees and Brushwood Act, 1949 prohibits cutting or chopping of trees and brushwood without prior permission of the relevant department in the provincial government.	The proposed Project involves tree cutting. If possible, try to realign the route to avoid tree cutting, if unavoidable, then related activities should only be undertaken under the feeders. They should not clear trees or brushwood outside the required area.
7.	WAPDA Act, 1958	The WAPDA Act of 1958 is the other relevant legal framework, which permits “right of entry” for the purpose of construction - for instance, (i) survey of any land, erect pillars for the determination of intended lines of works, make borings and excavations and do all other acts which may be necessary for the preparation of any scheme; and (ii) pay or tender payment for all necessary damage to be done as aforesaid. The Act further states that “in case of dispute as to the sufficiency of the amount so paid or tendered, the dispute shall be referred to the Deputy Commissioner (DC) of the district whose decision shall be final.	The provisions of this act will be applicable on during execution of proposed feeders.

Sr. No	Act	Brief Coverage	Relevance to the Project
8.	Cutting of Trees (Prohibition) Act, 1975	The Act was enforced in 1975 to place restrictions on cutting of trees in order to restrain unchecked trend of tree felling without replacement plantations.	This act will be applicable to the subject project where the cutting of tree will be involved.
9.	Employment of Children Act (ECA), 1991	Article 11(3) of the Constitution of Pakistan prohibits employment of children below the age of 14 years in any factory, mines or any other hazardous employment. In accordance with this Article, the Employment of Child Act (ECA) 1991 disallows the child Labour in the country. The ECA states that no child shall be employed or permitted to work in any of the occupation set forth in the ECA (such as transport sector, railways, construction, and ports) or in any workshop wherein any of the processes defined in the Act is carried out. The processes defined in the Act include carpet weaving, biri (kind of a cigarette) making, cement manufacturing, textile, construction and others.	The MEPCO and contractor(s) shall be bound to disallow any child Labour at the project sites.
10.	The Protection against	The Protection against Harassment of Women at the Workplace Act (2010) refers to	This Act will be applicable to the project if women are employed for the

Sr. No	Act	Brief Coverage	Relevance to the Project
	Harassment of Women at the Workplace Act, 2010	sexual harassment at the workplace.	construction of the proposed project.
11.	Antiquities Acts	Punjab adopted the Antiquity act from the Pakistan Antiquities Act of 1975 with a few minor changes. The Antiquities Act, 1975 (amended in 1990) states the following: • "Ancient" is any object that is at least 75 years old. • All accidental discoveries of artefacts must be reported to the Federal Department of Archaeology. • The Government is the owner of all buried antiquities discovered on any site, whether protected or otherwise. • All new construction within a distance of 200 feet from protected antiquities is forbidden. • No changes or repairs can be made to a protected monument, even if it is owned privately, without approval of the responsible authorities; and • The cultural heritage laws of	The law will be applicable to the project mainly due to its two provisions: ▪ According to the law, any construction activity within 61 m or 200 ft. of protected antiquities, are prohibited. ▪ The provisions of this act would also be applicable, if any accidental archaeological discoveries may occur during the excavation works for the construction of proposed Project.

Sr. No	Act	Brief Coverage	Relevance to the Project
		Pakistan are uniformly applicable to all categories of sites regardless of their state of preservation and classification as monuments of national or world heritage.	
12.	Punjab Occupational Health and Safety Act, 2019	These Acts address occupational safety and health conditions at all workplaces for the protection of persons at work against risk of injury arising out of the activities at workplaces and for the promotion of safe, healthy, and decent working environment adapted to the physical, physiological and psychological needs of all persons at work	The provisions of this act for health and safety of workers during construction will be applicable to the project, NEPRA Safety code, MEPCO Safety policy will also be applicable to ensure health and safety of the workers and community as well.

4.4. World Bank Environmental and Social Framework

In order to comply with World Bank Environmental and Social standards, it is responsibility of MEPCO to assess, manage and monitor environmental and social risks associated with proposed HT feeders. The Environmental and Social Standards (ESSs) as embedded in the Environmental and Social Framework (ESF) are briefly given as under:

4.4.1. ESS1: Assessment and Management of Environmental and Social Risks and Impacts:

The objectives of ESS1 are:

- To identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs.
- To adopt a mitigation hierarchy approach to:
    a. Anticipate and avoid risks and impacts.
    b. Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels.
    c. Once risks and impacts have been minimized or reduced, mitigate; and
    d. Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.
- To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project.
- To utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development and implementation of projects, whenever appropriate.
- To promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.

4.4.2. ESS2: Labour and Working Conditions.

The objectives of ESS2 are:

- To promote safety and health at work.

- To promote the fair treatment, nondiscrimination, and equal opportunity of project workers.
- To protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate.
- To prevent the use of all forms of forced Labour and child Labour.
- To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law.
- To provide project workers with accessible means to raise workplace concerns.

4.4.3. ESS3: Resource Efficiency and Pollution Prevention and Management.

The objectives of ESS3 are:

- To promote the sustainable use of resources, including energy, water and raw materials.
- To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.
- To avoid or minimize project-related emissions of short and long-lived climate pollutants.
- To avoid or minimize generation of hazardous and non-hazardous waste.
- To minimize and manage the risks and impacts associated with pesticide use.

4.4.4. ESS4: Community Health and Safety.

The objectives of ESS3 are:

- To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and nonroutine circumstances.
- To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure.
- To avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials.

- To have in place effective measures to address emergency events.
- To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

4.4.5. ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement.

This Standard recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term “involuntary resettlement” refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

The objectives of ESS5 are:

- To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives.
- To avoid forced eviction.
- To mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement cost and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.
- To improve living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure.
- To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant.

- To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.

4.4.6. ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.

The objectives of ESS6 are:

- To protect and conserve biodiversity and habitats.
- To apply the mitigation hierarchy4 and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity.
- To promote the sustainable management of living natural resources.
- To support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.

4.4.7. ESS8: Cultural Heritage

The objectives of ESS8 are:

- To protect cultural heritage from the adverse impacts of project activities and support its preservation.
- To address cultural heritage as an integral aspect of sustainable development.
- To promote meaningful consultation with stakeholders regarding cultural heritage.
- To promote the equitable sharing of benefits from the use of cultural heritage.

4.4.8. ESS10: Stakeholder Engagement and Information Disclosure.

This Standard recognizes the importance of open and transparent engagement between MEPCO and project stakeholders. It is an essential element of good international practice that can enhance project acceptance, and make a significant contribution to successful project design and implementation.

The objectives of ESS10 are:

- To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, project-affected parties.

- To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be considered in project design and environmental and social performance.
- To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them.
- To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format.
- To provide project-affected parties with accessible and inclusive means to raise issues and grievances and allow Borrowers to respond to and manage such grievances.

5. Assessed Impact and their Mitigation Measures

The subprojects' potential impacts and their significance have been assessed and a summary of these impacts and their mitigation measures are given in Table-3.

Table 3: Summary of Potential Impacts and their Mitigation Measures and Monitoring Plan

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
Construction Phase				
Occupation and Community Health & Safety	Improper design, working at Height and mismanagement can place the workers and communities at risk of electrocution and accident.	• Community and Occupational Health & Safety (COHS) Management Plan be prepared before starting physical activities and have it approved by E&S/ PMU MEPCO for implementation. • The COHS Plan must comply with best industry practice, World Bank Group Environmental Health & Safety Guidelines and MEPCO's Safety Manual and guidelines. • Obtain Permit to Work (PTW) (close liaison with respective sub-divisional officers/officials in this regard) of feeders where work to be executed.	Contractor	Supervision Consultant/

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
		• Provide Personal Protective Equipment (PPE), OHS trainings to skilled and trained workers for repetitive manual work with permit to work at height. • Make available first aid facilities with OHS expert at site and ensure proper arrangements for workers to avoid weather stress/conditions. • Ensure that design of the equipment and systems are being followed with appropriate electrical safety codes. • Enlist each pole with feeder(s) name and pole number to identify/differentiate the feeder and pole location in case of emergency and to avoid accident. • Minimum distances be maintained between the live parts and nearby structures and objects. • The communities near the feeders' route be		

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
		educated on the risk of electrocution, and how to avoid accidents. • Appropriate signage on safety precautions be installed at the key locations. • The trees under the feeders be regularly trimmed to maintain standard clearance.		
Loss of land caused by installation of new poles	18755 poles of 36 feet to 58 feet may cause temporary damages to crops/business disturbance.	• Poles will be installed on public and private land using existing route without effecting physical structure. • To avoid Right of Way issues and to reduce impact on private land. • In case poles are installed on private land, compensation should be paid to the landowner to compensate for the degradation of land. • In case of crop loss, compensation should be paid. • The grievance redressal mechanism be maintained on continuous basis.	Contractor	E&S (PMU)/ MEPCO

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
Loss of livelihood		• In case poles are installed on private land, affecting business activities or livelihood, Affected Person(s) should be compensated as per their livelihood loss. • Particularly feeders passing through cites or in front of shops may cause temporary business disturbance i.e. at kameer city feeder. There is a chance of business loss due to pole erection in front of shop.	Contractor	Supervision Consultant/ E&S (PMU)/ MEPCO
Air quality deterioration	Operation of construction machinery and vehicles	Machinery like generators and vehicles will be kept in good working condition and properly tuned, in order to minimize the exhaust emissions. Project vehicles will avoid passing through the communities and cultivation fields as far as possible. If unavoidable, speed will be reduced to 15 km per hour to avoid excessive dust emissions. water sprinkling will be carried out where required	Contractor	Supervision Consultant / E&S (PMU)/ MEPCO

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
Water quality	Groundwater quality, contamination. on site activities, Machinery, i.e. cement/concrete r mixer, hammer & excavator, oil and fuels during digging, construction, and stringing.	At each temporary or permanent site: Regularly checking and maintenance of vehicles. Oil leakage. Parking away from water bodies.	Contractor	Supervision Consultant / E&S (PMU)/ MEPCO
Soil erosion or contamination	Excavation cause to soil erosion and contamination Soil quality.	Avoid installation near water bodies. Avoid erection of poles at water courses and water channels. Deep digging without earth retaining structure. If necessary, site restoration activity will be performed	Contractor	Supervision Consultant / E&S (PMU)/ MEPCO

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
	and contamination.			
Noise and vibration	On site activities, Machinery, i.e. cement/concrete r mixer, hammer & excavator, oil and fuels during digging, construction, and stringing.	Noise monitoring will be performed where construction actives are under progress. Machines and vehicle maintenance and sound absorbing material. Usage of noise enclosure wall and damping wherever necessary. i.e. School, Mosque etc.	Contractor	Supervision Consultant / E&S (PMU)/ MEPCO
Damage to Irrigation Network and public infrastructure	Construction activities particularly stringing activities, off-road movement	• Any damage caused by the project activities will be completely repaired. • Damage to the existing infrastructure will be minimized if not avoided altogether through astute planning. • All damaged infrastructure will be restored to	Contractor	Supervision Consultant

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
	of vehicles	original or better condition.		
Blocked Access	Construction activities particularly installation of HT poles and stringing, off-road movement of vehicles	• Try to avoid blockage of access route, in case of the blockage of the existing routes, alternate routes will be identified in consultation with the affected communities. • The contractor will prepare and implement a traffic management plan to minimize impacts on the local routes.	Contractor	Supervision Consultant
Influx of Labour	Risks associated with influx of Labour from other parts of the country	• Code of conduct (CoC) for workers and employees will be enforced for the protection of local communities, gender-based violence, other social issues, any violation of the COC would lead to strict punishment including termination of employment. • Awareness among workers will be created on proper sanitation and hygiene practices to	Contractor	Supervision Consultant

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
		endorse proper health. • Good housekeeping practices will be maintained at project site(s). • Adequate personal hygiene facilities will be provided in good condition with adequate supply of clean water. • Arrangements will be made to treat the affected workers on time to control the movement of vectors diseases. • Any employees will be terminated, who continues misconduct or lack of care, carry out duties amateurishly or inattentively, fail to conform to provisions of the contract, or persist in any conduct which is harmful to safety, health, or the protection of the environment. • The use of drugs and alcohol will not be allowed at the work/construction site.		

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
		• Appropriate fencing, security check points, gates and security guards will be provided at the construction sites to ensure the security of equipment, machinery and materials, as well as to secure the safety of site staff. • The Contractor will ensure that good relations are maintained with local communities and their leaders to help reduce the risk of vandalism and theft. • To avoid conflicts with local people on employment matters, it is recommended to the contractor to employ the locals in skilled, semi-skilled, and unskilled work. This will reduce pressure on resources such as residential and health facilities. • The contractor will proactively manage the potential impacts from Labour influx and		

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
		potential cultural conflicts between local communities and workers, which include following: • Construction camps will be built in the designated areas, located minimum 500m away from the village settlements. • The Contractor's monthly training program will cover topics related to respectful attitude while interacting with the local communities. • Inclusion of COC obligations and the applicable legislation in the contracts of all employees and workers with the provision of sanctions and penalties in case of violations. • World Bank Guidelines on Influx of Labour2 will be used for further guidance.		
Gender Issues	Presence of	• The routes/places used by the women will be	Contractor	Supervision

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
	migrant Labour	avoided as far as possible. If unavoidable, alternate routes to be identified for the communities, if required, especially along routes frequented by women folk, such as route to the local well or water source. • Camp sites for construction will be 500 m away from the nearest community, as recommended earlier. • Communities will be informed and consulted before commencing works inside or near the communities. • Strict code of conduct will be maintained by the construction crew. Local norms will be respected. • WB guidelines on GBV and Influx of Labour will be implemented.[34]		Consultant

[3] https://www.worldbank.org/en/topic/socialsustainability/brief/violence-against-women-and-girls

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
Child Labour	Employment of below age workers	• Provisions be made in construction contract to restrain child Labour at project.	Contractor	Supervision Consultant
Project-related vehicular traffic	Speed limit of vehicles, and traffic congestion near project area/site, Loading and off-loading, vehicular accidents.	• Safety Signal • Follow speed limit. • Daily check • Loading/unloading procedure.	Contractor	Supervision Consultant

[4] https://ppp.worldbank.org/public-private-partnership/library/labor-influx-guidance-note

Impacts	Likely Causes for Proposed Project	Mitigation Measures	Responsibility	
			Implementation	Supervision/ Monitoring
Encroachment into privacy of local population		• Ensure that the installation activities do not disturb nearby communities and their residents. • To avoid conflicts/disputes with local people, the project staff and contractors and their activities should be confined work area. • A worker code of conduct should be established and enforced. The Contractor should respect and follow local norms and traditions. • The Contractor should respect local women and their privacy.	Contractor	Supervision Consultant / E&S (PMU)/ MEPCO
Site clearance after completion of installation works		• Measures to ensure that construction related clearing and other disturbance is minimized. • Ensure that site is restored to pre-existing conditions	Contractor	Supervision Consultant
O&M activities	Less clearance, safety hazardous, Tree Trimming, Disc washing,	• It will be ensured that best Health Safety & Environment (HSE) practices are performed during O&M activities, while using Personal Protective Equipment (PPEs).	Contractor /PD Construction	E&S PMU MEPCO

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6. Environmental and Social Trainings.

Environmental and social training will help to ensure that the requirement of Environmental and Social Framework are clearly understood to follow and implement the Environmental and Social Management Plan all project personnel throughout the project period. The primary responsibility for providing training to all project personnel will be that of the Environmental & Social Cell and consultants. These trainings will be imparted.

- To improve the environmental and social performance of contractors through the effective use of management systems.
- To ensure that concerned officers, staff, and workers (skilled & unskilled) are appropriately engaged on issues that could potentially affect the work efficiency.
- Trainings will be helpful to avoid or mitigate the adverse impacts on workers, community, and the environment.

The environmental and social training program will commence before and during the execution of project activities. The training will be provided to the MEPCO staff, the construction contractors, and other staff engaged for the project. Training will cover all staff levels, ranging from, the management and supervisory to the skilled categories.

6.1.1. Schedule Of Environmental and Social Trainings:

Sr. No	Contents	Duration	Participants	Tentative Date	Delivery Mechanism	Cost
1	• EMP; • Labour & Working Condition • Land Acquisition. • Community Health & Safety	One day	XENs (Const) = 09 DDTs (Op) = 09 DM (PMU) = 02 AM (PMU) = 04 LAC (PMU) = 01 Contractor = 05	Prior and during the construction activities	ESC/Consultant/ Institute	Cost for lunch/ refreshment and training material will be borne by the contractor

2	• LMP • Road Safety • Safe driving • Traffic Management Rules • Waste Disposals • Cultural values and social sensitivity. • Working safety measures. • Restoration. • Community Health & Safety	One day (For each Const Division) at Concerned Division Office.	XENs (Const) = 01(Concerned) SDOs (Const) = (Concerned) XEN (GSO) = 01(Concerned) SDO/SSO (GSO) = 01(Concerned) SDOs (OP) = (Concerned) Contractor = 18 (Driver, Camp Staff, Line Superintendents, Assistant Lineman)	Before and during the field operations.	ESC/Consultant	

6.1.2. Meetings, Reporting and Communication.

To make the contractors fully aware and responsible for the implications of the ESMP. It is recommended that E&S measures be treated separately in the tender documents and that payment should be linked to E&S performance.

The Contractor should made accountable through contract documents and/or other agreements for fulfilling E&S obligations. The Contractor will be bound to implement the ESMP and will hire appropriately trained E&S staff to ensure the implementation and effectiveness of the mitigation measures.

MEPCO E&S section with assistance from contractor/supervision consultant will prepare monitoring reports which will be submitted quarterly or Bi-annually to World Bank.

7. Internal and External Monitoring

The ESMP under the program will be subjected to both internal and external monitoring. Internal monitoring will be conducted by Environmental and Social Safeguard Section, PMU MEPCO. The external monitoring responsibilities will be assigned to an External Monitoring Consultant assist by the contractor to be engaged by PMU, MEPCO according to the Terms of Reference (TOR) that have been approved by World Bank.

7.1.1. Environmental Monitoring Plan

During the design stage, the monitoring activities will focus on (i) checking the contractor's bidding documents, particularly to ensure that all necessary environmental and social requirements have been included; and (ii) checking that the contract documents' references to environmental mitigation measures requirements have been incorporated as part of contractor's assignment.

During the construction period, Contractor's Environmental and Social expert would be responsible to ensure environmental and social mitigation measures are implemented at workplace. He/she would be responsible for checking the performance indicator on daily basis and weekly basis, for example, noise, vibration, oil leakage, water depletion/contamination, OHS & first aid, workers facility and complaints on daily/weekly basis remedial action to address unexpected impacts. (Detail monitoring Plan is given in table 5).

Rehabilitation and construction of existing feeders being a modest scale are generally perceiving non-sensitive and non-critical areas and construction and operational impacts are manageable. No insurmountable impacts are predicted, providing that the ESMP is implemented to its full extent and required in the contract documents. However, experience suggests that some contractors may not be familiar with this approach or may be reluctant to carry out some measures.

Table:5 Monitoring Plan for Performance Indicators

Environmental & Social Concern	Performance indicator (PI)	Frequency to Monitor	Timing to check PI	Locations to implement PI	Monitoring Responsibility
1. Social Impacts	1. Local labour is used and workforce 2. Local educated people for office work. 3. Complaints on construction nuisance, business disruption/damages during execution of works, responded to promptly by the Contractor. 4. Weekly/Fortnight meetings with locals for liaison purposes to monitor complaints.	Completed prior to commencement of construction	Before damage/ livelihood loss	Affected Persons.	Supervision Consultant/ E&S (PMU)/ MEPCO
2. Planning construction camps	Use of land agreed with surrounding residents & locals.	During detailed design updated by Contractor monthly to cover any unidentified impacts.	One month before construction commences.	Locations agreed ESC cell in consultation with community and the Contractor.	Supervision Consultant/ E&S (PMU)/ MEPCO
3. Noise	Noise mitigation measures implemented with guidelines for	Monthly (line item when opening up	Maximum allowable noise levels are	All Sub-Projects.	Contractor should maintain the accepted

Environmental & Social Concern	Performance indicator (PI)	Frequency to Monitor	Timing to check PI	Locations to implement PI	Monitoring Responsibility
	noise reduction from NEQS	construction).	45dB(A)L_{EQ}.		standards
Dust and smoke	Vehicular emission and movement	Fortnightly	During execution activities	All sub-projects	Supervision Consultant/ E&S (PMU)/ MEPCO
Crop damage	During Excavation and movement of machinery	Fortnightly	During execution activities	All sub-projects	Supervision Consultant/ E&S (PMU)/ MEPCO
Water pollution	Groundwater quality, contamination. on site activities, Machinery, i.e. cement/concreter mixer, hammer & excavator, oil and fuels during digging, construction, and stringing.				Supervision Consultant/ E&S (PMU)/
Waste	Excavation and dumping of	Monthly	During execution	All sub-projects	MEPCO

Environmental & Social Concern	Performance indicator (PI)	Frequency to Monitor	Timing to check PI	Locations to implement PI	Monitoring Responsibility
management	material		activities		
Vehicular traffic	On site activities, Machinery, i.e. cement/concreter mixer, hammer & excavator, oil and fuels during digging, construction and stringing activity.	Monthly	During execution activities	All sub-projects	Supervision Consultant/ E&S (PMU)/
4. Work Camp Location and Operation	1. Use of land agreed with surrounding residents & locals. 2. Waste Management Plan implemented. 3 No open burning	Monthly (site line when opening up construction).	Prior to construction. Update monthly.	All Sub-Projects.	Contractor
5. Safety Precautions for Workers	Safety Plan to be submitted and implemented	Once (update monthly as necessary)	One month before construction and update quarterly.	All Sub-Projects.	Contractor.
6 Enhancements	Contractor has included for some enhancements in detailed designs Including planting of trees.	Once (update monthly as necessary)	One month before construction and update quarterly.	All Sub-Projects.	Contractor.

8. Grievance Redressal Mechanism

A project-specific grievance redressal mechanism (GRM) has been established in MEPCO to receive, evaluate, and facilitate the resolution of affected persons' concerns, complaints, and grievances about the environmental and social performance of the Project. A three-tier GRM has been designed to provide a time-bound, early, transparent and fair resolution for affected persons' (APs') and other stakeholders' grievances regarding E&S management of each subproject. All complaints received verbally or in writing be properly documented and recorded in the Complaint Management Register(s). In addition, an easy-to-access web-based system has also been developed to receive the complaints.

- **The first tier of GRM** will be established at the field level for the fastest and most accessible mechanism for resolution of grievances at the local level. A local level Grievance Redressal Committee (GRC) will be formed for this purpose headed by the ESU Manager, with membership from Land Acquisition Collector and other relevant staff of Revenue Department (when resettlement activities are in progress), contractors' representatives, consultants' representatives, representatives of other relevant departments, and two members from the APs. At this tier, the designated E&S staff of PMU site office will make attempt to resolve the complaints within two to 10 working days, depending on the nature of grievance.
- The E&S staff in PMU will refer the unresolved issues or grievances (with written documentation) to the **second tier of GRM**, the PMU level GRC. The PMU level GRC has been established in MEPCO consisting of the following persons: (i) the head of PMU will act as head of the GRC; (ii) a representative from DISCO senior management; (iii) Manager/Deputy Manager of ESU; (iv) representative of DC office (where relevant); (v) representative of PIC/CSC; (vi) Chief Resident Engineer of the CSC (on-call); (vii) representative of relevant government offices (on-call); and (viii) two to three representatives of respective project-affected people (on-call). The GRC will suggest corrective measures at the field level and assign clear responsibilities for implementing its decision within 25 working days,

depending on the nature of the grievance.

- In the event that a grievance cannot be resolved directly by the second tier GRC or if complainant is dissatisfied with the decision of GRC, the affected people can seek alternative redress through the Chief Executive Officer (CEO) or Board of Directors of DISCOs, district administration, the Secretary Energy and Power Department or higher-level administrative authorities, the Pakistan Citizen Portal or the court of law, as appropriate.
- MEPCO has notifed a Grievance Redressal Committee (GRC) for the components under World Bank Energy Distribution Efficiency Improvement Project (EDEIP) and a training has been provided to GRC members at World Bank Office, Islamabad in March 2023. MEPCO has also integrated the Grievance Redressal Mechanism with its existing regional complaint center.

9. ESMP Implementation Cost:

The cost for implementation of Environmental and Social Management Plan is included in overall cost of 70 feeders which is estimated USD15 million.

10. Annexures

Consultations with Stakeholders Conducted by MEPCO

S No.	Name and Categories of Stakeholder	Lead Person (to be consulted)	Designation	Office Address
`1	Punjab Environment Protection Authority	Ms. Ifrah	Assistant Director (EIA) EIA Wing Punjab	Environment Protection Department, National Hockey Stadium Ferozepur Road Lahore
2	Human Rights & Minorities Affairs	Mr. Muhammad Yousaf	Incharge Human Rights Cell	National Tower, 28 Egerton Road Lahore
3	Labour and Human. Resource. Department	Rana Jamshaid Farooq	Director	Director Labour and Human Resource, Mohla Ameer abad Rajwana Road Multan
4	Revenue Department	Mr. Fakhar ul Islam	Deputy Secretary (Colonies)	Board Of Revenue, Punjab, Library Road old Anarkali Lahore

5	Social Welfare Department	Mr. Irfan Gondal	Director (Program)	Office of the DG Social Welfare Empress Road, Lahore
6	Agriculture Department	Mr. Sajid Naseer	Dy. Director (planning & Monitoring)	Agriculture Department Punjab Davis Road Lahore.
7	Irrigation Department	Dr. Nouman	Section Officer	Punjab Irrigation Department, Library Road Old Anarkali Lahore
8	WWF	Ms. Fatima Waheed	Research Associate	WWF- Pakistan Head Office Ferozepur Lahore
9	Bahauddin Zakaria University	Dr. Kamran Ashfaq	Associate Professor/Chairman	Department of Sociology, BZU Multan
10		Dr. Abdul Wahid	Professor/ Chairman	Department of Environmental Science BZU Multan
11	Community Consultation	Jhok Yar Shah, in the vicinity of proposed Grid Station DG Khan -III		
12		Chak No 167/10-R in the vicinity proposed Grid Station Khanewal -II		

10.1.1. PHOTOGRAPHS OF THE FEEDERS

Photo -1

Feeder: Proposed New Sangi Feeder Maan Kot, Multan,

Hazardous/RoW issues: To remove hazard, relocation of pole along with transformer is proposed outside the house.

Photo -2

Feeder: Proposed Shah Garh, Feeder District Rahim Yar Khan passing over the house.

Hazardous/RoW issues: To remove hazard, existing 40-foot poles will be replaced with 45-foot poles to avoid hazard and ensure safety clearance of 11 KV going over the house. also suggested to use L cross.

Photo -3

Feeder: Proposed feeder Rohilan wali, Mahra Khas Muzaffargarh.

Hazardous/RoW issues: Existing feeder is passing over houses and will be brought out of the houses on highway, where no issue of land.

Photo: 4

Feeder: Zahir Pir Feeder, Zahir Pir Rahim Yar Khan

Hazardous/RoW Issues: Zahir peer feeder is proposed along the highway, hence no issue of RoW.

Photo:5.
Feeder: Amin abad Feeder Feroza Rahim Yar Khan
Hazardous/RoW issues: Two circuits/feeders already over installed at 45-foot pole and third feeder Amin Abad is proposed below these existing, but it is close to house below lines. so, it is suggested to use vertical/L cross to ensure more clearance and to remove safety hazardous.

Photo:6.
Feeder: Kamal Pur feeder Khan Garh, Muzaffargarh
Hazardous/RoW issues: Feeder crossing over house but after reconductoring it will be shifted outside on 36 foot single circuit along road and hazard will be removed.

Photo:7.
Feeder: Model Town Feeder, DG Khan.
Hazardous/RoW issues: 132KV crossing over 11 KV feeder, So 11 KV Cable is already proposed to avoid interefernce /induction of current with 132KV line and ensure safety.

Photo: 8.
Feeder: Model Town Feeder, DG Khan.
Hazardous/RoW issues: Big Hazard point, existing model town-II 11 kv line having loose osprey conductor so it is suggested for sagging to increase the height to avoid accidents.

Photo: 9.
Feeder: Akbar abad Feeder, Bhatti Bangla, Khanewal

Hazardous/RoW issues: Nos of trees may be cut down; it is suggested to realign the route.

Photo: 10.
Feeder: Baba Qatab Shah Feeder Kameer, Sahiwal

Hazardous/RoW issues: To avoid safety hazardous/less clearance existing poles will be replaced with high height poles.

Photo: 11.
Feeder: Pul Muraad Feeder Haroonabad, Bahawalnagar

Hazardous/RoW issues: Connecting point Pul Murad Feeder from Haroon Abad 132KV Grid Station, No right of way issues, route is proposed along the road.

Photo: 12.
Feeder: Muqeem Shah Feeder Chishtian, Bahawalnagar
Hazardous/RoW issues: Feeder is crossing under 66kv at Noorsar ada, 58-foot pole instead 45 pole can reduce the less clearance and safety hazardous issue.

Photo: 13
Feeder: Nawabpur-pir Khurshid Feeder, Buch Villas, Multan
Hazardous/RoW issues: Nawabpur-Pir Khurshid is proposed at existing route, 132KV T/line is also along the feeder. 500 MCM cable is proposed at portion passing along with 132KV Buch Villas T/Line.

Photo: 14

Feeder: Qutab Shahana feeder Sahiwal

Hazardous/RoW issues: No right of way identified as existing route will be used however, 58-foot structures pole is proposed for crossing at chowk.

Photo: 15
Feeder: Mitro feeder Mailsi, Vehari
Hazardous/RoW issues: Less Clearance and hazardous point at Chowk Mitro. Realign of the route to avoid hazardous and safety issues.

Photo: 16
Feeder: Kameer City feeder, Kameer Sahiwal

Hazardous/RoW issues: Existing structure pole will be removed, removal of pole may disturb the business of shopkeeper, suggested to execute work on off-day i.e Friday.

Photo: 17
Feeder: Kameer City feeder, Kameer Sahiwal

Hazardous/RoW issues: Contractor may execute work in off days particularly for Feeders passing above schools and main Bazar Kmaeer

Photo: 18
Feeder: Kamad & Dallon Banglow feeder, Burewala Vehari

Hazardous/RoW issues: Feeder will pass along the roadside and has no right of way issue.

Photo: 19
Feeder: Kot Abbas Feeder, Khanewal

Hazardous/RoW issues: Rehabilitation work will be carried out at exiting poles, hence no livelihood disturbance is anticipated.

Photo: 20
Feeder: Kukar Hatta Feeder, kabirwala, Khanewal
Hazardous/RoW issues: To remove safety hazards and less clearance, existing feeder passing over the houses will be shifted out the houses.

Photo: 21
Feeder: Pir Hajaan Sher, Jahania, Khanewal

Hazardous/RoW issues: Connecting point of of Pir hajjan Sher feeder crossing in front of the houses, L-cross is suggested to remove hazardous.

Photo: 22
Feeder: Tulamba Feeder, Mian Channu Khanewal

Hazardous/RoW issues: Enough space is available, proposed feeder passing over the houses will be shifted along the roadside to remove hazardous and safety clearance.

Photo: 23
Feeder: New Kacha Khoh, Mian Channu Khanewal

Hazardous/RoW issues: 45 feet pole will replace the existing 36 feet pole to remove hazardous and safety clearance.

Photo: 24
Feeder: New Sangi feeder, Man Kot, Mulatn
Hazardous/RoW issues: Existing pole and route will be utilized for stringing of new conductor for sangi feeder.

Photo: 25
Feeder: Muhammad Pur feeder, Suraj Mian, Multan

Hazardous/RoW issues: 45 Feet pole is proposed to remove hazards.

Photo: 26
Feeder: Noor Sha Feeder, Sahiwal

Hazardous/RoW issues: Existing route along the road will be utilized for stringing of conductor at existing 45 feet pole.

Photo: 27
Feeder: Garden Town feeder, Multan

Hazardous/RoW issues: Existing route will be utilized, and 58 feet poles are proposed to replace existing 36 feet poles and conductor to remove safety hazards and less clearance.

Photo: 28
Feeder: Noraja Bhutta Feeder, Jalal Pur Pir Wala.

Hazardous/RoW issues: Connecting point of Noraja Bhutta feeder. Existing route will be utilized, feeder passing from the fields.

Photo: 29
Feeder: Industrial Feeder Jalal Pur Pir Wala.

Hazardous/RoW issues: Conductor will be installed at existing 45 feet poles.

Photo: 30
Feeder: Jinnah Town Feeder Sadiqbaad

Hazardous/RoW issues: 45 feet pole is proposed to remove safety hazards and less clearance at Jinnah Town feeder.

Photo: 31
Feeder: Jaffar Lal Feeder, Nawazabad, Sadiqbaad

Hazardous/RoW issues Existing 40 feet poles will be replaced with proposed 45 feet poles.

Photo: 31
Feeder: Sultan Pur feeder, Rahim Yar Khan

Hazardous/RoW issues 58 feet pole is proposed to avoid short circuit and less clearance.

Photo: 32
Feeder: Kot Sabzal Feeder, Sadiqabad

Hazardous/RoW issues: 45 feet pole is proposed to avoid Less clearance.

Photo: 33
Feeder: Muhammad Nagar feeder, Mian Wali Qureshi

Hazardous/RoW issues: Muhammad Nagar feeder along the road, in rural area

Photo: 34
Feeder: Kot Sabzal Feeder, Sanjarur, Sadiqabad

Hazardous/RoW issues: New conductor will be installed on existing 58 feet pole, no land required.

Photo: 35
Feeder: Kacha Razai Feeder, Jamal Din Wali

Hazardous/RoW issues: Kacha Razi feeder terminal pole, Jamal din wali.

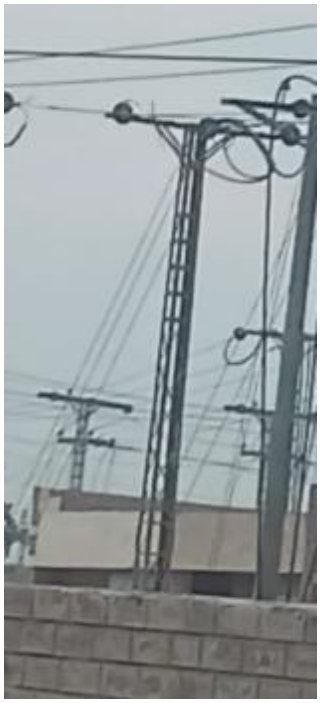

Photo: 36

Feeder: Bhodi pur Feeder, Jamal Din Wali

Hazardous/RoW issues: Existing 36 feet pole will be replaced with 45 feet poles.

Photo: 37

Feeder: Jagga Abbasia Feeder, Khan Pur

Hazardous/RoW issues: Jagga Abbasia feeder along the road required no land, 3rd circuit will be installed at existing pole.

Photo: 38

Feeder: Chughtai feeder, Mian Wali Qureshi.

Hazardous/RoW issues: Chughatai feeder is proposed along the road side at existing poles.

Photo: 39

Feeder: Aminabad Feeder, Feroza.

Hazardous/RoW issues: Connecting point of Ameen Abad feeder. Passing from agricultural land.

Photo: 40

Feeder: Maitla Feeder, Liaqatpur.

Hazardous/RoW issues: Existing pole and route will be utilized for conductor.

Photo: 41

Feeder: Mondka Feeder, Mahra Khas Muzzaffar Garh.

Hazardous/RoW issues: Mondka feeder is passing from the Agri land, new circuit will be installed at existing pole.

Photo: 42

Feeder: Rohalian wali Feeder, Mahra Khas Muzzaffar Garh.

Hazardous/RoW issues Rohalian Wali feeder crossing over the house, will be replaced to remove safety hazards.

Photo: 43

Feeder: Kamal Pur Feeder, Khan Garh.

Hazardous/RoW issues Kamalpur feeder, 45-foot pole will be replaced with 58 feet proposed pole at existing place.

Photo: 44

Feeder: Chak Naseem Feeder, Qabola

Hazardous/RoW issues Wire will be removed by installing 45 feet pole and three circuit will be shifted out of house.

Photo: 45
Feeder: Al- Murad Feeder,Dharanwala

Hazardous/RoW issues Terminal pole offal-Murad feeder at Dharanwala Grid Station. Existing route will be utilized for reconductoring the feeder.

Photo: 46

Feeder: Mehmood Feeder, Minchanabad

Hazardous/RoW issues: 45 feet pole will be installed to shift the circuit out of house to remove hazards and less clearance.

Photo: 47

Feeder: Fidai Shah Feeder, Minchanabad.

Hazardous/RoW issues: There is crossing, 56 feet pole will be installed to remove less clearance and safety hazards.

Photo: 48

Feeder: Skinder Chowk Feeder, Bonga Hayat.

Hazardous/RoW issues: Monda Feeder is in narrow street close to houses; vertical cross is proposed from houses.

Photo: 49

Feeder: Bokhari Wahin Feeder,Karor Pakka

Hazardous/RoW issues: Bokhari Wahin Feeder: The new terminal pole of 56 feet will be installed and feeders will be shifted to that pole.

Photo: 50

Feeder: Sutluj Feeder,Karor Pakka

Hazardous/RoW issues: Terminal pole Sutluj Feeder: 56-foot pole will be installed and existing circuit will be shifted to that pole.

Photo: 51

Feeder: Burhan Pur Feeder,Karor Pakka

Hazardous/RoW issues: Proposed line area for Burhan feeder.

Photo: 52

Feeder: Burhan Pur Feeder,Karor Pakka

Hazardous/RoW issues132 KV crossing Burhan pur and Sutluj Feeder.

Photo: 53

Feeder: Jhangi Wala Feeder, Baghdad ul Jadeed.

Hazardous/RoW issues: New construction under the Jhangi wala feeder. 45 foot pole is proposed to remove safety hazard and less clearance.

Photo: 54

Feeder: Kotla Qaim Khan feeder, Khairpur Tamewali.

Hazardous/RoW issues: New poles are proposed to improve the voltage issues at kotla qaim khan feeder. Existing LT will be utilized to replace with HT.

Photo: 55

Feeder: Hazorabad Feeder, Chichawatni.

Hazardous/RoW issues: Safety Hazards point, Pole will be shifted out from the house.

Photo: 56
Feeder: Tibbi Ditta Feeder Mubarak Pur, Bahawalpur.
Hazardous/RoW issues: End point of Tibbi Ditta Feeder, Existing route will be utilized for reconductoring the tibbi ditta feeder.

Photo: 57
Feeder: Head Rajkan Feeder, Head Rajkaan, Bahawalpur.
Hazardous/RoW issues: Head Rajkaan feeder, Poles are routed in such way that crop area are not affected.

Photo: 58
Feeder: Pir Buksh Maral feeder, Lar, Multan.
Hazardous/RoW issues: Existing route will be utilized and 36ft pole will be replaced with 45 ft pole and circuit will be laid down.

Photo: 59
Feeder: Pir Imam Feeder, Shujahabad.
Hazardous/RoW issues: Relief will be provided to the landowners by shifting the pole to the other side of the road.

Photo: 60

Feeder: Multan Road, Feeder, DG Khan.

Hazardous/RoW issues: Insulated cable is proposed because 132 KV Transmission is crossing over the feeder.

Photo: 61

Feeder: Bahadar Garh Feeder, Shah Sadar Din DG Khan.

Hazardous/RoW issues Bahadur Garh Feeder crossing over the houses, realign to remove safety hazards.

Photo: 62

Feeder: Pir Jaggi Feeder, Kot Sultan.

Hazardous/RoW issues Pir Jaggi feeder crossing over houses will pole will be shifted outside.

Photo: 63

Feeder: Al-Rehaman Feeder, Kamad. Buewala

Hazardous/RoW issues Al-Rehman feeder and Kammad feeder ending point.

Photo: 64

Feeder: Model Town feeder. DG Khan.

Hazardous/RoW issues: Model Town Feeder passing over the houses will be shifted outside the house to remove safety hazard.

Photo: 65

Feeder: Old Vehova Feeder Taunsa,

Hazardous/RoW issues: existing route will be utilized; however, tree trimming may require for stringing of new conductor.

Photo: 66

Feeder: Chak Shahna feeder, Garah mor, Vehari

Hazardous/RoW issues: To remove the safety hazard, new poles are proposed to shift the feeder outside the factory house.

Photo: 67

Feeder: Mohar Sharif Feeder, Chishtian

Hazardous/RoW issues: Terminal pole at 132kV Grid Station Chishtian for Mohar Sharif feeder. Existing route will be utilized passing from the fields and along the road side.

Photo: 68

Feeder: Chak Shafi and Mehboob Shah Feeder. Pakpattan.

Hazardous/RoW issues: Connecting point Chak Shafi and Mehboob Shah feeder.

Photo: 69

Feeders: Chak 98 and Chak 95 Feeders, Mian Channu.

Hazardous/RoW issues: New pole is proposed to realign the existing poles Chak 98 and Chak 95 inside the grid boundary.

Photo: 70

Feeders: Tulamba and New Kacha Khoh feeders, Mian Channu.

Hazardous/RoW issues: 58 ft are proposed inside the boundary to shift the tulamba and Kacha khoh feeders. Outside the boundary existing route will be utilized for reconductoring the tulamba and kacha khoh feeders.

Photo: 71
Feeders: Garaywala and Usman abad Feeder, Bosan Road, Multan.
Hazardous/RoW issues: Existing route will be utilized for reconductoring and replacement of 36 ft poles to 45 ft poles.

Photo: 72

Feeders: Sabzazar Feeder, Bosan Road Multan

Hazardous/RoW issues: 36 ft pole will be replaced with 45 ft pole to remove safety hazards and less clearance issue. It is recommended that designated places may be utilized to stock/store to avoid road blockage/access. The street is narrow and proposed pole will be installed at corner therefore, special arrangement for transportation/delivery of pole.