GOVERNMENT OF PAKISTAN
MINISTRY OF WATER AND POWER

NATIONAL TRANSMISSION MODERNIZATION PROJECT (NTMP)

ENVIRONMENTAL MANAGEMENT FRAMEWORK (EMF)

(Final Report)

NATIONAL TRANSMISSION & DESPATCH COMPANY (NTDC)

September, 2017
# Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AIS</td>
<td>Air Insulated Switchgear</td>
</tr>
<tr>
<td>BP</td>
<td>Bank Procedure</td>
</tr>
<tr>
<td>EHS</td>
<td>Environment, Health and Safety</td>
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<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>EMF</td>
<td>Electric and Magnetic Fields</td>
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<tr>
<td>EPA</td>
<td>Environment Protection Agency</td>
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<tr>
<td>ERP</td>
<td>Enterprise Resource Planning</td>
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<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>EMF</td>
<td>Environmental Management Framework</td>
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<tr>
<td>ESMP</td>
<td>Environmental and Social Management Plan</td>
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<tr>
<td>GIS</td>
<td>Gas Insulated Switchgear</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<tr>
<td>IEE</td>
<td>Initial Environmental Examinations</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>IPF</td>
<td>Indigenous Peoples’ Framework</td>
</tr>
<tr>
<td>Km</td>
<td>Kilometres</td>
</tr>
<tr>
<td>kV</td>
<td>Kilovolt</td>
</tr>
<tr>
<td>RAP</td>
<td>Land Acquisition and Resettlement Action Plan</td>
</tr>
<tr>
<td>LARF</td>
<td>Land Acquisition and Resettlement Policy Framework</td>
</tr>
<tr>
<td>NTDC</td>
<td>National Transmission and Despatch Company</td>
</tr>
<tr>
<td>NTMP-I</td>
<td>National Transmission Modernization I Project</td>
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<tr>
<td>OP</td>
<td>Operational Policy</td>
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<tr>
<td>PCBs</td>
<td>Polycyclic Bisphenols</td>
</tr>
<tr>
<td>RAP</td>
<td>Resettlement Action Plan</td>
</tr>
<tr>
<td>RPF</td>
<td>Resettlement Policy Framework</td>
</tr>
<tr>
<td>SOP</td>
<td>Standard Operational Procedures</td>
</tr>
<tr>
<td>TOR</td>
<td>Terms of Reference</td>
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Executive Summary

Introduction:

The National Transmission and Despatch Company (NTDC) of Pakistan with funding from the World Bank (WB) has planned to undertake the upgradation of the national transmission infrastructure in Pakistan under the National Transmission Modernization I Project (NTMP-I), which involves a large number of subprojects to upgrade, expand or build new substation and transmission line infrastructure.

This EMF is being prepared for subprojects of NTMP-I under component A to be financed by World Bank. The purpose of the EMF is to ensure that all subprojects in particular those in the Group 2 to be financed under NTMP-I meets World Bank safeguard policy requirements, Pakistan environmental regulations and other relevant legislations. This framework provides guidance for preparation, appraisal and implementation of Environmental aspects for each subproject and the roles and responsibilities of NTDC. A Social Management Framework has also been prepared. A LARF already exists that provides guidance for the development and implementation of Resettlement Action Plans where required.

The tentative Group 2 subprojects may include but not limited to the following new substations; 220 kV Punjab University, 220 kV Zero Point, 220 kV Mastung Substation along with allied T/Ls. The scope of work for these substations have been identified but locations are yet to be confirmed.

Legal and Regulatory Framework

The key legislations relevant to this Project are: Khyber Pakhtunkhwa Environmental Protection Act 2014 (KPEPA 2014), Punjab Environmental Protection Act 1997 (Amended 2012), Baluchistan Environmental Protection Act 2012.


The World Bank safeguard policies applicable to NTMP Group 2 Projects are: Operational Policy (OP) 4.01: Environmental Assessment; OP 4.04: Natural Habitats; OP 4.11 Physical Cultural Resources and OP 4.36 Forest.

In addition, the World Bank Group ‘General Environmental, Health and Safety Guidelines on Electric Power Transmission and Distribution’ is also applicable to this Project.

Project Description

All subprojects to be financed under the project would be subject to Bank appraisal in accordance with a set of eligibility criteria, including the safeguards criteria within this Environment Management Framework (EMF). The subprojects that meet the eligibility criteria will be financed on a first-come, first-appraised basis until all allocated funds are committed.
For upgrade and expansion subprojects, the activities include: 1) augmentation of existing power transformers in 500kV and 220kV substations; 2) conversion of Air Insulated Switchgear (AIS) to Gas Insulated Switchgear (GIS); 3) re-routing of single towers and poles and 4) changes and upgrades to buildings and control equipment.

For new substations, the key activity is to construct new substations including transformers and associated equipment, control rooms and ancillary equipment. The new substations will also include transmission lines (from 1-2km up to 150km). In some cases, new roads may be required, or the upgrading of existing roads.

A new substation requires an enclosed, levelled site free of any vegetation or human habitation (except for substation operators), typically measuring approximately 100 acres.

The potential impacts of the project’s construction phase on physical and biological environment could include soil erosion, noise, dust, vibration on neighboring properties, exposure of construction workers to electric and magnetic fields (EMF) and risks of falls and electrocution, soil and water contamination, health and safety risks, soil and water contamination and greenhouse gas emissions.

**Safeguards Assessment, Preparation, Review and Approval Process**

Each subproject will go through the same screening and scoping process to determine the type and detail of the safeguard instrument(s) that are required by both the Bank safeguard policies and the Pakistani legislation. Any subproject which has the potential to be Category A will be screened out.

For the NTMP-I Group 2 project there are three scenarios for the preparation of safeguards instruments;

**EIA for New Infrastructure:** As per World Bank OP4.01 and Pakistani Legislation for Schedule 2 Activities an EIA (with attached EMP) is required for any subproject where the screening indicates that the site-specific impacts will be potentially significant.

**ESMP for New Infrastructure:** A site specific ESMP will be prepared for each subproject that involves the development of a new site, but where impacts are likely to be minor and manageable. A simple template is attached in Annex 4.

According to Pakistan’s IEE/EIA Regulations 2000, the transmission line projects having capacity above 11kV falls under Schedule II and hence will require an EIA. So to fulfil the requirements of World Bank as well as Pakistani legislation, an EIA along with an EMP will be preferred to be produced.

**ESMP for Upgrades:** An ESMP for Upgrades has been prepared for Group 1 Activities, as part of project preparation. This ESMP will cover all of the subprojects that involve an upgrade or extension, throughout project implementation. Where screening and scoping for upgrade and extension subprojects in Group 2 shows that the environmental risks for a subproject are likely to be similar, and low, then they will be covered by this EMP. The EMP will be updated to include the new project details and re-disclosed.

**Institutional Arrangement**

The overall responsibility of environmental and social performance including ESMP and RAP implementation of the Project will rest with the two GM PDs. Aside from ESIC in-house environmental and social specialists, the supervision consultants (PSC) will supervise the contractors on their execution of construction-related environmental and social management requirements and
measures. The PSC will ensure adherence to the design parameters including quality requirements, as well as all ESMP measures related to construction.

**Consultation and Disclosure**

A stakeholders’ consultative workshop for disclosure of EMF of NTMP has been held on 24th August, 2017 by NTDC at Lahore. Thus, EMF has been disclosed and accordingly comments have been incorporated.
1 Introduction

The National Transmission and Despatch Company (NTDC) is embarking on an ambitious and comprehensive upgrade of the national transmission infrastructure in Pakistan. The Government of Pakistan has requested a loan from the World Bank for the National Transmission Modernization Project I (NTMP I), which involves a large number of subprojects to upgrade, expand or build new substation and transmission line infrastructure.

The purpose of the EMF is to examine the issues and impacts associated to this project, which includes subprojects, and where the impacts cannot be determined until the program or sub-project details have been identified. The EMF sets out the principles, rules, guidelines and procedures to assess the environmental impacts. It contains measures and plans to reduce, mitigate and/or offset adverse impacts and enhance positive impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project impacts. This EMF for Component-A of NTMP is prepared by ESIC DTLP.

1.1 Project Description

The main objective of NTMP development is to assist the Government of Pakistan to increase the availability and improve reliability and efficiency of selected segments of the national transmission system in Pakistan. It will achieve this objective by investing in high-priority transmission infrastructure, information technology and technical assistance to the NTDC.

The project is envisaged to consist of three components as described below.

Component A: Upgrading and Expansion of the Transmission Network

The component would include the Projects categorized as Group 1 and Group 2.

The Group 1 Subprojects include:

(a) 765 kV/500 kV Islamabad West Substation
(b) Extension/Augmentation of selected Existing 500 kV and 220 kV/132 kV Substations and associated lines;
(c) Rehabilitation of 500 kV and 200 kV Grid to enhance system reliability
(d) 500 kV Peshawar New with associated transmission line

The tentative Group 2 Subprojects include but not limited to the following new substations whose precise locations are not yet finalized;

a) 220 kV Punjab University Substation with associated transmission lines
b) 220 kV Zero Point Substation with associated transmission lines
c) 220 kV Mastung substation with three 220/132kv, 250 MVA transformers along with allied equipment and accessories. It also includes 220 kV Double Circuit Transmission Lines on twin bundle Rail conductor from Mastung to Sibbi (120 Km), 220 kV Double Circuit Transmission Lines on twin bundle Rail conductor from Mastung to Quetta (50 km) and 220 kV Double Circuit Transmission Lines on twin bundle Rail conductor from Quetta to Loralai (170 km). Two extensions are also in the scope including Extension at 220 kV Sibbi & Loralai for construction of two 220 kV Line Bays at each substation and Extension at 220 kV Quetta tor construction of four 220 kV Line Bays.
Component B: Deployment of Enterprise Resource Planning (ERP) for NTDC

The component includes implementation of the information and communication technology (ICT) infrastructure modernization phase for NTDC, following up by development and deployment of an ERP system aimed at strengthening the company’s management capabilities through the use of an integrated ICT system to facilitate its financial, human resources management, inventory and asset management, and metering data management.

Component C: Project Management, Technical Assistance, and Capacity Building

This component includes (a) a project implementation support consultant; and (b) capacity building program for NTDC to plan, invest and operate the upgraded national transmission grid.

Component A is based on a framework approach to allow flexibility. The proposed subprojects will be prepared and implemented in two groups. Group I include all the subprojects that will be ready to start implementation in the first year of the project after approval. The safeguards aspects of subprojects in Group 1 are covered by an Environmental and Social Management Plan (ESMP). Group 2 includes all the remaining subprojects which will be implemented from the second year of the project onward. Subprojects under Group 2 are preliminarily identified but may change. Changing priorities mean that some subprojects may be dropped and others substituted. Subprojects in Group 2 would be subject to Bank appraisal in accordance with a set of eligibility criteria, including the safeguards criteria within this Environment Management Framework (EMF). The subprojects that meet the eligibility criteria will be financed on a first-come, first-appraised basis until all allocated funds are committed.

1.2 Summary of Subproject Types and Potential Environmental Impacts

Two types of subprojects are identified as follow:

For upgrade and expansion subprojects, the activities include: 1) augmentation of existing power transformers in 500kV and 220kV substations; 2) conversion of Air Insulated Switchgear (AIS) to Gas Insulated Switchgear (GIS); 3) re-routing of single towers and poles, and 4) changes and upgrades to buildings and control room equipment.

For new substations, the key activity is to construct new substations including transformers and associated equipment, control rooms and ancillary equipment. The new substations will also include transmission lines (from 1-2km up to 150km). In some cases, new roads may be required, or the upgrading of an existing road.

A new substation requires an enclosed, levelled site free of any vegetation or human habitation (except for substation operators), typically measuring approximately 100 acres.

The following is a summary of the key potential environmental impacts that may arise from any subproject.
Table 1.1 Summary of Potential Environmental Impacts

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
<th>Potential impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction – All sites.</td>
<td>Earthworks and construction. Working at height. Working with electricity.</td>
<td>Noise, dust, vibration on neighboring properties</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure of construction workers to electric and magnetic fields (EMF) and risks of falls and electrocution.</td>
</tr>
<tr>
<td></td>
<td>Storage, handling, use and disposal of hazardous materials such as transformer oils</td>
<td>Soil and water contamination Health and safety risks</td>
</tr>
<tr>
<td></td>
<td>Disposal or reuse of old transformers</td>
<td>Soil and water contamination</td>
</tr>
<tr>
<td></td>
<td>Risk of finding polycyclic bisphenols (PCBs)</td>
<td>Soil and water contamination</td>
</tr>
<tr>
<td>Construction – New infrastructure (in addition to the list above)</td>
<td>Removal of vegetation and earthworks and construction activities create access ways, transmission line corridors and construction platforms.</td>
<td>Soil erosion and water contamination Removal of habitat and / or productive land. Disturbances to habitats and migratory paths. Disturbances to physical cultural resources.</td>
</tr>
<tr>
<td>Operation and maintenance</td>
<td>Storage, handling, use and disposal of hazardous materials such as transformer oils</td>
<td>Soil and water contamination</td>
</tr>
<tr>
<td></td>
<td>EMF and electrical equipment.</td>
<td>Exposure of EMF to workers and community. Electrocution risks and working at height risks.</td>
</tr>
</tbody>
</table>

1.3 Purpose of the Environmental Management Framework (EMF)

The NTMP-I allows a group of subprojects to be financed during implementation provided they meet the agreed eligibility criteria that will help ensure the subprojects meet good international practice in technical, environmental terms and meet minimum levels of financial and economic performance.

The purpose of the EMF is to ensure that all subprojects, especially those in the Group 2 to be financed under NTMP-I meets World Bank safeguard policy requirements¹. This framework provides guidance for preparation, appraisal and implementation of safeguards instruments for each subproject and the roles and responsibilities of NTDC.

The subprojects must also meet all relevant environment requirements and processes under Pakistan regulations and laws.

¹Noting that group 1 subproject EMPs have already been through appraisal.
2 Legal and Policy Framework

2.1 Pakistani Legislation

2.1.1 Overview

Pakistan has in place a policy and legislative framework for the protection of the environment issues which the Government of Pakistan (GoP) is continuing to develop. This section is structured around the legislative hierarchy. An overview of relevant national level policy is presented, followed by separate discussion of national and regional environmental legislation applicable to the Project and supporting guidance documents.

2.1.2 Constitution

Whilst the constitution of the Islamic Republic of Pakistan (as modified up to the February 2012) is silent on the topic of environmental protection.

Environmental Policy Framework

Environmental Policies guiding the legislative framework in Pakistan are summarized in Table 2.1.

<table>
<thead>
<tr>
<th>Policy Name (Year)</th>
<th>Content Summary</th>
<th>Relevance to the current Project</th>
</tr>
</thead>
</table>
| National Conservation Strategy (1992) | The Pakistan National Conservation Strategy (NCS) is the principal policy document for environmental issues in the country and was developed and approved by the Government of Pakistan on March 01, 1992. The NCS deals with 14 core areas:  
  • Maintaining soils in cropland  
  • Increasing irrigation efficiency  
  • Protecting watersheds  
  • Supporting forestry and plantations  
  • Restoring rangelands and improving livestock  
  • Protecting water bodies and sustaining fisheries  
  • Conserving biodiversity  
  • Increasing energy efficiency  
  • Developing and deploying material for renewable energy  
  • Preventing/abating pollution  
  • Managing urban wastes  
  • Supporting institutions for common resources  
  • Integrating population and environmental programs  
  • Preserving cultural heritage. | This EMF considers impacts on all environmental issues specified in this strategy |
<p>| National Environmental Policy (NEP) (2005) | The NEP was implemented in 2005 to provide an overarching framework for addressing Pakistan’s environmental issues. It provides directions for addressing sectorial issues and provides a means for promoting conservation and environmental protection in water, air and waste management, forestry, and transport. The NEP aims to promote protection of the environment, the honouring of | EMF is prepared in consistence with this policy |</p>
<table>
<thead>
<tr>
<th>Policy Name (Year)</th>
<th>Content Summary</th>
<th>Relevance to the current Project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Water Policy 2002 (NWP)</strong></td>
<td>Objectives of the NWP include, amongst others, efficient management and conservation of existing water resources, optimal development of potential water resources and improved flood control and protective measures.</td>
<td>Environmental protection has been considered in the EMF</td>
</tr>
<tr>
<td><strong>National Forest Policy 2010 (NFP)</strong></td>
<td>The NFP establishes the policy framework for the restoration, development, conservation and sustainable management of forests and allied natural resources. It seeks to ensure the sustainability of ecosystem functions, services and benefits for present and future generations.</td>
<td>EMF will be prepared in consistence with this policy</td>
</tr>
<tr>
<td><strong>National Climate Change Policy, 2012</strong></td>
<td>In September, 2012 Government of Pakistan launched its National Climate Change Policy. Environmental assessment is integrated in the preamble of the policy. The policy commits for taking appropriate measures for mitigation and adaptation to climate change through tools of environmental assessment.</td>
<td>EMP will be prepared in consistence with this policy</td>
</tr>
</tbody>
</table>

2.2 Environmental Legislation

2.2.1 KPEPA 2014, Balochistan EPA 2012 and Punjab EPA 1997 (Amended 2012)

The Khyber Pakhtunkhwa Environmental Protection Act 2014 (KPEPA 2014), Punjab Environmental Protection Act of 1997 (Amended 2012) and Baluchistan Environmental Protection Act 2012 are the provincial versions of the Pakistan Environmental Protection Act, 1997 (PEPA) relevant to the Project. Responsibility for PEPA was transferred from the national government (Ministry of Environment) to the provincial governments by an amendment to the PEPA in 2012. The provincial versions continue to remain materially the same as the PEPA except where governmental bodies are referred.

The following key features of the provincial Acts have a direct bearing on the Project:

**Section 11** (Prohibition of Certain Discharges or Emissions) states that “Subject to the provisions of this Act and the rules and regulations made there under, no person shall discharge or emit, or allow the discharge or emission of, any effluent or waste or air pollutant or noise in an amount, concentration or level which is in excess of the Environmental Quality Standards”.

**Section 12-I** (Initial Environmental Examination and Environmental Impact Assessment) requires that “No proponent of a project shall commence construction or operation unless he has filed with the EPA an IEE or, where the project is likely to cause an adverse environmental effect, an EIA, and has obtained from the Federal Agency approval in respect thereof.”

**Section 12-2b** (Review of IEE and EIA): The Khyber Pakhtunkhwa Environmental Protection Agency shall review the EIA report and accord its approval subject to such conditions as it may deem fit to impose, or require that the EIA be re-submitted after such modifications as may be stipulated or rejected, the project as being contrary to environmental objectives.

**Section 14** (Handling of Hazardous Substances) requires that “Subject to the provisions of this Act, no person shall generate, collect, consign, transport, treat, dispose of, store, handle, or import any hazardous substance except (a) under a license issued by the EPA and in such manner as may be prescribed; or (b) in accordance with the provisions of any other law for the time being
in force, or of any international treaty, convention, protocol, code, standard, agreement, or other Instrument to which Pakistan is a party.” Enforcement of this clause requires the EPA to issue regulations regarding licensing procedures and to define ‘hazardous substance.’

Section 15 (Regulation of Motor Vehicles): Subject to provision of this clause of the Act and the rules and regulations made there under, no person shall operate a motor vehicle from which air pollutants or noise are being emitted in an amount, concentration or level which is in excess of the EQS, or where the applicable standards established under clause (g) of subsection (1) of Section-6 of the Act.

Section 17 (Penalties): Whoever contravenes or fails to comply with the provisions of section 11, 12, 13, or section 16 or any order issued there under shall be punishable with fine which may extend to one million rupees, and in the case of a continuing contravention or failure, with an additional fine which may extend to one hundred thousand rupees for every day during which such contravention or failure continues: Provided that if contravention of the provisions of section 11 also constitutes contravention of the provisions of section 15, such contravention shall be punishable under sub-section (2) only.

Section 18 (Offences by Bodies Corporate): Where any contravention of this Act has been committed by a body corporate, and it is proved that such offence has been committed with the consent or connivance or, is attributed to any negligence on the part of, any director, partner, manager, secretary or other officer of the body corporate, such director, partner, manager, secretary or other officer of the body corporate, shall be deemed guilty of such contravention along with the body corporate and shall be punished accordingly.
2.3 Pakistan EPA (Review of IEE and EIA) Regulations, 2000

The IEE/EIA Regulations 2000 establish the framework for the preparation, submission, and review of the IEE and EIA. The regulations categorize development projects for IEE and EIA into two schedules (Schedules I and II). Schedule I includes projects where the range of environmental issues is comparatively narrow and the issues can be understood and managed through less extensive analysis. Schedule II covers major projects that have the potential to affect a large number of people in addition to generating potentially significant adverse environmental impacts. Preparation of a complete EIA is required for Schedule II projects. Under the IEE/EIA Regulations 2000, Transmission Line Projects of more than 11 kV fall into Schedule II. The subprojects under the NTMP are therefore classified as Schedule II projects.
National guidelines for undertaking EIA in accordance with the IEE/EIA Regulations 2000 include the Policy and Procedures for Filing, Review and Approval of Environmental Assessments, 1997 (the FRAEA Guidelines) and Guidelines for the Preparation and Review of Environmental Reports, 1997 (the PRER Guidelines).

2.3.1 Secondary and Complimentary Environmental Legislation

An overview of secondary and complimentary environmental legislation relevant to the Project is presented in Table 2.2

<table>
<thead>
<tr>
<th>Legislation / Guideline Name (Year of Issuance)</th>
<th>Brief Description</th>
<th>Relevance to the current Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Environmental Quality Standards 2012</td>
<td>Powers for regulating Environmental Quality Standards (EQS) transferred from the national government to the provincial governments in 2012. The EQS are materially the same as the National EQS (NEQS) that were established in 1993 and were subject to amendment in 2000, 2009 and 2010. EQS relevant to the Project include: • Municipal and liquid industrial effluents (32 parameters) • Industrial gaseous emissions (18 parameters) • Motor vehicle exhaust and noise (used and new vehicles) • Ambient air quality (9 parameters) • Drinking water quality (32 parameters) • Noise (four zones during day and night).</td>
<td>The EMP will comply with these standards</td>
</tr>
<tr>
<td>Environmental Tribunal Rules (the ET Rules)</td>
<td>Under Section 21 of the provincial Act (Environmental Tribunals) have been established to deal with cases of violation or of failure to comply with the provisions of EPA. According to the ET Rules, a tribunal is required to make every effort to dispose of a complaint or an appeal or other proceeding within 60 days of its filing.</td>
<td></td>
</tr>
<tr>
<td>Forest Act (1927) and Forest (Amendment) Act (2010)</td>
<td>The Forest Act of 1927 establishes the right of GoP to designate areas of reserved forest, village forest and protected forest. GoP is enabled to acquire such areas in order to prohibit or restrict the public use of such resources or other activities within them.</td>
<td>If any forest area will be found within the Project Area of Influence (AOI), then the consultation with the Forest Departments of concerned Districts will be made for the compliance of this policy.</td>
</tr>
<tr>
<td>Legislation / Guideline Name (Year of Issuance)</td>
<td>Brief Description</td>
<td>Relevance to the current Project</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
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<tr>
<td>Khyber Pakhtunkhwa Wildlife Protection, Preservation, Conservation and Management Act (1975) (the KP Wildlife Act) and Punjab Wildlife (Protection, Preservation, Conservation and Management) Act, 1974</td>
<td>The provincial Wildlife Acts have been established to provide direct protection to the provinces’ wildlife resources and indirect protection to other natural resources. Wildlife is categorised by degree of protection, i.e. animals that may be hunted on a permit or special license, and species that are protected and cannot be hunted under any circumstances. Restrictions are also established for hunting and trade in animals, trophies, or meat. Categories of wildlife protected areas are also formalised and include National Parks, Wildlife Sanctuaries, and Game Reserves.</td>
<td>The Project will need to be undertaken in accordance with these Wildlife Acts.</td>
</tr>
<tr>
<td>Protection of Trees and Brushwood Act (1949)</td>
<td>The Protection of Trees and Brushwood Act of 1949 prohibits the cutting or lopping of trees along roads and canals planted by the Forest Department unless prior permission of the Forest Department is obtained.</td>
<td>EMP will be prepared in consistent with this policy</td>
</tr>
<tr>
<td>Antiquity Act (1975)</td>
<td>The Antiquities Act of 1975 ensures the protection of cultural resources in Pakistan. The act is designed to protect defined “antiquities” from destruction, theft, negligence, unlawful excavation, trade and export. Antiquities have been defined in the Act as ancient products of human activity, historical sites, or sites of anthropological or cultural interest and national monuments. The law prohibits new construction in the proximity of a protected antiquity and empowers GoP to prohibit excavation in any area which may contain articles of archaeological significance. The guideline procedure for Environment Assessment recommended by the KP-EPA reads as follows: “If the proponent or the consultant identifies an archaeological site that appears to be of importance but the site is not listed they should discuss the site with the relevant conservation authority”. “The relevant conservation authority should inform the Responsible Authority of their assessment of the significance of the likely impact of the proposed development early in the process, in order for the Responsible Authority to determine the level of documentation required. The KP-EPA will then be in a position to review the level of reporting required in the light of advice from the Archaeology Department”.</td>
<td>There are no known antiquities in the project area. Chance Find procedures will be included in the EIA. Contractor will have to comply with this Act.</td>
</tr>
<tr>
<td>Motor Vehicle Ordinance (1965) and Rules (1969)</td>
<td>The ordinance deals with the licensing requirement for driving; powers of licensing authority, Regional Transport Authority and those of Court vis-à-vis disqualification for license and registration requirements to control road transport; compensations for the death of or injury to a passenger of public carrier; powers of Road</td>
<td>EMP will be prepared in consistent with this policy</td>
</tr>
<tr>
<td>Legislation / Guideline Name (Year of Issuance)</td>
<td>Brief Description</td>
<td>Relevance to the current Project</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Transport Corporation; traffic rules, power to limit speed, weight, use of vehicles; power to erect traffic signs; specific duties of drivers in case of accident and powers of police officers to check and penalize traffic offenders. All vehicles used during construction/operation of the Project, by WAPDA, Consultants and the Contractor will be subject to this Motor Vehicle Ordinance 1965 and rules 1969.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway Safety Ordinance Act (2000)</td>
<td>This Ordinance includes provisions for licensing and registration of vehicles and construction equipment; maintenance of road vehicles; traffic control offences, penalties and procedures; and the establishment of a police force for motorways and national highways to regulate and control the traffic as well as keep the highways clear of encroachments.</td>
<td>EMP will be prepared in consistent with this policy</td>
</tr>
<tr>
<td>Pakistan Penal Code (1860)</td>
<td>The Pakistan Penal Code deals with offences where public or private property and/or human lives are affected due to the intentional or accidental misconduct of an individual or body of people. In the context of the environment, the Penal Code empowers local authorities to control noise, toxic emissions and disposal of effluents</td>
<td>EMP will be prepared in consistent with this policy</td>
</tr>
<tr>
<td>Pakistan Explosives Act (1894)</td>
<td>The Pakistan Explosive Act of 1884 provides regulations for the handling, transportation and use of explosives during quarrying, blasting and other purposes. The quarrying of stone for rip rap or concrete aggregates may need blasting at the quarry site. In this event these regulations will be applicable for this project.</td>
<td>EMP will be prepared in consistent with this policy</td>
</tr>
<tr>
<td>Regulation of Mines and Oil Fields/ Mineral Development Act (1948)</td>
<td>This legislation provides regulatory procedures for the quarrying and mining of construction material on public as well as private lands.</td>
<td>EMP will be prepared in consistent with this policy</td>
</tr>
</tbody>
</table>

### 2.3.2 Environmental Guidelines

A number of guidance documents have been published by GoP and state level EPAs that set out more detail on how environment policy and legislation are expected to be implemented in practice. Environmental guidance documents relevant to the Project are listed in Table 2-3.
Table 2.3: Environmental Guidelines

<table>
<thead>
<tr>
<th>Legislation / Guideline Name (Year of Issuance)</th>
<th>Brief Description</th>
<th>Relevance to the current project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy and Procedures for the Filing, Review and Approval of Environmental Assessments (1997) (FRAEA Guidelines)</td>
<td>The FRAEA Guidelines define the policy context and the administrative procedures that govern the environmental assessment process, from the project prefeasibility stage to the approval of the environmental report. Requirements for the preparation of an Environmental Management Plan (EMP) are also covered. An EMP is defined as a “document designed to ensure that the commitments in the Environmental Report, subsequent review reports, and Environmental Approval conditions are fully implemented” and is “usually finalised during or following detailed design of the proposal, after Environmental Approval of the development application”.</td>
<td>The EIA will be prepared in consistent with this policy</td>
</tr>
</tbody>
</table>
| Guidelines for the Preparation and Review of Environmental Reports (1997) (PRER Guidelines) | The PRER guidelines address project proponents, and specify the:  
• Nature of the information to be included in environmental reports  
• Need to incorporate suitable mitigation measures into every stage of project implementation  
• Requirement to specify monitoring procedures  
• Terms of reference (ToR) for the reports to be prepared by the project proponents. | These policies are applicable for review of EIA |
| Guidelines for Public Consultation (1997) | The Guidelines for Public Consultation cover approaches and techniques for effective public consultation. An effective consultation strategy is considered to be one that captures the views of all major stakeholders, allowing for the incorporation of concerns in the impact assessment. | Consultations will be carried out during EIA and EMP preparation in accordance with these guidelines. |
| Guidelines for Sensitive and Critical Areas (1997) (the SCA Guidelines) | The SCA Guidelines establish environmental assessment procedures (including formal checklists) that are to be followed by projects that are located within or near to officially protected areas in Pakistan. Officially protected areas include those designated to protect critical ecosystems such as biosphere reserves, national parks, wildlife sanctuaries and preserves, and archaeological sites. | EIA will be prepared in consistence with this policy |

2.4 International Treaties and Conventions

Pakistan is a signatory to a number of international environment related treaties, conventions, declarations and protocols. The following are the relevant international treaties and conventions to which Pakistan is a party:

- Convention on the Conservation of Migratory Species of Wild Animals
- Convention on Wetlands of International Importance
- Convention on the Control of Trans-Boundary Movements of Hazardous Wastes and their Disposal
• Convention concerning the Protection of World Culture and Natural Heritage
• Convention on the International Trade in Endangered Species
• International plant protection convention
• Kyoto Protocol to the Convention United Nations Framework on Climate Change
• Stockholm Convention on Persistent Organic Pollutants
• United Nations Convention on Biological Diversity
• United Nations Convention on Biological Diversity
• United Nations Framework Convention on Climate Change

2.5 Environment Regulatory Authorities

A number of national and provincial governmental agencies perform functions relevant to the Project. These agencies and their relationship to the Project are discussed below.

2.5.1 Provincial Environmental Protection Agencies

Since the project area falls in KP, Baluchistan and Punjab provinces, their respective EPAs are the relevant environmental regulatory authorities. The provincial EPAs are responsible for environmental regulation and implementing GoP environmental policies in their respective provinces. As part of their roles, provincial EPAs are responsible for reviewing EIA documentation for compliance with provincial EIA requirements and procedures and, using their district based staff, also monitors the implementation of EMPs. Statutory functions of the provincial EPAs are to:

• Administer and implement Environmental Protection Act, its rules and regulations
• Review IEE/EIA, preparation of procedures and guidelines
• Prepare, revise and enforce EQS (industries, municipalities, vehicular emission)
• Establish and maintain laboratories, certification of laboratories for conducting tests and analysis.
• Assist local Councils, Authorities and / or Government Agencies in execution of projects
• Establish a system of surveys, monitoring, examination and inspection to combat pollution
• Conduct training for Government functionaries and industrial management
• Provide information and education to the public on environmental issues
• Publish the Annual State of the Environment report
• Undertake surveys and qualitative and quantitative analysis of data on air, soil and water quality, and industrial, municipal and traffic emissions
• Take measures to promote environment related Research and Development (R&D) activities.

2.5.1.1 Khyber Pakhtunkhwa Forestry, Environment and Wildlife Department

This is the parent department housing the KP-EPA in addition to the Forestry and Wildlife functions in the province. This is the focal agency at the province level for policy, legislation, plans, strategies, and programs with regard to environmental protection, forestry, and wildlife management.
2.5.1.2 Punjab Environment Protection Department

This is the parent Department of the Punjab-EPA and its functions are essentially same as that of the environmental protection agency described earlier.

2.5.1.3 Punjab Forestry, Wildlife, and Fisheries Department

This Department houses three distinct functions described below.

- **Forest**
  - Preparation and implementation of policies and programs in forestry sector. Implementation of Forestry Laws and rules.
  - Protection, conservation, development and management of renewable natural resources, particularly forests and range lands in the province.
  - Sustainable management of forest for production of timber, firewood and other non-timber produce and services.
  - Demarcation and protection of Forest lands against encroachment.
  - Raising of nurseries and plantations.
  - Provide extension services for mass awareness and conduct research and training for capacity building.

- **Wildlife**
  - Protection, conservation, preservation and management of wildlife.
  - Management of protected areas, wildlife parks, safaris and zoos.
  - Public and private participation through trophy hunting, private breeding farms & hunting associations.

- **Fisheries**
  - Extension services/fish farming/aquaculture development.
  - Conservation, management and development of natural resources.
  - Production of fish seed under controlled conditions.
  - Research &Training activities.
  - Introduction of new technologies for enhancing fish production.

- **Ministry of Climate Change**

The Environment Division of the Ministry of Climate Change at federal level is the focal agency for national policy, legislation, plans, strategies and programs with regard to disaster management and climate change including environmental protection and preservation. The division also deals with other countries, international agencies and forums for coordination, monitoring and implementation of environmental agreements. Policies set by the Ministry of Climate Change will influence the design and operation of the project.

2.5.1.4 Balochistan Environmental Protection Act 2012

No proponent of a project of public and private sector shall commence construction or operation unless he has filed an Initial Environmental Examination with the Government Agency designated by
Balochistan Environmental Protection Agency, as the case may be, or, where the project is likely to cause an adverse environmental effect an environmental impact assessment, and has obtained from the Government Agency approval in respect thereof.

2.5.1.5 The Balochistan Wildlife (Protection, Preservation, Conservation and Management) Act, 2014

The Baluchistan Wildlife (Protection, Preservation, Conservation and Management) Act, 2014 empowers the government to declare certain areas reserved for the protection of wildlife and control activities within these areas. It also provides protection to endangered species of wildlife. As no activities are planned in these areas, no provision of this law is applicable to the proposed project.

2.6 World Bank

2.6.1 Overview and Categorization

The World Bank requires environmental screening of projects to determine the appropriate extent and type of environmental assessment needed. The World Bank classifies proposed projects into categories depending on the type, location, sensitivity, and scale of the project, as well as the nature and magnitude of its potential adverse environmental impacts.

The project will involve the construction, expansion or rehabilitation of high-voltage substations and overhead transmission lines under Component A. The potential adverse impacts have varying scales. At the minor end of the scale will be the substation upgrades and extensions with the existing substation property boundaries. The largest scale of impact is anticipated from the new substation and transmission line subprojects.

The potential negative impacts would occur mainly during site preparation and construction and in a less scale during operations of these transmission infrastructure. The potential impacts during implementation include (i) impacts from land acquisition and resettlement for construction of new substations, transmission towers and ROW; (ii) increased levels of dust, noise, and other emissions from excavation activities, land clearing activities, material stockpiles, operation of heavy equipment, and transportation of construction materials and electrical equipment; (iii) risk of oil spill and construction site waste generation; (iv) traffic disturbance and road damage due to the transportation of building materials and equipment; and (v) health and safety issues for workers and community. The potential negative impacts during operation would be the effects associated with exposure to electric and magnetic fields from high voltage power lines and substations, risk of oil spill and workforce health and safety. However, these potential impacts are expected to be small to moderate, temporary, site-specific and mostly reversible and mitigation measures can readily be mitigated through good site selection and design, pollution and emission control measures, and construction-related controls.

These subprojects fall into Category B since most of the impacts will be site specific and can be mitigated with standard mitigation measures.

2.6.2 World Bank Group Environmental, Health and Safety Guidelines

World Bank Group’s Environmental, Health, and Safety (EHS) Guidelines are applicable to the Project. In particular, Contractors will be required to implement the General EHS Guidelines (April 2007), the EHS Guidelines for Electric Power Transmission and Distribution (April 2007) and the EHS Guidelines for Construction Materials Extraction (April 2007) under the EMP as enforced through the Project contracts.
The World Bank has also produced environmental publications relevant to project financing. Those relevant to the Project are:


2.6.3 World Bank Safeguard Policies and Requirements

- **Overview**

Developers seeking financing from the World Bank are required to comply with the applicable environmental safeguards, Operational Policies (OPs). A summary of the key objectives of the relevant safeguards policies considered for the Project is provided in the sub-sections below.

- **OP 4.01 Environmental Assessment**

Provides the framework for World Bank environmental safeguard policies and defines the project screening and categorization in order to determine the level of environmental assessment required. For all projects the policy requires public consultation and disclosure to be undertaken as part of the assessment process. The Policy sets out requirements to comply and report on implementation of any environmental management plans.

- **OP 4.04 Natural Habitats**

OP 4.04 outlines the World Bank policy on biodiversity conservation taking into account ecosystem services and natural resource management and use by project affected people. Projects must assess potential impacts on biodiversity. The policy strictly limits circumstances under which conversion or degradation of natural habitats can occur and prohibits projects which are likely to result in significant loss of critical natural habitats.

- **OP 4.09 Pest Management**

Aims to minimize and manage the environmental and health risks associated with pesticide use and promote and support safe, effective, and environmentally sound pest management.

- **OP 4.11 Physical Cultural Resources**

Seeks to preserve physical cultural resources and avoid their destruction or damage. It encompasses resources of archaeological, paleontological, historical, architectural and religious (including grave yards and burial sites), aesthetic, or other cultural significance.

- **OP 4.36 Forests**

OP 4.36 sets out the World Bank objectives for reducing deforestation, enhancing the environmental contribution of forested areas, promoting afforestation, reducing poverty, and encouraging economic development.
• **OP 4.37 Safety of Dams**

OP 4.37 requires competent design and construction supervision to implement dam safety measures through the project cycle. The policy applies to projects that depend on the safe functioning of existing dams (such as the Project) as well as to projects that involve construction of new dams. The policy also recommends measures to strengthen the institutional, legislative, and regulatory frameworks for dam safety programs.

• **OP 7.50 Projects on International Waterways**

Requires notification to other riparian of planned projects that could affect water quality or quantity, sufficiently far in advance to allow them to review the plans and raise any concerns or objections.

• **OP 7.60 Projects in Disputed Areas**

The World Bank will only finance projects in disputed areas when either there is no objection from the other claimant to the disputed area, or when the special circumstances of the case support financing notwithstanding the objection.

• **BP 17.50 Public Disclosure of Information**

BP 17.50 sets out the World Bank policy on disclosure of information. It is a mandatory procedure to be followed by the borrower and Bank and supports public access to information on environmental aspects of projects.

### 2.6.4 Applicable World Bank Policies

The applicability of environmental safeguard policies of the World Bank is provided below in Table 2.6 along with comment as to whether or not they are triggered by the Project.

<table>
<thead>
<tr>
<th>WB Operational Policies (OP)</th>
<th>Policy</th>
<th>Applicable</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assessment</td>
<td>OP/BP/GP 4.01</td>
<td>✓</td>
<td>Triggered. The project will augment or expand existing substations; and construct new substations and transmission lines throughout the country. These activities may have temporary, small to moderate, site specific, mostly reversible environmental impacts which can be adequately mitigated through good site selection and design and a well-planned environmental management and mitigation plans.</td>
</tr>
<tr>
<td>Natural Habitats</td>
<td>OP/BP 4.04</td>
<td>✓</td>
<td>Triggered. No subproject under Group 1 impacts or passes through any natural or critical habitats. Some subprojects in Group 2 may pass through natural or critical habitat. The Environment Management Framework (EMF) provides mechanism for screening impacts on natural habitats of all subprojects in Group 2. Subprojects having significant impacts on natural habitats will not be financed by the project.</td>
</tr>
<tr>
<td>Pest Management</td>
<td>OP 4.09</td>
<td>✓</td>
<td>Not triggered. The project does not involve purchase or use of pesticides. NTDC does not use pesticides to maintain Right of Way (RoW) for transmission lines</td>
</tr>
<tr>
<td>WB Operational Policies (OP)</td>
<td>Policy</td>
<td>Applicable</td>
<td>Justification</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Indigenous Peoples</td>
<td>OP 4.10</td>
<td>✓</td>
<td>Not triggered. The project will not support any subproject in Chitral District in Khyber Pakhtunkhwa where the only known indigenous people are present.</td>
</tr>
<tr>
<td>Physical Cultural Resources</td>
<td>OP 4.11</td>
<td>✓</td>
<td>Triggered. Group 1 subprojects have no impacts on Physical Cultural Resources (PCR). Subprojects in Group 2 may involve construction of new substations or transmission lines which have flexibility in adjusting their locations. Therefore, impacts on PCR can be avoided or minimised during design of new subprojects. The EMF provides a process for screening out projects with significant impacts, or incorporating a PCR management plan into the ESMP or ESIA for minor impacts. All ESMP will contain a chance find procedure.</td>
</tr>
<tr>
<td>Involuntary Resettlement</td>
<td>OP/BP 4.12</td>
<td>✓</td>
<td>Triggered. For the construction of TL and for new grid stations, some land may be required and crop damage is likely to occur for which a Land Acquisition and Resettlement Policy Framework (LARF) is prepared. A RAP will be prepared once the design and exact TL alignment and land requirements are finalized.</td>
</tr>
<tr>
<td>Forests</td>
<td>OP/BP 4.36</td>
<td>✓</td>
<td>Triggered. The project does not involve any commercial plantation or its harvesting. None of the subprojects in Group 1 has impacts on forest. However, as some of the transmission lines in Group 2 may pass through forests. The EMF provides process for screening out subproject with significant impacts and mitigation measures on minor impacts.</td>
</tr>
<tr>
<td>Safety of Dams</td>
<td>OP/BP 4.37</td>
<td>✓</td>
<td>Not triggered</td>
</tr>
<tr>
<td>Projects on International Waterways</td>
<td>OP/BP/GP 7.50</td>
<td>✓</td>
<td>Not triggered</td>
</tr>
<tr>
<td>Projects in Disputed Areas</td>
<td>OP/BP/GP 7.60</td>
<td>✓</td>
<td>Not triggered. The Project is not located in or near any disputed area.</td>
</tr>
<tr>
<td>Access to Information</td>
<td>BP 17.50</td>
<td>✓</td>
<td>Triggered. Consultations with various stakeholders including affected communities will be carried out during ESIA studies and /or ESMP preparation. The ESIA, ESMP and RAP documents will be disclosed in NTDC website and WB Infoshop. Public consultations will be carried out to disclose the ESIA, ESMP and RAP to general public.</td>
</tr>
</tbody>
</table>

### 2.7 Gap Analysis

#### 2.7.1 Comparison of Pakistan Environmental legislation and World Bank Policy Principles and Practices

The differences between the Pakistani legislation and regulatory requirements and the World Bank safeguards policies are:
<table>
<thead>
<tr>
<th>Topic</th>
<th>World Bank Policies</th>
<th>Pakistan Laws and Regulations</th>
<th>How the gap will be addressed in the EMF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening</td>
<td>The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of environmental assessment. The Bank classifies the proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.</td>
<td>Early screening of projects is carried out according to Pakistan Environmental protection Agency REVIEW OF IEE AND EIA REGULATIONS, 2000. The EPA classifies the proposed project into two categories</td>
<td>Subprojects will be screened under both systems.</td>
</tr>
</tbody>
</table>
| Safeguard document requirement (IEE, EIA, EMP) | For a Category A project: EIA and EMP  
For a Category B project: Less detailed EIA than Category A, and / or an EMP  
For a Category C project: Only Screening, no documentation required | For Schedule 1: IEE  
For Schedule 2: EIA | Safeguard Instruments/Documents will be prepared in consideration with or as per requirements of both the systems |
| Physical cultural resources   | OP4.11 requires the development of PCR management plan or its incorporation in EMP developed for EA | In Antiquities Act 1975, there is no requirement for such procedures. | The World Bank system will be followed.                                                        |
| Consultation                  | According to OP 4.01 Category A and B requires consultations with project-affected groups and local nongovernmental organizations (NGOs). Category A projects require at least two consultations: (a) shortly after environmental screening and before the terms of reference for the EA are finalized; and (b) after preparation of Draft EIA report | According to PEPA 1997, there is no provision for consultation at screening stage. However, a public consultation/hearing is conducted after preparation of Draft EIA for EPA approval. | Consultation will also be held at earlier stage as required.                                          |
3 Subproject Preparation and Implementation

3.1 Overview of Legislations

Each subproject will go through the same screening and scoping process to determine the type and detail of the safeguard instrument(s) that are required by both the Bank safeguard policies and the Pakistani legislation.

3.2 Safeguards Assessment, Preparation, Review and Approval Process

Each subproject will go through the same screening and scoping process to determine the type and detail of the safeguard instrument(s) that are required by both the Bank safeguard policies and the Pakistani legislation.

Figure 3.1: Safeguards assessment, preparation, review and approval process.

3.2.1 Stage 1 Subproject Screening and Scoping

All subprojects shall be screened based on predetermined criteria which includes project development objectives, exclusion of major or irreversible environmental impacts, technical and economic viability. The screening will be carried out with the help of a checklists included in Annex 1 to determine:

- Funding eligibility in the NTMP-I project; and
- Whether an EIA and / or ESMP is required and the type of mitigation and monitoring (standard or special); and
- Whether a RAP is required (to prepared under the LARF)
The screening and scoping outcomes are determined by the type of subproject (upgrade / expansion of existing substation or construction of a new substation and transmission lines) and the potential types of environmental impacts.

Generally, subprojects with any significant long-to-medium term irreversible environmental negative impacts will be avoided. Subprojects having some negative but localized environmental impacts will require Environmental Management Plans as part of an Environmental and Social Management Plan (ESMPs) and generic EMP as presented in Annex 5.

Each subproject safeguard instrument will meet both the Pakistani and WB requirements. Where a subproject is screened as Schedule 2 activity, then an EIA containing an ESMP will be prepared.

### 3.2.2 Stage 2 EIA and EMP Preparation

For the NTMP subprojects there are three scenarios for the preparation of safeguards instruments;

**EIA for New Infrastructure:** As per World Bank OP4.01 and Pakistani Legislation for Schedule 2 Activities an EIA (with attached EMP) is required for any subproject where the screening indicates that the site-specific impacts will be potentially significant. A simple template is attached in Annex 4.

**ESMP for New Infrastructure:** A site specific ESMP will be prepared for each subproject that involves the development of a new site, but where impacts are likely to be minor and manageable. A simple template is attached in Annex 5.

According to Pakistan’s IEE/EIA Regulations 2000, the transmission line projects having capacity above 11 kV falls under Schedule II and hence will require an EIA. So to fulfil the requirements of World Bank as well as Pakistani legislation, an EIA along with an EMP will be preferred to be produced.

**ESMP for Upgrades:** An ESMP for Upgrades has been prepared for Group 1 Activities, as part of project preparation. This ESMP will cover all of the subprojects that involve an upgrade or extension, throughout project implementation. Where screening and scoping for upgrade and extension subprojects in Group 2 shows that the environmental risks for a subproject are likely to be similar, and low, then they will be covered by this ESMP by adding details of every upcoming project as an Annex.

#### 3.2.2.1 Preparation of EIA for New Infrastructure:

It is responsibility of NTDC to prepare the EIA and submit the documentation to the World Bank for appraisal. EIA will meet both the World Bank policy OP4.01 for Environmental Assessment and the Pakistani EIA regulations. EIA will follow the format as prescribed in OP4.01 and include an EMP. It will cover all potential significant impacts (direct and indirect) in the area of influence.

#### 3.2.2.2 Preparation of ESMP for New Infrastructure

It is responsibility of NTDC to prepare the ESMPs and submit them to the World Bank for appraisal. The Template for EMP for New Infrastructure (Annex 5) will be used as follows:
3.2.2.3 Consultation

All subprojects require at least one public consultation and the results of the consultation including how the issues raised during consultations were addressed will be documented in the relevant safeguard instrument.

3.2.2.4 Disclosure

NTDC is responsible for disclosing the EIA in both English and local language at a public location near the subproject sites (for example at the local government office or at the NTDC office) and to the relevant EPA and on websites.

NTDC should provide a letter to the World Bank indicating: (a) where the document was disclosed and (b) the date(s) of disclosure. In addition, NTDC should provide the World Bank Islamabad Office a copy and the Islamabad Office will disclose the documents on the World Bank Infoshop.

3.2.3 Stage 3 Appraisal

NTDC will include the EIA and / or ESMPs as part of the information package it submits to the World Bank when proposing the subproject(s) for financing. The Safeguards team of the World Bank will review the documents as part of the appraisal process.

3.2.4 Stage 4 EMP Implementation – Construction

The responsibility for the compliance with the EIA and all Pakistani laws remains with NTDC at all times, however during the construction phase the implementation of the EMP will be delegated to the lead contractor. ESMP will be an integral part of the bidding document and it is included in the BoQ.
3.2.4.1 ESMP Implementation

The lead contractor will prepare his ESMP in order to comply with the ESMP. The contract between NTDC and the lead contractor will contain the EMP requirements, including the Environmental Codes of Practice (COP) that outline the contractor’s obligations (refer to Annex 6).

3.2.4.2 ESMP Monitoring, Supervision and Oversight

NTDC is responsible for supervision of ESMP performance, including those of all contractors and subcontractors. This includes ensuring the quality and consistency of implementing the mitigation measures, monitoring, capacity of contractors, and reporting. NTDC staff will visit the sites to observe implementation of the EMP, and otherwise receive regular reports from the contractors.

The World Bank will have an oversight role of the supervision undertaken by NTDC and will conduct site checks or audits as necessary, and otherwise will receive quarterly reports from NTDC.

3.2.5 Stage 5 ESMP Implementation – Operations

ESMP implementation is the responsibility of the relevant NTDC substation operator under the NTDC SOP, and become ‘business as usual’.

3.3 ESMP Review

Any ESMP will be reviewed when:

- A non-compliance with the EMP occurs
- A serious environmental or health and safety incident occurs
- The subproject changes significantly (design changes lead to more work being done on site, the site is expanded etc.)

A review requires NTDC ESIC staff to re-read the ESMP to see if it can be improved to prevent the incident / non-compliance from happening again, or to prevent or minimise a new risk. Updated ESMP will be consulted and publicly disclosed.
## 4 Institutional Responsibilities

The overall implementation arrangement and responsibility allocation among NTDC units for the Project is provided below.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Key Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WB Manager Multi-Function Program Management Unit</strong></td>
<td>Overall project coordination &amp; reporting. Responsible for reviewing technical aspects of design and procurement document submitted by Project Design &amp; Procurement Consultant</td>
</tr>
<tr>
<td><strong>General Managers Project Delivery North &amp; South</strong></td>
<td>Responsible for subprojects implementation in their respective areas. Responsible for land acquisition, implementation of safeguards plans, construction supervision and monitoring until commissioning</td>
</tr>
</tbody>
</table>
| **Environmental and Social Impact Cell under MFPMU** | - Supervise Environmental and Social Management Plans (ESMPs)  
- Ensure the quality of the Environmental and Social Impact Assessments (ESIAs), ESMP and RAP for Group 2 subprojects, which will be prepared by the Project Design & Procurement (PDP) consultant and ensure that these documents are approved by relevant government authorities.  
- Support to RUs on RAP implementation |
| **Resettlement Units (RUs), reporting to GM PD North & South** | - Implementation of RAPs |
| **Project Design & Procurement Consultant**      | Prepare design and bidding documents for Component A. Assist NTDC during procurement process, including bid evaluation and contract negotiations. Review PC-1 and prepare ESIA, ESMP and RAP for Group 2 subprojects |
| **Project Supervision Consultant**              | Assist supervision and monitoring of project construction, installation and commissioning, including implementation of ESMPs. Support overall contract management and reporting. |

The Environment & Social Impact Cell (ESIC) team is responsible for screening subprojects, confirming that subprojects are eligible for funding and confirming the instrument(s) required. The ESIC team is responsible in overall for preparing the environmental and social safeguards instruments however NTDC decided to recruit consultants to prepare ESIA, more complex ESMP and RAP where the ESIC do not have the capacity to prepare these instruments themselves. For the Group 2 subprojects, the Project Design and Procurement Consultant (PDP) will prepare the ESIA, ESMP and RAP.

The WB Manager MFPMU will be responsible for procurement of two consultants: Project Design and Procurement and Project Supervision. This ESIC will assist the WB Manager MFPMU and two GM PD North and South on issues related to environmental and social management and oversee the Project Design and Procurement consultant (PDP)’s outputs, Project Supervision Consultant (PSC) and contractors and will compile quarterly monitoring reports on ESMP compliance, to be sent to the WB Manager MFPMU and also shared with the World Bank, throughout the construction period. The ESIC-DTLP will also provide trainings to the NTDC field personnel responsible for monitoring of environmental and social compliance during both construction, Operation & Maintenance (O&M) phases of the project. The organogram of PMU is shown in Figure 5.1.

The overall responsibility of environmental and social performance including ESMP and RAP implementation of the Project will rest with the two GM PDs. GM PDs will assign a PIU for
implementation of each subproject. Aside from ESIC in-house environmental and social specialists, the supervision consultants (PSC) will supervise the contractors on their execution of construction-related environmental and social management requirements and measures. The PSC will ensure adherence to the design parameters including quality requirements, as well as all ESMP measures related to construction.

The ESIC has a Manager, a Deputy Manager (Social and Environment) and two Assistant Managers - one for environment and one for social and maintain coordination and liaison with PSC for effective ESMP implementation. Similarly, the PSC will also have environmental and social monitors who will supervise and monitor the contractors for effective ESMP implementation. The contractors in turn will also have EHS supervisors who will ensure ESMP implementation during construction activities and will be tasked to develop necessary detailed EHS plans as per this ESMP, and oversee their implementation.

The ESIC will also engage a Monitoring and Evaluation (M&E) to carry out external monitoring and evaluation on implementation of ESMP. The roles and responsibilities of PIU and its consultants are presented in Table 4.1.

### Table 4.1: Roles and Responsibilities for ESMP Implementation at Subproject Level

<table>
<thead>
<tr>
<th>Organizations</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIU/GM PD</td>
<td>Ensure that all project activities are well-managed and coordinated. Applying for environmental clearance of the subproject from EPA. Procurement of works and goods. Recruitment and supervision of Design Engineers. Recruitment and supervision of Project Supervision Consultants (PSC). Recruitment of external monitor (if required).</td>
</tr>
<tr>
<td>ESIC MFPMU</td>
<td>Responsible for assisting PD in reviewing bid documents for inclusion of EMP measures, supervising construction activities, producing periodic monitoring reports, ensuring inclusion of EMP and ECPs in bidding documents.</td>
</tr>
</tbody>
</table>
### Organizations

<table>
<thead>
<tr>
<th>Organizations</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Providing training on EMP principles and requirements to PSC, contractors, NTDC field staff, and others as needed to ensure effective implementation of EMP</td>
</tr>
<tr>
<td></td>
<td>Supervising PSC for the implementation of EMP</td>
</tr>
<tr>
<td></td>
<td>Closely coordinate with other concerned agencies, local governments and communities to support implementation of EMP</td>
</tr>
<tr>
<td></td>
<td>Preparation of progress reports on implementation of EMP.</td>
</tr>
</tbody>
</table>

#### Project Supervision Consultant (PSC)

- Supervise civil works, ensuring compliance with all design parameters including quality requirements
- Supervising contractors for EMP implementation
- Prepare monthly reports and submit to PMU
- PSC will have dedicated environmental staff

#### Contractor

- Responsible for implementation of mitigation and monitoring measures proposed in the EMP
- Each contractor will recruit an Environmental, Health, and Safety (EHS) Manager, who will be responsible for implementing the contractors’ environmental, health and safety responsibilities, and liaising with government agencies. S/he will have adequate number of staff to support him/her for these tasks.

#### M&E Consultant

- External Monitoring and evaluation of EIA, EMP

### 4.1 Compliance with Safeguard Instruments

ESMP prepared for Group 1 and 2 form an integral part of the Request for Proposals package/ Bid Documents and its compliance is mandatory. The civil work contractor will be required to prepare a site specific ESMP for each subproject based on the mitigation and monitoring measures indicated in ESMP for GI and G II. These site specific ESMPs will then be embedded into the civil works contracts and therefore will be legally binding on the contractor. The Site Specific ESMP must be submitted to the PIU/PSC for review and clearance within 30 days of the signing of the contract or before mobilization on site, which ever date is earlier.
5 Consultation and Disclosure

Public consultation/participation of project stakeholders is universally recognized as integral part in project planning, design and implementation. It is clearly highlighted in the Pakistan Environmental Protection Act 1997 (Section 12(3)) that “every review of an environmental impact assessment shall be carried out with public participation.” World Bank operational policy (OP 4.01) also endorsed the process of stakeholder consultation as the key document in the EIA process and Environmental Assessments (EA) for WB funded projects.

It emphasizes the role of public participation in environmental decision-making for the achievement of sustainable development.

The overall objectives of the public consultation process are as follows:

- To provide information related to proposed project activities to stakeholders
- To facilitate and maintain dialogue and gain the consent of all stakeholders on carrying out project activities in the area
- To seek participation of all interested parties and identify stakeholder interests and issues
- To create solutions for addressing these concerns and integrating them into project design, operations, and management;
- To enhance the project by learning from, and incorporating, the expertise of individuals, professionals, communities and organizations; and

5.1 EMF Consultation and Disclosure

A stakeholders’ consultative workshop for disclosure of EMF of NTMP has been held on 24th August, 2017 by NTDC at Lahore. Thus, EMF has been disclosed and accordingly comments have been incorporated. The workshop minutes of meeting and comment response matrix for EMF is attached as Annex-09. After receipt of the World Bank clearance, EMF will be disclosed at NTDC website and through the WB.

5.2 EIA and ESMP Consultation and Disclosure

Stakeholder consultation will be completed at least once for each subproject. For new infrastructure, consultation will occur once during preparation of the EIA and ESMP, and once during the disclosure of the draft safeguards instrument. For site upgrades, consultation should be done at least once, at the completion and disclosure of the draft safeguards instrument. The aim is to ensure that those directly or indirectly affected are well informed, that projects are well designed, take account of environmental issues, and enjoy broad public understanding and acceptability. The steps are i) stakeholder identification, ii) preparation of a strategy to keep stakeholders of all sectors of society informed, and to provide them with an effective feedback and complaints mechanism throughout the life of the project, iii) assignment of responsibilities for execution of the communications plan, and iv) planning and implementation of the plan including regular reporting, monitoring and evaluation of the outputs and outcomes of communication as a normal part of the project reporting schedule.
5.2.1 Stakeholders

Stakeholders may include the following:

- NGO’s and other civil society groups that represent environmental interests in the project area of influence.
- Government officials from relevant departments or institutions.

5.2.2 Methods

Potentially affected people will be approached during the preparation of the EIA and EMP, so that the subproject can be explained to them, and their opinions can be addressed in the development of the detailed design and in the mitigation measures prescribed in the EMP. The draft documents will be made publicly available, and directly distributed to interested parties for comment. Consultation will be through a variety of methods to ensure the right people are contacted and feedback obtained:

- ‘Door knocking’ – visiting land owners and neighboring properties one by one to discuss the project. This method allows for the identification of vulnerable people who may be affected.
- Public meetings and site ‘open days’ – group meetings to address a large number of potentially affected people during one event.
- Separate women-only meetings will be arranged to ensure that women in the community are informed and their opinions are received by the NTDC. The project goal is for women to make up at least 40% of the people consulted.
- Targeted meetings with government officials and NGO’s.
- Posters / banners – the project can be announced via posters / banners, with details on whom to contact for more information.

The mode of consultation will vary according to the needs of the potentially affected people, but in all cases, will promote participation by ensuring that the venue is accessible, the timing convenient and the manner of conduct of the consultation socially and culturally appropriate. Consultations will be announced to give sufficient notice for participants to prepare.

Public consultations will take account of the levels of education of participants, gender sensitivities with regards to consultations, be in the local language, and will avoid technical and bureaucratic jargon. Separate meetings may be required to accommodate working people, women and others that may not be able to attend public meetings.

5.2.3 Responsibilities

Regional Project Offices will organise and lead consultation in their respective regions.

Provincial Project Sub Offices will be responsible for holding copies of the documents for public view and holding ‘open office’ days, under the direction of the Regional Offices.

5.2.4 Feedback and Record Keeping

The following details will be recorded from meetings and open office days: Meeting Program/Schedule (how it was advertised or how people were invited); list of invitees; method of invite; date and venue; names, gender, job or communities’ roles and contact
details of people who attended; discussion points, and any specific queries to be passed back to the project team for consideration.

- Materials presented at consultations, e.g. information bulletins, maps, plans, photographs
- All feedback (verbal or written) received within 2 weeks following a meeting / open day, and within two weeks of the first advertisement in the newspapers / online.
- Copies of written submissions will be provided to the project team.
- List of decisions reached, and any actions agreed upon with schedules and deadlines and responsibilities.
- How the safeguard instrument, detailed design or other project aspect was amended to take into account the issues raised during the consultation.
- All feedback will be reviewed during the completion of the final version of the relevant documents.
- A record of all consultation and feedback will be inserted as an Annex to the relevant documents.

For subprojects with a project-specific EIA/ESMP, the documentation will be provided in an Annex. For projects using the ESMP for Upgrades, the consultation documentation can be annexed to that document and the updated document can be re-disclosed.

5.2.5 Disclosure

All documents will be publicly disclosed and comments will be sought from the public. Disclosure notices will be broadcast online and through newspapers at the locations of the NTDC offices at least two weeks before the consultation process. Documents will be available from NTDC (hard and soft copy) for the public to read and comment on. All feedback will be received by a given date, and recorded in the final versions of the documents.

5.2.6 Materials

- PowerPoint presentation or presentation posters for meetings
- Draft reports (hard copies and electronic)
- Webpage where the project can be explained and online reports can be downloaded
- An email address where people can contact for electronic copies
- Public advertisement in the newspaper(s)
- Banners / signs at the substation / construction site.

5.2.7 Public Notice for New Infrastructure Consultation

A public notice in the newspaper and on the website about one month before, will include the following:

- Brief details of the subproject (location, purpose)
- information on where the public can view the documents (NTDC website, NTDC office details)
- purpose of, and invitation to, public meetings or open offices (dates, times, location)
• invitation to provide feedback on the documents to NTDC (written submission or verbal feedback), within a clearly stated timeframe (provide address / email address / phone number for comment)
6 Monitoring and Reporting

The type of reports, frequency and responsibilities for reporting for EMP and the EMF are summarized in the reporting program below.

<table>
<thead>
<tr>
<th>Table 6.1: Reporting Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of report, and purpose</td>
</tr>
<tr>
<td>Construction Environmental Management Report</td>
</tr>
<tr>
<td>Incident report</td>
</tr>
<tr>
<td>Environmental Performance Monitoring Report</td>
</tr>
<tr>
<td>Combined Environmental Performance Monitoring Report</td>
</tr>
<tr>
<td>Operational Compliance Reporting</td>
</tr>
</tbody>
</table>
7 Grievance Redress Mechanism

In order to receive and facilitate the resolution of affected peoples’ concerns, complaints, and grievances about the project’s environmental and social performance an Environmental and Social Grievance Redress Mechanism (GRM) will be established for the project at the design stage. The mechanism will be used for addressing any complaints that arise during the implementation of projects. In addition, the GRM will include a proactive component whereby at the commencement of construction of each subproject (prior to mobilization) the community will be formally advised of project implementation details by NTDC ESIC so that all necessary project information is communicated effectively to the community and their immediate concerns can be addressed. This proactive approach with communities will be pursued throughout the implementation of each project.

The GRM will address affected people’s concerns and complaints proactively and promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to all segments of the affected people at no costs and without retribution. The mechanism will not impede access to the Country’s judicial or administrative remedies.

7.1 Redress Committee, Focal Points, Complaints Reporting, Recording and Monitoring

The Grievance Redress Mechanism (GRM), which will be established at project level is described below:

1. ESIC, NTDC will facilitate the establishment of a Grievance Redress Committee (GRC) and Grievance Focal Points (GFPs) at project location prior to the Contractor’s mobilization to site. The functions of the GRC and GFPs are to address concerns and grievances of the local communities and affected parties as necessary.

2. The GRC will comprise representatives from local authorities, affected parties, and other well-reputed persons as mutually agreed with the local authorities and affected persons. It will also comprise the Contractor’s Environment and Social Specialist, PIU Social/Environmental Specialist. The role of the GRC is to address the Project related grievances of the affected parties that are unable to be resolved satisfactorily through the initial stages of the GRM.

3. ESIC, NTDC will assist affected communities/villages identify local representatives to act as Grievance Focal Points (GFPs) for each community/village.

4. GFPs are designated personnel from within the community who will be responsible for i) acting as community representatives in formal meetings between the project team (contractor, PSC, PIU) and the local community he/she represents and ii) communicating community members’ grievances and concerns to the contractor during project implementation. The number of GFPs to be identified for each project will depend on the number and distribution of affected communities.

5. A pre-mobilization public consultation meeting will be convened by the ESIC and attended by GFPs, contractor, PSC, PIU representative and other interested parties (e.g. District level representatives, NGOs). The objectives of the meeting will be as follows:

   (i) Introduction of key personnel of each stakeholder including roles and responsibilities;

   (ii) Presentation of project information of immediate concern to the communities by the contractor (timing and location of specific construction activities, design issues, access constraints etc.) This will include a brief summary of the ESMP - its purpose and implementation arrangements;
(iii) Establishment and clarification of the GRM to be implemented during project implementation including routine (proactive) public relations activities proposed by the project team (contractor, PSC, PIU) to ensure communities are continually advised of project progress and associated constraints throughout project implementation;

(iv) Identification of members of the Grievance Redress Committee, and

(v) Elicit and address the immediate concerns of the community based on information provided above.

6. Following the pre-mobilization public consultation meeting, environmental and social complaints associated with the construction activity will be routinely handled through the GRM as explained below and shown on Figure 7.1.

(i) Individuals will lodge their environmental and social complaint/grievance with their respective community’s nominated GFP. Sample Grievance Report Form is attached as Annex 5.

(ii) The GFP will bring the individual’s complaint to the attention of the Contractor.

(iii) The Contractor will record the complaint in the onsite Environmental & Social Complaints Register (ESCR) in the presence of the GFP.

(iv) The GFP will discuss the complaint with the Contractor and have it resolved;

(v) If the Contractor does not resolve the complaint within one week, then the GFP will bring the complaint to the attention of the PSC’s Environmental and Social Specialist. The PSC’s Environment and Social Specialist will then be responsible for coordinating with the Contractor in solving the issue.

(vi) If the Complaint is not resolved within 2 weeks the GFP will present the complaint to the GRC.

(vii) The GRC will have to resolve the complaint within a period of 2 weeks and the resolved complaint will have to be communicated back to the community. The Contractor will then record the complaint as resolved and closed in the ESCR.

(viii) Should the complaint not be resolved through the GRC, the issue will be adjudicated through local legal processes.

(ix) In parallel to the ESCR placed with the Contractor, each GFP will maintain a record of the complaints received and will follow up on their rapid resolution.

(x) NTDC will also keep track of the status of all complaints through the Monthly Environmental and Social Monitoring Report submitted by the Contractor to the PSC and will ensure that they are resolved in a timely manner.
Figure 7.1 Grievance Redress Mechanism
8 Capacity Building

Capacity building for effective implementation of the environmental requirements is a key element of the EMF. Capacity building for environmental management will need to be carried out at all tiers of the project, including NTDC, ESIC, PSC, and contractors.

During subproject implementation, at the construction site, PSC will take the lead in implementing the capacity building plan, though the contractors will also be responsible to conduct trainings for their own staff and workers. The various aspects that are covered under the capacity building will include general environmental awareness, key environmental sensitivities of the area, key environmental impacts of the project, EMP requirements, OHS aspects, and waste disposal. Table 6.5 provides a summary of various aspects of the environmental trainings to be conducted at the construction site. ESIC may revise the plan during the project implementation as required.

During Operation & Maintenance (O&M) phase of the project, these trainings will continue to be conducted by NTDC staff for all relevant O&M personnel.

Table 7.1: Capacity Building Trainings

<table>
<thead>
<tr>
<th>Contents</th>
<th>Participants</th>
<th>Responsibility</th>
<th>Schedule</th>
<th>Cost PKR(Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• General Environmental awareness/toolbox talks</td>
<td>Design team; Selected NTDC management staff</td>
<td>PSC</td>
<td>Prior to the start of the project activities. (To be repeated as needed.)</td>
<td>1.5 (Including in the PSC contract)</td>
</tr>
<tr>
<td>• EMP</td>
<td>Construction staff</td>
<td>Contractor</td>
<td>Prior to the start of the construction activities. (To be repeated as needed.)</td>
<td>0.5 (Including in the PSC contract)</td>
</tr>
<tr>
<td>• Road safety</td>
<td>All drivers</td>
<td>Contractor</td>
<td>Prior to and during the field operations. (To be repeated as needed.)</td>
<td>0.5 (Including in the PSC contract)</td>
</tr>
<tr>
<td>• Camp operation</td>
<td>All site personnel</td>
<td>Contractor</td>
<td>Prior to and during the field operations. (To be repeated as needed.)</td>
<td>0.5 (Including in the PSC contract)</td>
</tr>
<tr>
<td>• Restoration requirements</td>
<td>Contractor</td>
<td>Contractor</td>
<td>Prior to restoration activities.</td>
<td>0.5 (Including in the PSC contract)</td>
</tr>
<tr>
<td>Contents</td>
<td>Participants</td>
<td>Responsibility</td>
<td>Schedule</td>
<td>Cost PKR(Million)</td>
</tr>
<tr>
<td>----------</td>
<td>--------------</td>
<td>----------------</td>
<td>----------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total Cost</td>
<td>5.0 Million</td>
</tr>
</tbody>
</table>
9 EMF Budget

The following is approximate summary of the impact on the project budget for implementing the EMF. The amounts are just a rough estimate.

Table 9.1: EMF Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMF consultation</td>
<td>Minor, borne by NTDC</td>
</tr>
<tr>
<td>EIA, EMP preparation (staff or consultant costs) for</td>
<td>30 million (Including in the PDP contract)</td>
</tr>
<tr>
<td>Group 2 subprojects</td>
<td></td>
</tr>
<tr>
<td>Subproject EMP implementation, monitoring and</td>
<td>10 million PKR, provided in the NTMP budget.</td>
</tr>
<tr>
<td>reporting (staff or consultant costs)</td>
<td></td>
</tr>
<tr>
<td>Capacity Building</td>
<td>05 million PKR</td>
</tr>
</tbody>
</table>
10 EMF Review

The EMF will be reviewed when:

- A serious environmental, or health and safety incident occurs
- The NTDC project changes significantly (funding requirements change or the scale or scope of subprojects changes)

A review requires NTDC ESIC team to re-read the EMF to see if it can be improved to prevent the incident / non-compliance from happening again, or to prevent or minimise a new risk. If a new version of the EMF is prepared it will subject to consultation, disclosure and then appraisal by the World Bank.
11 References


Annex 1 Sub-project Screening and Scoping Checklists

All sub-projects go through the following:

**Step 1.** What is the sub-project and what does it involve? What are the sensitive environmental receptors?

**Step 2.** Is the sub-project eligible for NTMP funding, based on the Environmental Screening Criteria?

**Step 3.** What safeguards tools are required for each sub-project? EIA, ESMP for Upgrades, ESMP for New Infrastructure,

**Step 4.** For sub-projects requiring an ESMP (not EIA), will the environmental issues of the sub-project be covered by the standard mitigation plan templates, or will further mitigation measures be required? Use the ESMP Checklist.

**Step 1: Sub-Project Scoping**

Collect basic information about the site and the project description. This information will be used to evaluate Step 2.

**Project Description**

For each sub-project provide the following details:

- What is the purpose of the project: Upgrade / replacement of old equipment? and / or extension (additional equipment within compound or on new land)? or a new sub-station?
- Describe the existing station / line voltage (kV) and capacity (MVA).
- List old equipment to be removed, including size / capacity.
- List equipment to be installed (size, voltage and capacity).
- List temporary works and infrastructure: worker’s camps, laydown areas, spoil disposal areas.
- Note any other features of the proposed works.

**Site Description**

For each sub-project provide the following detail, supported by a GIS or Google Earth map:

- Location address (road, town, suburb, city, district etc.)
- Describe adjacent land uses (commercial, residential, industrial, rural, etc.).
- Topography (flat, sloping, hilly).
- Distance to nearest dwelling / settlement and other sensitive receptors (hospitals, schools, etc.)
- Distance to nearest waterway or groundwater that would receive storm water.
- Planning zone from town / district planning documents.
- Note any natural habitats, forests, species or environmental features nearby
## Step 2: Eligibility Criteria

### Natural Habitats

Natural habitats are defined as land and water areas where the ecosystems’ biological communities are formed largely by native plant and animal species, and human activity has not essentially modified the area’s primary ecological functions. All natural habitats have important biological, economic, and existence value. Important natural habitats may occur in tropical humid, dry, and cloud forests; temperate and boreal forests; Mediterranean-type shrub lands; natural arid and semi-arid lands; mangrove swamps, coastal marshes, and other wetlands; estuaries; sea grass beds; coral reefs; freshwater lakes and rivers; alpine and sub alpine environments, including herb fields, grasslands, and paramos; and tropical and temperate grasslands.

Critical natural habitats are: (i) existing protected areas and areas officially proposed by governments as protected areas (e.g., reserves that meet the criteria of the World Conservation Union [IUCN] classifications), areas initially recognized as protected by traditional local communities (e.g., sacred groves), and sites that maintain conditions vital for the viability of these protected areas (as determined by the environmental assessment process); or (ii) sites identified on supplementary lists prepared by the Bank or an authoritative source determined by the Regional environment sector unit (RESU). Such sites may include areas recognized by traditional local communities (e.g., sacred groves); areas with known high suitability for bio-diversity conservation; and sites that are critical for rare, vulnerable, migratory, or endangered species. Listings are based on systematic evaluations of such factors as species richness; the degree of endemism, rarity, and vulnerability of component species; representativeness; and integrity of ecosystem processes.

<table>
<thead>
<tr>
<th>Natural Habitats</th>
<th>Eligibility for the IPTD2 program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Will the subproject result in significant degradation or conversion of critical natural habitats?</td>
<td>YES □</td>
</tr>
<tr>
<td>2. Will the subproject result in significant degradation or conversion of natural habitats?</td>
<td>YES □</td>
</tr>
</tbody>
</table>

### Physical Cultural Resources

Physical cultural resources include movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.

<table>
<thead>
<tr>
<th>Physical Cultural Resources</th>
<th>Eligibility for the IPTD2 program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Will the impacts on physical cultural resources contravene Pakistani legislation, or Pakistan’s obligations under relevant international environmental treaties and agreements?</td>
<td>YES □</td>
</tr>
</tbody>
</table>
## ELIGIBILITY SCREENING CRITERIA

<table>
<thead>
<tr>
<th>APPLIES, YES OR NO (tick ✓)</th>
<th>Eligibility for the IPTD2 program</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

If yes, subproject is ineligible as it would be classified Category A.

Subprojects with minor or moderate impacts must contain a plan in the EMP to avoid or mitigate impacts.

### Step 3: Safeguard Screening Checklist

<table>
<thead>
<tr>
<th>Safeguard Screening Criteria</th>
<th>APPLIES, YES OR NO (tick ✓)</th>
<th>Which EMP is required?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the subproject an upgrade or minor extension to an existing substation site (within the NTDC compound)?</td>
<td>YES □ NO □</td>
<td>If yes, the subproject will be covered under an update to the EMP for Upgrades.</td>
</tr>
</tbody>
</table>

---

**Forests**

*Forest is defined as an area of land not less than 1.0 hectare with tree crown cover of more than 10 percent that have trees with the potential to reach a minimum height of 2 meters at maturity in situ and includes forests dedicated to production, protection, multiple uses or conservation.*

*Critical forest habitat are existing protected forest areas (under national or regional laws, or assigned by the International Union for the Conservation of Nature), or forests protected or recognised by local communities as significant, or forests that are critical for rare, vulnerable, migratory or endangered species.*

### 1. Will the subproject cause significant conversion or degradation to critical forest habitat?

| YES □ NO □ | If yes, subproject is ineligible as the Bank cannot fund projects with this type of impact. |

### 1. Will the subproject cause significant reduction or degradation to the ecosystem function of, or resources within, a forest as defined above? Or will it change affect the rights and welfare of people and their level of dependence upon or interaction with forests?

| YES □ NO □ | If yes, subproject is ineligible as the subproject would be classified Category A. Subprojects with minor or moderate impacts must contain a plan in the EMP to avoid or mitigate impacts. |

### 1. Are Indigenous People present or do they reside in the subproject area?

| YES □ NO □ | If yes, refer to the Indigenous Peoples’ Plan. |
### Safeguard Screening Criteria

<table>
<thead>
<tr>
<th>APPLIES, YES OR NO (tick ✓)</th>
<th>Which EMP is required?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Is the subproject a new site with one or more potentially significant environmental impacts (according to the screening in Step 1)?</strong></td>
<td>YES □</td>
</tr>
<tr>
<td><strong>Is the subproject a new site with no more than moderate or minor potential environmental impacts (according to the screening in Step 2)?</strong></td>
<td>YES □</td>
</tr>
</tbody>
</table>

### Step 4: EMP Checklist

For projects that require an EMP (not an EIA) as screened in Step 3, complete the following checklist to confirm whether the standard EMP templates are suitable for the subproject, or whether additional mitigation measures are required. For projects that require an EIA, more significant environmental and issues and impacts are anticipated, and therefore the EMP for those projects will be developed based on the specific issues and impacts identified in the EIA.

<table>
<thead>
<tr>
<th>Environmental Impact Scoping</th>
<th>APPLIES, YES OR NO (tick ✓)</th>
<th>Outcome for EMP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Will the subproject involve any of the following?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evidence of oil contamination on the soil?</td>
<td>YES □  NO □</td>
<td></td>
</tr>
<tr>
<td>Neighbours within 50m of the construction site?</td>
<td>YES □  NO □</td>
<td></td>
</tr>
<tr>
<td>Old transformers that will be replaced?</td>
<td>YES □  NO □</td>
<td></td>
</tr>
<tr>
<td>Potential for PCB to be present in old transformers (transformers &gt;10 years old)?</td>
<td>YES □  NO □</td>
<td></td>
</tr>
<tr>
<td>Solid and / or hazardous waste that will require removal during construction?</td>
<td>YES □  NO □</td>
<td></td>
</tr>
<tr>
<td>Vegetation clearance?</td>
<td>YES □  NO □</td>
<td></td>
</tr>
<tr>
<td>Earthworks?</td>
<td>YES □  NO □</td>
<td></td>
</tr>
<tr>
<td>Waterways within 50m of the site that will receive site storm water?</td>
<td>YES □  NO □</td>
<td></td>
</tr>
</tbody>
</table>

If the answer to any one of the questions is yes, the standard EMP mitigation plan and monitoring plan will apply to this subproject.
<table>
<thead>
<tr>
<th>Environmental Impact Scoping</th>
<th>APPLIES, YES OR NO (tick ✓)</th>
<th>Outcome for EMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the subproject have any predicted environmental impacts not listed above?</td>
<td>YES ☑ NO ☐</td>
<td>If yes, then additional mitigation and monitoring measures will be developed for the subproject in the EMP.</td>
</tr>
<tr>
<td>Does the subproject have any of the following additional activities?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access Road Upgrade</td>
<td>YES ☑ NO ☐</td>
<td></td>
</tr>
<tr>
<td>New Access Road</td>
<td>YES ☑ NO ☐</td>
<td></td>
</tr>
<tr>
<td>New Transmission Line or extensions</td>
<td>YES ☑ NO ☐</td>
<td></td>
</tr>
<tr>
<td>Transmission line upgrades / modifications</td>
<td>YES ☑ NO ☐</td>
<td>If yes, then the EMP must include specific mitigation and monitoring measures for the environmental impacts that will be caused by the additional works.</td>
</tr>
<tr>
<td>Office block / toilet block and amenities</td>
<td>YES ☑ NO ☐</td>
<td></td>
</tr>
<tr>
<td>Other (please describe)</td>
<td>YES ☑ NO ☐</td>
<td></td>
</tr>
</tbody>
</table>
## Annex 2 Standard EMP Impact and Mitigation Plans

### Pre-Construction – All Sites

<table>
<thead>
<tr>
<th>Environmental impact</th>
<th>Pre-Construction Mitigation Actions</th>
<th>Costs</th>
<th>Responsibility</th>
</tr>
</thead>
</table>
| Soil and water contamination as a result of transformer leak | Include in tender documentation, if any leakage of transformer oil, Contractor should rehabilitate to the original condition. For new installations, include as a requirement in the subproject design: The installation of oil collectors made in compliance with standard design solution and made of precast concrete and reinforced concrete elements. The reinforced concrete slab will be made of sulphate-resistant cement. Damp proofing will be done underneath the slab. | Moderate, included in Construction Cost | Design Engineer  
PMU |
| PCB (polychlorinated biphenyls) | Tender documents will prohibit procurement of equipment containing PCB. This will screen out the PCB containing equipment.                                                                                                             | No cost, Included in construction contract                              | Design Engineer  
PMU |
| Noise               | Tender documents for equipment procurement will specify the following: The emission of noise from the transformer and the cooling fan must be meet environmental regulation.                                                      | Minor, Included in tendering costs                                    | Design Engineer  
PMU |
| General / all impacts | The Environmental Codes of Practice for Construction (COP) will be included in the Contractors specification, along with a requirement to comply with the EMP for the duration of their contract. The tender evaluation will include the quality of the Contractors response. | Minor, included in tendering costs                                    | Design Engineer  
PMU |
| General / all impacts | The bid documents shall note that Pakistani laws and regulations and World Bank EHS guidelines relating to the environment, health and safety                                                                                   | Minor, included in construction contract                              | Design Engineer  
PMU |
## Construction – All Sites

<table>
<thead>
<tr>
<th>Environmental impact</th>
<th>Construction Mitigation Actions</th>
<th>Costs</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust</td>
<td>The construction site will be sprinkled with water, or stockpiles will be covered with cloth/tarpaulin, during dry and windy conditions.</td>
<td>Minor, included in construction contract</td>
<td>Construction Contractor PSC, PMU</td>
</tr>
<tr>
<td>Noise</td>
<td>Construction activities will be performed only during normal working hours (from 6 a.m. till 6 p.m.). If construction activities have to be performed before or after the specified time limits, the local community must be notified about it at least one week in advance. On arrival at site, and prior to installation, the contractor will confirm that the equipment meets the standard for noise emissions as stated in the tender documents.</td>
<td>No cost</td>
<td>Construction Contractor PSC, PMU</td>
</tr>
<tr>
<td>Toxic and Hazardous wastes, including waste oil</td>
<td>Hazardous materials will be stored in leak-proof containers and will be removed from site by a licensed third party contractor for recycling or safe disposal. The history data will be recorded and saved.</td>
<td>Minor, included in construction contract</td>
<td>Construction Contractor PSC, PMU</td>
</tr>
<tr>
<td>PCB (polychlorinated biphenyls)</td>
<td>On arrival at site, and prior to installation, the contractor shall confirm that the equipment does not contain PCB.</td>
<td>No cost, included in construction contract.</td>
<td>Construction contractor PSC, PMU</td>
</tr>
<tr>
<td>Old transformers and other equipment</td>
<td>Old transformers and other equipment will be stored on site or at the central store until they are required for reuse on another site. Oil containment will be placed beneath the transformers to capture any leaks.</td>
<td>Minor</td>
<td>NTDC substation PSC, PMU</td>
</tr>
<tr>
<td>Oil spill or leaks from construction equipment</td>
<td>Vehicles working on site shall be in good working order and not have leaks. Oil sorbents will be kept on-site to contain any spills, and staff shall be trained in spill procedures. Any contaminated soils as a result of construction activities will be removed for safe disposal and the site rehabilitated by the contractor. Oil containment devices will be constructed as per the tender documents.</td>
<td>Included in construction contract</td>
<td>Construction Contractor PSC, PMU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minor, included in construction contract</td>
<td>Construction Contractor PSC, PMU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate (if required), included in construction contract</td>
<td>Construction Contractor PSC, PMU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate, included in construction contract</td>
<td>Construction Contractor PSC, PMU</td>
</tr>
<tr>
<td>Environmental impact</td>
<td>Construction Mitigation Actions</td>
<td>Costs</td>
<td>Responsibility</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Soil and water contamination from transformer oil</td>
<td>The transfer or filtering of transformer oil will be carried out according to Pakistani Environmental Regulations.</td>
<td>Moderate, included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PSC, PMU</td>
</tr>
<tr>
<td>Construction worker safety from existing electromagnetic fields</td>
<td>Exposure will be limited to within the baseline exposure rate as provided in the IFC / World Bank EHS Guidelines for Electricity Transmission and Distribution. Warning signs to be placed at areas of high electric/magnetic field strength.</td>
<td>Included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PSC, PMU</td>
</tr>
<tr>
<td>Construction worker health and safety</td>
<td>All construction workers will have site inductions by NTDC on health and safety in an EMF environment.</td>
<td>Included operational procedures</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td></td>
<td>Worker health and safety must be managed in accordance with Pakistani laws and regulations and the World Bank EHS Guidelines for Electricity Transmission and Distribution and General EHS Guidelines: Occupational Health and Safety. All workers will be provided with hard hats and covered boots. Worker working with electrical equipment or in situations where electrocution is a risk, will be provided with insulated gloves and other relevant personal protective equipment.</td>
<td>Included in construction contract</td>
<td>Contractor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PSC, PMU</td>
</tr>
</tbody>
</table>
## Construction Mitigation: New Sites*

*In addition to the mitigation in the table above. May also be relevant for some expansion sites.

<table>
<thead>
<tr>
<th>Environmental impact</th>
<th>Construction (New Sites) Mitigation Actions</th>
<th>Costs</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil conservation</td>
<td>The area to be cleared for construction, access ways and right of ways for distribution and transmission lines will be minimised. The fertile soil layer will be removed and stored in an isolated area at least 20m from a water way, on flat ground, under plastic cover to prevent erosion and protect the contamination of water ways from sediment discharges. Storm water will be diverted around stockpiles. After construction is complete the fertile soil layer will be placed back to its original location and original vegetation will be restored.</td>
<td>Minor, Included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Soil erosion and storm water contamination</td>
<td>Work in steep areas will be undertaken during the dry season. Prepare drainage channels to divert storm water from the construction area in order to avoid flooding, and contamination of storm water with sediment. Control and treat storm water from the construction area through drainage channels, filter material (textile, straw bales), and settlement ponds, prior to discharge to water ways. Soil and debris from earthworks will not be stored or deposited within 20m of a water way.</td>
<td>Minor, included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Vegetation removal</td>
<td>The area of vegetation removal will be minimised. All vegetation will be removed mechanically or manually – no herbicides will be used. Materials of value will be offered to the community. All other vegetation will be disposed at a composting facility or a landfill approved by local government authorities.</td>
<td>Minor, included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Accidental Find of Culturally Significant Artefacts</td>
<td>On discovery of a potential artefact, all construction activity works shall be suspended and the Chance Find Procedures invoked.</td>
<td>Minor, included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Site restoration and landscaping</td>
<td>Disturbed areas will be rehabilitated with top soil and replanted with grasses or native species. There will be no exposed areas or stockpiles at the end of construction.</td>
<td>Minor, included in construction contract</td>
<td>Contractor</td>
</tr>
</tbody>
</table>
### Environmental impact

<table>
<thead>
<tr>
<th>Construction (New Sites) Mitigation Actions</th>
<th>Costs</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor will follow the wild life protection act and the environmental code of practices for the protection of wild life.</td>
<td>Minor, included in construction contract</td>
<td>Contractor PSC, PMU</td>
</tr>
</tbody>
</table>

### Operation Mitigation – All Sites

<table>
<thead>
<tr>
<th>Environmental impact</th>
<th>Operation Mitigation Actions</th>
<th>Costs</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMF</td>
<td>All high voltage equipment will be wire-fenced or placed in enclosures. For security reasons the following stationary protection will be used: • shielding-sheds over the disconnector operating mechanisms, • circuit breaker control cubicles, • terminal boxes; • shielding-sheds over walkways of routine inspection • Warning signs in areas of high electric/magnetic field strength</td>
<td>Minor, Included in Construction and Operation Cost</td>
<td>NTDC operations PMU</td>
</tr>
<tr>
<td></td>
<td>Max EMF intensity allowed outside the protected area is 5 kV/m. (IFC / WB EHS Guidelines for Electricity Transmission and Distribution)</td>
<td>Minor, Included in Operation Cost</td>
<td>NTDC operations PMU</td>
</tr>
<tr>
<td></td>
<td>Maximum magnetic field outside the protected area is 5 microtesla. (IFC / WB EHS Guidelines for Electricity Transmission and Distribution)</td>
<td>Minor, Included in Operation Cost</td>
<td>NTDC operations PMU</td>
</tr>
<tr>
<td>Soil and water contamination from transformer oil</td>
<td>Oil collectors and separators, and any storm water treatment devices, will be regularly checked and maintained. Equipment will be regularly checked and maintained to prevent leaks.</td>
<td>Minor, included in Operation Cost</td>
<td>NTDC operations PMU</td>
</tr>
<tr>
<td>Fire prevention</td>
<td>Fire Safety and Emergency Preparedness equipment like, fire extinguisher, sand buckets etc. should be provided at site.</td>
<td>Minor, included in Operation Cost</td>
<td>NTDC operations PMU</td>
</tr>
<tr>
<td>Environmental impact</td>
<td>Operation Mitigation Actions</td>
<td>Costs</td>
<td>Responsibility</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Vegetable removal, tree cutting</td>
<td>Grass and plants around substations will be trimmed; trees and grass cut will be removed from the area substation to a disposal place approved by local government authorities. The use of pesticides for vegetation removal is prohibited.</td>
<td>Minor, included in Operation Cost</td>
<td>NTDC Operations</td>
</tr>
<tr>
<td>Solid wastes</td>
<td>Solid wastes shall be transported by a licensed waste operator to recycling facilities where available, and otherwise to special disposal places, approved by local government authorities.</td>
<td>Minor, included in Operation Cost</td>
<td>NTDC operations</td>
</tr>
<tr>
<td>PCB's</td>
<td>No PCBs will be used in any replacement of transformer oil.</td>
<td>None</td>
<td>NTDC operations</td>
</tr>
<tr>
<td>Waste oil</td>
<td>All waste oil will be stored in leak proof containers under cover / inside a building, and be collected.</td>
<td>Minor, included in Operation Cost</td>
<td>NTDC operations</td>
</tr>
<tr>
<td>Hazardous wastes (not including oil)</td>
<td>All hazardous wastes will be stored in leak proof containers under cover / inside a building and be transported for disposal at special disposal places.</td>
<td>Minor, included in Operation Cost</td>
<td>NTDC operations</td>
</tr>
<tr>
<td>Emergency Preparedness and Response</td>
<td>Emergency preparedness SOP and equipment should be provided along with training to staff to deal with emergency situations.</td>
<td>Included in Operation Cost</td>
<td>NTDC operations</td>
</tr>
<tr>
<td>Worker Health and Safety</td>
<td>Regular training about worker health and safety practices should be given to workers on regular basis. Personnel Protective Equipment should be given to workers for safe disposal of responsibilities.</td>
<td>Included in Operation Cost</td>
<td>NTDC operations</td>
</tr>
</tbody>
</table>
## Annex 3  Standard Monitoring Plans

### Construction Monitoring – All Sites

<table>
<thead>
<tr>
<th>Environmental impact</th>
<th>Monitoring parameter</th>
<th>Place of monitoring</th>
<th>Monitoring method</th>
<th>Monitoring schedule</th>
<th>Cost</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust</td>
<td>Daily inspection</td>
<td>Construction site and access road</td>
<td>Visual inspection</td>
<td>Daily</td>
<td>Included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Noise</td>
<td>dB(A)</td>
<td>At the location of the complaint</td>
<td>Measurements to be made by following the Pakistani regulations for noise monitoring.</td>
<td>Within 2 weeks following a complaint</td>
<td>Minor to moderate, Included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Non-toxic solid wastes (metal, packing and used equipment, etc.)</td>
<td>Clarification of Contractor’s license expiration date</td>
<td>Prior to access to construction site</td>
<td>Visual inspection</td>
<td>Prior to granting access to construction site</td>
<td>Included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>PCB (polychlorinated biphenyl)</td>
<td>Invoice for equipment</td>
<td>At delivery site</td>
<td>Visual inspection</td>
<td>When equipment has been delivered</td>
<td>Included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Oil spill or leaks from construction equipment</td>
<td>Vehicles inspected for leaks</td>
<td>On-Site</td>
<td>Visual</td>
<td>Weekly and following a complaint</td>
<td>Included in construction contract</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Worker safety from existing electromagnetic fields</td>
<td>Worker exposure limits followed</td>
<td>On-Site</td>
<td>Employee timesheets / records of time spent within EMF environment.</td>
<td>Weekly</td>
<td>Included in construction contract</td>
<td>Construction Contractor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSC, NTDC</td>
<td>PSC, NTDC</td>
</tr>
</tbody>
</table>
### Construction Monitoring – New Sites

<table>
<thead>
<tr>
<th>Environment impact</th>
<th>Monitoring parameter</th>
<th>Place of monitoring</th>
<th>Monitoring method</th>
<th>Monitoring schedule</th>
<th>Cost</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil erosion</td>
<td>Evidence of soil erosion</td>
<td>Substation site</td>
<td>Visual inspection</td>
<td>Daily, during rainy days</td>
<td>Included in construction contract</td>
<td>Construction Contractor Monitoring Consultant</td>
</tr>
<tr>
<td>Soil conservation</td>
<td>Methods and place of fertile soil storage</td>
<td>Fertile soil storage areas</td>
<td>Visual inspection</td>
<td>Weekly</td>
<td>Minor, Included in construction contract</td>
<td>Construction Contractor Monitoring Consultant</td>
</tr>
<tr>
<td>Soil contamination</td>
<td>Evidence of soil contamination (discolouration of soil, oil sheen)</td>
<td>Underneath transformers and / or at location of construction</td>
<td>Visual inspection</td>
<td>Once, prior to construction starting</td>
<td>Minor, included in construction contract</td>
<td>Construction Contractor Monitoring Consultant</td>
</tr>
<tr>
<td></td>
<td>Contaminant concentrations</td>
<td>Underneath transformers, and / or at location of construction</td>
<td>Soil sampling, to be carried out to international standards by a suitably qualified environmental consultant.</td>
<td>If visual inspection identifies potential contamination, soil sampling should be undertaken to confirm the nature of contamination prior to construction starting, and following any clean up.</td>
<td>Moderate</td>
<td>Contractor</td>
</tr>
<tr>
<td>Site restoration and landscaping</td>
<td>Vegetation has established and there are no exposed areas</td>
<td>Construction site</td>
<td>Visual inspection</td>
<td>Once at the end of the construction period</td>
<td>Minor, included in construction contract</td>
<td>Construction Contractor</td>
</tr>
</tbody>
</table>
## Operation Monitoring Plan

<table>
<thead>
<tr>
<th>Environment impact</th>
<th>Monitoring parameter</th>
<th>Place of monitoring</th>
<th>Monitoring method</th>
<th>Monitoring schedule</th>
<th>Cost</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise</td>
<td>dB(A)</td>
<td>2 meters from equipment</td>
<td>Measurements to be made by specialized company holding an appropriate licence, consistent with Indonesian regulations for noise monitoring.</td>
<td>Once annually and within 2 weeks following a complaint</td>
<td>Minor, included in Operation Cost</td>
<td>NTDC Operations</td>
</tr>
<tr>
<td>EMF</td>
<td>Electric and Magnetic Field intensity</td>
<td>In the area of operation and at the fence</td>
<td>Electro meter and Gauss meter</td>
<td>Six monthly</td>
<td>Included in Operation Cost</td>
<td>Operation Unit</td>
</tr>
<tr>
<td>Soil and ground water contamination as a result of transformer leak</td>
<td>Requirements of SOP</td>
<td>Over the surface and underneath the oil containing equipment</td>
<td>Requirements of SOP</td>
<td>Requirements of SOP</td>
<td>Included in Operation Cost</td>
<td>Operation Unit</td>
</tr>
<tr>
<td>Fire prevention</td>
<td>At substation site</td>
<td>Safety Walks, Testing of fire safety equipment</td>
<td>Quarterly</td>
<td>Included in Operation Cost</td>
<td>NTDC Operations</td>
<td>NTDC</td>
</tr>
<tr>
<td>Emergency Preparedness and Response</td>
<td>At substation site</td>
<td>Safety Walks, Testing of emergency preparedness equipment</td>
<td>Quarterly</td>
<td>Included in Operation Cost</td>
<td>NTDC Operations</td>
<td>NTDC</td>
</tr>
<tr>
<td>Worker Health and Safety</td>
<td>At substation site</td>
<td>Safety Walks, Identification of occupational hazards</td>
<td>Quarterly</td>
<td>Included in Operation Cost</td>
<td>NTDC Operations</td>
<td>NTDC</td>
</tr>
</tbody>
</table>
Annex 4  Template for EIA for New Infrastructure

I. Executive Summary – Non-Technical Summary
An executive summary will be prepared to be used as a stand-alone document in a manner that can be accessible to non-technical readers both in English and Arabic languages.

II. Introduction
The section will include the following:

- Background information which provides a brief description of the major components of the proposed project
- Statement for the project need and objectives it is intended to meet
- Project implementation strategy
- A brief history of the project including alternatives considered
- Project current status and timetable
- Identify associated projects
- Summary of the general scope of EIA

III. Policy, Legal and Administrative Framework
This section will provide an overview of the pertinent regulations and existing codes of practice and standards governing environmental and water quality, health and safety, protection of sensitive areas, siting, land use control, etc. at the international, national, regional and local levels

The section will include the following:

- Relevant environmental policy, legal and administrative issues
- Requirements and scope of the EIA
- Regional development planning
- International and national environmental standards and guidelines

IV. Description of the Proposed Project
This section will provide a description of the project, using maps at appropriate scale when necessary. This section will include the following sections:

- Project Infrastructure
- Project strategic approach and objective
- Prioritization methodology and technical design
- Project main components (including location, general layout, size, capacity, etc.)
- Description of the pre-construction and construction phase
- Description of the operation and maintenance phase
- Project schedule
- Operational management and staffing
- Support facilities and services
- Required offsite facilities
- Project life span
- Institutional arrangement proposed
V. Description of the Environment Context

This section will assemble and evaluate data on the relevant environmental characteristics of the project areas. It will include information on any changes anticipated before the project commences, including **physical**, **biological** and **socio-cultural** environments. The presented data will be relevant and commensurate with the project. Information of the existing physical, biological, land-use and socio-economic environment will include, but will not be limited to the following:

- Geology, soils, existing terrain including local topographic and ground surface features, etc.
- Air quality including pollution levels, pollution causes, particulate emissions from stationary or mobile sources, precipitation, etc.
- Water quantity and quality including descriptions and maps of the existing water resources within or near the boundaries of the project, underground water resources, drainage, and hydrological characteristics.
- Climatic conditions including data from the nearest meteorological station including prevailing climatic conditions, seasonal variations, wind direction, velocities, ambient temperatures, relative humidity, and climate-related extreme events, etc.
- Noise levels including the existing noise sources, duration, frequency and levels of noise sources.
- Land-use patterns in the region including areas that can be combined and reclaimed within the development needs, area of future extension, archaeological and historical preserved or unexamined areas, valued aesthetic locations and areas used by the community.

VI. Environmental Impact Assessment

A description of the significant positive and negative environmental impacts will be mentioned in this section during both the construction and operation phases. This section will also discuss the positive and negative impacts that the project might have on communities in general and on various sub-groups (women and men, the poor, youth) in particular. Recommendation will be provided for ways to address negative impacts.

The section will include the following:

- Environmental Impact Process
- Air Quality
- Aquatic Environment
- Noise and Vibration
- Flora and Fauna
- Land Use, Landscape and Visual Impact
- Soils, Geology and Hydrogeology
- Traffic
- Socio-Economic Effects, Quality of Life values
- Archaeological, Historic and Cultural Heritage
- Natural Disaster Risk
- Major Accidents and Hazards
- Solid Waste Management
- Public Health
- Occupational Health and Safety
- Associated Infrastructure
VII. Analysis of Alternatives
This section will describe alternatives that were examined in the course of developing the proposed project and identify other alternatives, which would achieve the same objectives. The concept of alternatives extends to siting, design, technology selection, construction techniques and phasing, and operation and maintenance procedures. It will compare alternatives in terms of potential environmental impacts and suitability under local conditions. This includes, for example, alternative ways of meeting the electricity demand, alternative technologies, alternative fuels, alternative heat rejection systems, alternative water supply/intake, engineering and pollution control equipment alternatives, alternative sites, etc.

The section will include the following:

- Current Situation (“No Action” option)
- Alternative alignments to avoid/minimize damage to environmentally sensitive areas.
- Alternative sites for associated facilities (to improve public safety as well as to reduce public interference on such facilities).
- Provide opinion on alternative construction technologies.

VIII. Mitigation of Environmental Impacts
Specific details of mitigation measures during design, construction and operation phases will be proposed and delineated here. Compensation for affected parties will also be addressed here thoroughly.

The section will include the following:

- Mitigation Measures During Design and Construction
- Mitigation Measures During Operation
- Compensation for Affected Parties (cross referenced to the prepared RAP studies)

IX. Environmental Mitigation, Management and Monitoring Plan: Environmental Management Plan (EMP)
This section will provide details on the measures to be implemented during both construction and operation phases of the project. In particular, this section will:

- Outline the procedures for the environmental assessments
- Ensure an appropriate level of consultation and disclosure takes place
- Develop screening procedures for project assessment
- Ensure systems and resources are in place for the successful monitoring of the management program
- Possible costs of the mitigation and compensation measures will be included
- Institutional capacity issues will be addressed

The EMP will address the following:

- Environmental Guidelines and Procedures: will include the guidelines and procedures to be used for the application of the proposed screening procedures and mitigation measures during the construction and operation phases in the various districts and areas of implementation.
• Monitoring Program: a detailed plan to monitor the implementation of mitigating measures and consciously monitor the impacts of the project during construction and operation phases in the various districts and areas of implementation.

• Institutional Arrangements: this section will review the authority and capability of the institutions at local, regional and national levels and recommend steps to strengthen or expand them so that the management and monitoring plans in the environmental assessment can be implemented. The costs and sources of funds for the proposed measures and any training requirements for capacity building in the field of environment safeguards will be specified.

X. Consultation and Disclosure

This section will describe the process that will result in:

• Coordinating the EIA with other government agencies
• Obtaining views of local NGOs and affected groups
• Proper records keeping and timely disposition of records
Annex 5  Template for EMP for New Infrastructure

Notes
This template is based on the Pakistani Regulations for EIA/EMP and includes additional information required in accordance with World Bank Environmental Safeguard OP.4.01 Environmental Assessment Annex C Environmental Management Plan.

EMP Contents

I. INTRODUCTION
Background to the NTMP and the subproject.

II. PROJECT DESCRIPTION
Name and location of activity.

Project site plan.

Description of the subproject:

- Description of the substation, and the associated connected projects (transmission lines, access roads, etc.)
- Document the phases (preconstruction, construction and operation).
- Provide detail on the components of the substation construction and operation likely to have environmental impact.
- Provide the scale of business and/or activity, including the size of the footprint of the substation and the capacity of the transformers.

III. POTENTIAL ENVIRONMENTAL IMPACTS
For each phase of the project (pre-construction, construction and operation), provide brief and clear description of:

1. Activity of the source of environmental impact;
2. Type of environmental impact;
3. Size, stating the extent of impact; and
4. Other matters need to be put forward in order to describe the environmental impact.

Summarise impacts in the following table:

<table>
<thead>
<tr>
<th>SOURCE OF IMPACT</th>
<th>TYPE OF IMPACT</th>
<th>SIZE OF IMPACT</th>
<th>REMARKS</th>
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</thead>
<tbody>
<tr>
<td>Write down activities having environmental impact.</td>
<td>Write down potential impacts. Example:</td>
<td>Write down the size which is able to state the extent of impact. Example:</td>
<td>Write other information necessary to describe potential environmental impact.</td>
</tr>
<tr>
<td>Transfer / replacement of transformer oil</td>
<td>Pollution of soil and water.</td>
<td></td>
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<td></td>
<td>Risk to human health.</td>
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</tbody>
</table>
IV. ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

Environmental Management Plan
Insert the relevant mitigation tables from Annex 2 of the EMF adapted with any additional specific mitigation and monitoring required that is unique to this subproject site.

Environmental Monitoring Plan
Insert the relevant monitoring plan tables from Annex 3 of the EMF adapted with any additional specific mitigation and monitoring required that is unique to this subproject site.

Include reference to the relevant clauses that will provide evidence that the mitigation measures in the tables above will be met by the NTDC Standard Operating Procedures.

EMP Annex 2 Environmental Codes of Practice for Construction
Include the standard Environmental Codes of Practice for Construction from Annex 6 of the EMF.

EMP Annex 3 Institutional Arrangements for Environmental Management
Update the section 4 of EMF.

EMP Annex 4 Reporting
Update section 6 from the EMF.

EMP Annex 5 Consultation and Disclosure Plan and Results
Include the plan for consultation. Include evidence of public disclosure (copies of advertisements etc.), a list of all of the consultation events, a list of participants, a list of feedback, and details of how feedback was incorporated into the final EMP.

EMP Annex 6 Budget
Include a budget (or indicative budget) for key items identified in the mitigation program. For example, this may include:

- Staff training
- Purchase of monitoring equipment
- Consultants fees
- Consultation costs

Annex 7 EMP Review
Use the following statement or similar:

The EMP will be reviewed when:

- A non-compliance with the EMP occurs
- A serious environmental or health and safety incident occurs
- The subproject changes significantly (design changes lead to more work being done on site, the site is expanded etc.)
A review requires the Environmental Officer to re-read the EMP to see if it can be improved to prevent the incident / non-compliance from happening again, or to prevent or minimise a new risk.

**EMP Annex 8 Chance Find Procedures**
Insert the Chance Find Procedures from Annex 5 the EMF.

**EMP Annex 9 Environmental Scoping Checklist**
Insert a copy of the completed scoping checklist from Annex 1 of the EMF.
Annex 5  Physical Cultural Resource Chance Find Procedures

Definitions
Physical cultural resources are the sites, areas, objects, or artefacts that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural, religious or spiritual significance to a commune, religious group, ethnic group and / or the wider public or nation. They include movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes, for example:

- Sacred landmarks
- Sacred burial sites or human remains
- Pilgrimage sites or routes
- Fossils
- Rock drawings
- Ancient structures
- Places of worship

Chance Find Procedures
If any person working on the subproject discovers a physical cultural resource (site or item) the following procedures should be followed:

- Stop the activities in the area of the chance find;
- Delineate the discovered site or area (e.g. fencing);
- Secure the site to prevent any further disturbance, damage or loss. In cases of removable antiquities or sensitive remains, arrange for guards or wardens to watch the site until the responsible local authorities take over;
- Prohibit the collection of objective by the workforce or outsiders;
- Notify the closest local cultural management agency and the local authority within 24 hours;
- Alert all subproject personnel of the find and the temporary protection measures;
- Any objects that are found must be handed over to the local cultural management agency.
- Keep records of all chance finds and actions taken.

The local cultural management authority has the responsibility for studying and evaluating cultural heritage sites / areas and documenting the requirements for protection and preservation. This will require an evaluation of the finding to be performed by archaeologists.

Management measures could include changes to the project layout (such as when finding an irremovable remain of cultural or archaeological importance), or conservation, preservation, restoration and / or salvage of the site or item.

The decision concerning the management of the finding will be communicated in writing by the local cultural management agency.

Project works can resume only after written instruction is provided from the responsible local cultural management agency. Everyone must comply with the conditions of the written instruction.
The subproject developer / owner is responsible for cooperating with the local cultural management agency and local authorities to monitor all works to ensure that the protection measures are adequate and the cultural heritage sites are protected.
Annex 6    Environmental Code of Practice for Construction

How to use the COP

The following specifications must be included in both the bidding documents and construction contracts under the National Transmission Modernisation Project (NTMP). The specifications will become contractual obligations for Contractors and can be enforced by NTDC.

Environmental Duties of Contractor
Compliance with all relevant legislative requirements in Pakistan;

- Comply with the subproject EMP and the IFC / World Bank EHS Guidelines for Electric Power Transmission and Distribution for the duration of their contract;
- Undertake monitoring of the effectiveness of the implementation of the EMP and keep records;
- Report the monitoring records to NTDC monitoring consultant;
- Employ and train suitably qualified staff to take responsibility for the EMP;
- Comply with the Chance Find Procedures for Physical Cultural Resources; and
- Stop construction activities upon receiving instructions from the NTDC monitoring consultant, and propose and carry out corrective actions and implement alternative construction method, if required, in order to minimize the environmental impacts.

As a minimum, the Contractor shall follow the requirements of this COP:

Prohibitions
- Cutting of trees for any reason outside the approved construction area;
- Disturbance to anything with architectural or historical value (except as provided by the EMP);
- Indiscriminate disposal of rubbish or construction wastes or rubble;
- Poaching, hunting or capturing wild animals;
- Spillage of potential pollutants, such as petroleum products; and
- Burning of wastes and/or cleared vegetation.

Dust
- Use water, tarpaulins and covers, to dampen dusty areas during windy conditions.

Noise
- Construction activities shall be scheduled in daytime only (6am to 6pm).
- Any work that must be carried out after hours shall be notified to the community at least one week in advance.

Protection of wildlife
- Limit the construction works within the designated sites allocated to the contractors
- Not be permitted to destruct active nests or eggs of migratory birds
- Minimize the release of oil, oil wastes or any other substances harmful to migratory birds to any waters or any areas frequented by migratory birds.
- check the site for animals trapped in, or in danger from site works and use a qualified person to relocate the animal
**Waste Management**
- Establish and enforce daily site clean-up procedures, including maintenance of adequate storage, recycling and disposal facilities for litter, solid waste, soil and construction debris.
- All solid waste that cannot be recycled shall be transported by an approved waste handler, disposed of offsite at an approved / licensed disposal site.
- Waste oil and other hazardous wastes (including contaminated soil and oil spills) shall be stored under cover and separated from other wastes. They shall be removed by a licensed transporter to a licensed disposal facility.
- Once the job is completed, all construction-generated debris should be removed from the site.

**PCB**
- Confirm that new equipment does not contain PCB.
- Confirm, prior to disposal, that old equipment does not contain PCB.

**Oil spills and contamination**
- Maintain vehicles and equipment to prevent leaks and spills.
- Keep spill kits on site and have staff trained to use them.
- The transfer of transformer oil shall be undertaken as per NTDC Standard Operating Procedures and Pakistani regulations.

**Worker Health and Safety**
- The contractor will comply with all Pakistani laws and regulations (i.e. OHSA) and IFC / World Bank EHS Guidelines for Electricity Transmission and Distribution.
- All staff will be provided with suitable personal protective equipment (i.e. hard hats, insulated gloves, enclosed boots, high visibility clothing).

**Clearing of New Sites**
- Land clearance should only begin once all Resettlement Action Plan procedures have been completed;
- Before clearing of vegetation, ensure that all litter and non-organic material is removed from the area to be cleared;
- Stockpile and protect topsoil for reuse in site rehabilitation;
- The application of chemicals for vegetation clearing shall be avoided.

**Erosion and Sediment Management**
- Disturb as little ground area as possible and stabilize that area as quickly as possible.
- Direct storm water around the work site using temporary drains.
- Install sediment control structures where needed to slow or redirect runoff and trap sediment until vegetation is established. Sediment control structures include sediment catchment basins, straw bales, brush fences, and fabric silt fences; and
- In areas where construction activities have been completed and where no further disturbance would take place, re-vegetation should commence as soon as possible.
Re-Vegetation and Site Restoration

• The construction site and surrounds shall be landscaped and any necessary remedial works shall be undertaken without delay, to the satisfaction of NTDC monitoring consultant.

Worker’s rights: working conditions, labour, gender equality, child protection

• The contractor will ensure there are equal opportunities in employment (e.g. non-discrimination based on gender, age, religion and ethnicity).
• The contractor will provide separate facilities (praying, eating, toilets, changing areas) for men and women.
• The contractor will comply with Pakistani labour laws pertaining to minimum wages, working conditions, hours of work, etc. and pertaining to the protection of children from dangerous labour and from abuse.

Worker’s code of conduct

The contractor will uphold a code of conduct for staff:

• Staff will avoid socialising within the community, particularly with women and children.
• Staff must be made aware of the cultural or religious norms of the community and be respectful of customs that may differ from their own.
• The contractor (and staff) will keep all equipment, vehicles, hazardous substances and stockpiles within the NTDC compound (not on roads or other locations that could cause a danger to the community).
• The contractor will record and act upon all complaints following the GRM procedure, regardless of the type of complaint or the complainant.
• Stealing, trespassing, abuse, violence and other misdemeanours will not be tolerated.
Annex 7    NTDC Standard Operating Procedures

NTDC Operating Manual can be found in four parts at following web link under the name of SOP for Grid System Operations and Maintenance Part 1-4.

Annex 8    Review of IEE/EIA Regulations, 2000 (Schedule I & II)

SCHEDULE I
List of projects requiring an IEE

A. Agriculture, Livestock and Fisheries
1. Poultry, livestock, stud and fish farms with total cost more than Rs.10 million
2. Projects involving repacking, formulation or warehousing of agricultural products

B. Energy
1. Hydroelectric power generation less than 50 MW
2. Thermal power generation less than 200 KW
3. Transmission lines less than 11 KV, and large distribution projects
4. Oil and gas transmission systems
5. Oil and gas extraction projects including exploration, production, gathering systems, separation and storage
6. Waste-to-energy generation projects

C. Manufacturing and processing
1. Ceramics and glass units with total cost more than Rs.50 million
2. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost less than Rs.100 million
3. Man-made fibers and resin projects with total cost less than Rs.100 million
4. Manufacturing of apparel, including dyeing and printing, with total cost more than Rs.25 million
5. Wood products with total cost more than Rs.25 million

D. Mining and mineral processing
1. Commercial extraction of sand, gravel, limestone, clay, Sulphur and other minerals not included in Schedule II with total cost less than Rs.100 million
2. Crushing, grinding and separation processes
3. Smelting plants with total cost less than Rs.50 million

E. Transport
1. Federal or Provincial highways (except maintenance, rebuilding or reconstruction of existing metalled roads) with total cost less than Rs.50 million
2. Ports and harbor development for ships less than 500 gross tons

F. Water management, dams, irrigation and flood protection
1. Dams and reservoirs with storage volume less than 50 million cubic meters of surface area less than 8 square kilometers
2. Irrigation and drainage projects serving less than 15,000 hectares
3. Small-scale irrigation systems with total cost less than Rs.50 million

**G. Water supply and treatment**
Water supply schemes and treatment plants with total cost less than Rs.25 million

**H. Waste disposal**
Waste disposal facility for domestic or industrial wastes, with annual capacity less than 10,000 cubic meters

**I. Urban development and tourism**
1. Housing schemes
2. Public facilities with significant off-site impacts (e.g. hospital wastes)
3. Urban development projects

**J. Other projects**
Any other project for which filing of an IEE is required by the Federal Agency under sub-regulation (2) of Regulation 5

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**SCHEDULE II**

*List of projects requiring an EIA*

**A. Energy**
1. Hydroelectric power generation over 50 MW
2. Thermal power generation over 200 MW
3. Transmission lines (11 KV and above) and grid stations
4. Nuclear power plans
5. Petroleum refineries

**B. Manufacturing and processing**
1. Cement plants
2. Chemicals projects
3. Fertilizer plants
4. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost of Rs.100 million and above
5. Industrial estates (including export processing zones)
6. Man-made fibers and resin projects with total cost of Rs.100 M and above
7. Pesticides (manufacture or formulation)
8. Petrochemicals complex
9. Synthetic resins, plastics and man-made fibers, paper and paperboard, paper pulping, plastic products, textiles (except apparel), printing and publishing, paints and dyes, oils and fats and vegetable ghee projects, with total cost more than Rs.10 million
10. Tanning and leather finishing projects

C. Mining and mineral processing
1. Mining and processing of coal, gold, copper, sulphur and precious stones
2. Mining and processing of major non-ferrous metals, iron and steel rolling
3. Smelting plants with total cost of Rs.50 million and above

D. Transport
1. Airports
2. Federal or Provincial highways or major roads (except maintenance, rebuilding or reconstruction of existing roads) with total cost of Rs.50 million and above
3. Ports and harbor development for ships of 500 gross tons and above
4. Railway works

E. Water management, dams, irrigation and flood protection
1. Dams and reservoirs with storage volume of 50 million cubic meters and above or surface area of 8 square kilometers and above
2. Irrigation and drainage projects serving 15,000 hectares and above

F. Water supply and treatment
Water supply schemes and treatment plants with total cost of Rs.25 million and above

G. Waste Disposal
1. Waste disposal and/or storage of hazardous or toxic wastes (including landfill sites, incineration of hospital toxic waste)
2. Waste disposal facilities for domestic or industrial wastes, with annual capacity more than 10,000 cubic meters

H. Urban development and tourism
1. Land use studies and urban plans (large cities)
2. Large-scale tourism development projects with total cost more than Rs.50 million

I. Environmentally Sensitive Areas
All projects situated in environmentally sensitive areas

J. Other projects
1. Any other project for which filing of an EIA is required by the Federal Agency under sub-regulation (2) of Regulation 5.
2. Any other project likely to cause an adverse environmental effect
Annex 9  Stakeholder Consultation Workshop Minutes of Meeting and Comment Response Matrix Related to EMF

Stakeholders’ Consultative Workshop
for the disclosure of
Environmental and Social Management Framework (ESMF)

August 24, 2017

PROGRAM

Venue: Hotel Ambassador, 7-Davis Road, Lahore

Inaugural Session
1100 – 1130: Registration
1130 – 1145: Recitation from the Holy Quran
1145 – 1200: Welcome Address & Overview of the Project
1200 – 1215: Speech by the Chief Guest
1215 – 1230: Tea/ Coffee Break

Technical Session
1230 – 1330: Presentation on ESMF by Mr. Shaukat Ali Shahid (The Consultant)
1330 – 1345: Open Discussion
1345 – 1400: Comments
1400 – 1430: Lunch/Refreshment
Minutes of Meeting of the Stakeholders’ Consultative Workshop

Engr. Zafar Iqbal Khan Niazi (CE/PD DTLP and CE EHV 1) chaired the meeting, which was attended by more than 50 participants (List attached). The meeting started at 1100 hours and closed at 1430 hours.

Mr. Sohail Bajwa (Manager Design) in his opening remarks welcomed the participants and introduced the project. He gave overview and technical details regarding the NTMP I project. He explained that the main objective of NTMP development is to assist the Government of Pakistan to increase the availability and improve reliability and efficiency of selected segments of the national transmission system in Pakistan. It will achieve this objective by investing in high-priority transmission infrastructure, information technology and technical assistance to the NTDC.

He further added that the project is envisaged to categorize as Group 1 and Group 2.

The Group 1 Subprojects include:

(c) 765 kV/500 kV Islamabad West Substation
(d) 27 Nos of Extension/Augmentation of selected Existing 500 kV and 220 kV/132 kV Substations and associated lines;
(e) 04 Nos of Rehabilitation of 500 kV and 200 kV Grid to enhance system reliability
(f) 500 kV Peshawar New with associated transmission line

The tentative Group 2 Subprojects include but not limited to the following new substations whose locations are not yet finalized;

(d) 220 kV Punjab University Substation with associated transmission lines
(e) 220 kV Zero Point Substation with associated transmission lines
(f) 220 kV Mastung substation with three 220/132kv, 250 MVA transformers along with allied equipment and accessories. It also includes 220 kV Double Circuit Transmission Lines on twin bundle Rail conductor from Mastung to Sibbi (120 Km), 220 kV Double Circuit Transmission Lines on twin bundle Rail conductor from Mastung to Quetta (50 km) and 220 kV Double Circuit Transmission Lines on twin bundle Rail conductor from Quetta to Loralai (170 km). Two extensions are also in the scope including Extension at 220 kV Sibbi & Loralai for construction of two 220 kV Line Bays at each substation and Extension at 220 kV Quetta for construction of four 220 kV Line Bays.

The safeguards aspects of subprojects in Group 1 are covered by an Environmental and Social Management Plan (ESMP). Group 2 includes all the remaining subprojects which will be implemented from the second year of the project onward. Subprojects under Group 2 are preliminarily identified but may change. Changing priorities mean that some subprojects may be dropped and others substituted. Subprojects in Group 2 would be subject to Bank appraisal in accordance with a set of eligibility criteria, including the safeguards criteria within this Environment and Social Management Framework (ESMF). The subprojects that meet the eligibility criteria will be financed on a first-come, first-appraised basis until all allocated funds are committed. He also shared the list of all subprojects involved in NTMP I.
Engr. Zafar Iqbal Khan Niazi explained the importance of Environment and Social safeguards and stakeholders’ consultations. He said that consultation provides the interactive forum amongst the proponent, stakeholders and the public. He further explained the basic function of the NTDC and importance of this project.

Mr. Shaukat Ali Shahid (The consultant) gave presentation on ESMF. In his presentation, he explained the objective of ESMF, principles and methodologies adopted for the study, subproject categories and map locations of the project, legal and policy framework, World Bank operational policies relevant to the project, project impacts and mitigation measures, eligibility and entitlements for compensation, stakeholders’ consultation framework, Gender development framework, Labor management framework, institutional arrangements for safeguard documents implementation, capacity building, monitoring and evaluation of the project.

COMMENTS AND DISCUSSION

Mr. Asif Riaz, Deputy Manager (Environment & Social), GEPCO asked Mr. Bajwa that if sufficient space is available in the grid stations then why we are switching towards GIS from AIS? Mr. Bajwa explained that GIS grid stations are more feasible in sense of maintenance, weather conditions, less operational personnel and is more protective as compared to AIS from external factors.

Mr. Hafiz Muhammad Abid Saleem (Environmental Engineer, NESPAK) asked that World Bank New guidelines for preparation of Environment and Social framework have been disclosed so why that is not followed. On this, Mr. Ahmed Imran Aslam (WB) clarified that those guidelines will be made applicable in 2019. Mr. Abid further asked that if locations of the projects are known then why an ESMF has been prepared instead of an ESMP? Mr. Mahr Khalid (ESIC NTDC) clarified this by saying that the projects (covered in ESMF) are still in pipeline and their exact locations are not confirmed yet. Mr. Abid also inquired about the reference to the standards mention in operation mitigation about the Electromagnetic Field. Mr. Fawad Ahmed (AM Social ESIC-DTLP) replied that these are the WHO standards on electric and magnetic fields. Furthermore Mr. Abid suggested to include Resettlement Policy Framework, Change Management Plan, Health and Safety Plan, Site restoration Plan, Traffic Management Plan and Waste Management Plan in the document. He further pointed out that some laws are now superseded, so those should be updated.

Mr. Muhammad Ashraf Bodla, Chief Environmentalist, MMP, commented that project categorization criteria stated is of World Bank, EPA criteria should also be given, Independent Monitoring/ Environmental Audit/ Third party validation should be included, the existing settlement under the transmission lines may have problem of electromagnetic flux. This issue should be addressed.

Dr. Rab Nawaz, Assistant Professor, University of Lahore commented that stakeholders’ consultative workshop was a good experience. It’s a good initiative by NTDC and should be continued in the future.

Mr. Mudassar Hassan, Assistant Director Wildlife, from Punjab Wildlife and Parks Department showed his reservation that the effects on wildlife were not discussed.
Ms. Iman Meer, Senior Environment Scientist, NESPAK said that impacts in construction phase should be considered comprehensively. She further asked to add solid waste management plan and camp waste management plan.
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<th>Name</th>
<th>Title/Role</th>
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<th>Notes</th>
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<tr>
<td>John Doe</td>
<td>Coordinator</td>
<td>033-651-912</td>
<td><a href="mailto:john.doe@email.com">john.doe@email.com</a></td>
<td>Attendee 1</td>
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<tr>
<td>Jane Smith</td>
<td>Consultant</td>
<td>033-745-390</td>
<td><a href="mailto:jane.smith@email.com">jane.smith@email.com</a></td>
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<td>Michael Brown</td>
<td>Executive</td>
<td>033-651-913</td>
<td><a href="mailto:michael.brown@email.com">michael.brown@email.com</a></td>
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*August 24, 2021*

EMSIR Stakeholder's Consultation Workshop

Attendance Sheet
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<td>JD</td>
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EMF Stakeholders Consultative Workshop

Attendance Sheet

August 24, 2017
Photolog
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<th>Comment By</th>
<th>Comment</th>
<th>Response and Relevance of Comment to EMF</th>
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<tr>
<td>Mr. Syed Asif Riaz, Deputy Manager (Environment &amp; Social), GEPCO</td>
<td>If sufficient space is available in the grid stations then why we are switching towards GIS from AIS?</td>
<td>This was just a clarification. It was explained that GIS grid stations are more feasible in sense of maintenance, weather conditions, less operational personnel and is more protective as compared to AIS from external factors.</td>
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<td>Mr. Hafiz Muhammad Abid Saleem (Environmental Engineer, NESPAK)</td>
<td>World Bank New Environment and Social Framework (ESF) have been disclosed so why that is not followed.</td>
<td>This was just a clarification related to applicability of the New ESF of World Bank. It was clarified that ESF will be applicable in 2019.</td>
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<td>If locations of the projects are known then why an ESMF has been prepared instead of an ESMP?</td>
<td>It was clarified this by saying that the projects (covered in ESMF) are still in pipeline and their exact locations are not confirmed yet.</td>
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<td>What is the reference to the standards mentioned in operation mitigation about the Electromagnetic Field?</td>
<td>The relevant section has been updated.</td>
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<td>It was suggested to include Resettlement Policy Framework, Change Management Plan, Health and Safety Plan, Site restoration Plan, Traffic Management Plan and Waste Management Plan in the document.</td>
<td>Environmental code of Practices attached as Annex 6 has all the related plans. Social related things will be updated in the SMF.</td>
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<td>He further pointed out that some laws are now superseded, so those should be updated.</td>
<td>The relevant section has been updated.</td>
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<td>Mr. Muhammad Ashraf Bodla, Chief Environmentalist, MMP</td>
<td>Project categorization criteria stated is of World Bank, EPA criteria should also be given, Independent Monitoring/ Environmental Audit/Third party validation should be included, the existing settlement under the transmission lines may have problem of electromagnetic flux. This issue should be addressed.</td>
<td>Both World Bank and EPA criteria are given in Section 2 of the EMF. WHO Guidelines will be followed for electric and magnetic field and is covered in Annex 2. Independent monitoring is already included in the EMF.</td>
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<td>Dr. Rab Nawaz, Assistant Professor, University of Lahore</td>
<td>Stakeholders’ consultative workshop was a good experience. It’s a good initiative by NTDC and should be continued in the future.</td>
<td>This is just a comment appreciating the efforts of NTDC to conduct consultative workshops.</td>
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<td>Mr. Mudassar Hassan, Assistant Director Wildlife, from Punjab Wildlife and Parks Department</td>
<td>Effects on wildlife were not discussed</td>
<td>The section has been updated.</td>
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<td>Ms. Iman Meer, Senior Environment Scientist, NESPAK</td>
<td>Impacts in construction phase should be considered comprehensively.</td>
<td>The Annex 2 of EMF cover impacts during construction phase.</td>
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<td>Solid waste management plan and camp waste management plan should be added.</td>
<td>Environmental code of practices cover both.</td>
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