

# Initial Environmental Examination

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Project Number: 55040-001  
September 2023

## Bangladesh: Dhaka Power System Expansion and Strengthening Project

### Main Report Part 4

Prepared by Ministry of Power, Energy and Mineral Resources for the Asian Development Bank.

This initial environmental examination is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the ["terms of use"](#) section on ADB's website.

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# Environmental Impact Assessment

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## **10. Grievance Redress Mechanism**

### **10.1 Introduction**

A grievance redress mechanism (GRM) will be established to prevent and address community concerns, complaints, and grievances and reduce risks, and assist the project to maximize environmental and social benefits. In addition to serving as a platform to resolve grievances, the GRM has been designed to help achieving the following objectives: (i) open channels for effective communication, including the identification of new environmental/social issues of concern arising from the project; (ii) demonstrate concerns about community members and their environmental well-being; and (iii) prevent and mitigate any adverse environmental/social impacts on communities caused by project implementation and operations.

The GRM is accessible to diverse members of the community, collectively called the “project affected persons” (PAPs), including more vulnerable groups such as women and the elderly. Opportunities for confidentiality and privacy for complainants are to be honored. The project level GRM can be an effective tool for early identification, assessment, and resolution of complaints on projects. Understanding when and how a GRM may improve project outcomes can help both project teams and beneficiaries improve results.

The GRM is an integral part of the Project’s EMP and will also cover resettlement related issues, and be common for the project, across issues of environmental management and social impacts management.

### **10.2 Grievance Redress Mechanism**

Unforeseen problems and issues may arise due to construction and operational activities. Construction work of the project could result in various inconveniences to the public, such as, civil construction works generating noise and dust which can create disturbances for the local community, restrictions to public places, heavy vehicular movement, health and safety matters, issues related to labor influx, etc. The impact of the project may raise numerous grievances and complaints on the part of the affected persons. Therefore, to resolve these issues, DESCO will establish a project-level grievance redress mechanism to receive and facilitate resolution of the affected persons’ concerns, complaints, and grievances about the project’s environmental and social performance, which is easily accessible to the aggrieved parties, transparent and accountable in grievance handling and responding both effectively and efficiently to the grievances reported by the affected parties while winning the confidence of the complainants. A well-established and well-functioning GRM would be able to resolve the grievances locally and avoid lengthy court procedures which on the other hand could generate adverse implications on the timely implementation of the project together with reputational risks to key stakeholders.

DESCO will establish a procedure to deal with and resolve any queries as well as address complaints and grievances about any irregularities. In this regard, a policy and/or guideline will be prepared and adopted for assessing and mitigating potential environmental and social complaints/impacts through a GRM. The GRM will deal with complaints and grievances related to both social/and environmental issues of the project.

The GRM will not prevent access to the country’s judicial or administrative remedies, which are not a part of the GRM.

### 10.3 Grievances Resolution Process

A three-tier bottom-up Grievance Redress Mechanism (GRM) will be established in this project. First, there will be site level grievance redress committees (SGRCs) at the site/contractor level; second, at the local level, thereafter, called the Local GRC (union/municipality level); and thirdly, the Project level GRC (PGRC) at the project level to give room for grievances to be reviewed. There will be an informal tier with the contractor before the three formal tiers begin.

DESCO will establish the GRM before the commencement of construction works. The Local and Project level GRCs will be established through gazette notifications from the concerned Ministry of Power, Energy and Mineral Resources. The affected people (APs) will be informed through public consultation that they have a right to have their grievances redressed by the local committees as well as by the project management. Most of the grievances will be resolved at the site or local-level GRC, but those cases that cannot be resolved at the local level will be forwarded to the project-level GRC. Grievances will be redressed within latest a month from the date of lodging the complaints, with pollution and, health and safety issues being redressed immediately. GRC decisions will be on a majority basis. Details of grievances will be disclosed in the environmental monitoring reports from the reporting period of receipt until the reporting period of closure. If any disputant is unhappy or unsatisfied with the outcome of the Project level GRC, he/she may file cases in the courts. Irrespective of the stage reached or decision of the GRC, any unhappy complainant is free to approach a local court of law. In fact, an aggrieved person may parallelly approach both the GRC and a court of law at any time.

#### 10.3.1 Informal Resolution

Before a formal grievance is submitted to the three-tier system, the contractors will have the opportunity to informally resolve grievances. For grievances that are immediate and urgent (e.g., dust, noise, spills, inappropriate behaviour, worker conflict, community health and safety etc.) they are best resolved informally. The contractor will be able to consult the DESCO PIU site team and resolve these matters informally.

#### 10.3.2 Site Level GRC

If informal resolution is not sufficient, site level GRC as the first formal tier will be involved to find solutions to the problem. If agreeing on a solution acceptable to all parties is not possible within the first-tier of the grievance mechanism, the complaint will be referred to the GRM procedure that will be handled by the local level GRC.

#### 10.3.3 Local Level GRC

The following composition is proposed for the local level GRC (LGRC) with representations from DESCO, the contractor, local public representatives, representatives of affected people including women in the Project area to ensure a participatory process and to allow voices of the affected communities in the grievance procedures.

1.	Sub Assistant Engineer, DESCO	Convener
2.	Representative of ESU or CSC	Member-Secretary
3.	Representative of EPC contractor	Member
4.	Councilor of ward of the municipality/city corporation concerned	Member
5.	Female Member of ward of the municipality/city corporation concerned (especially if the complainant is female)	Member
6.	Representative of PAPs	Member

A representative of PAPs (based on the recommendation of EPC contractor and approved by the Convener) will be a member of the LGRC. A community leader will be invited by the Convener to represent or provide a representative of the APs to the LGRC. The Member-Secretary of LGRC will be available and accessible to PAPs to address concerns and grievances and schedule a weekly review and status update. Unresolved cases will be forwarded to the PGRC. The LGRC is empowered to take decisions, but it requires the approval of the Project Director for implementation of the decisions (which will be forwarded to the Project Director for approval and finalization). The Female member/ward councilor will participate in the grievance redress sessions if the complainant is a female.

#### Terms of Reference (ToR) for LGRC

The scope of work and the Terms of Reference (ToR) for the LGRC are:

- The LGRC shall review, consider and resolve grievances related to social and environmental mitigation during implementation of the Project.
- Any grievances presented to the LGRC, should ideally be resolved on the first day of hearing or within a maximum period of two weeks except complicated issues requiring additional investigations. Grievances of indirectly affected persons and/or persons affected during project implementation due to social or environmental problems will also be reviewed by LGRC.
- LGRC will justify and recommend the impact and Entitled Persons including their entitlements as identified by DESCO Contractor/CSC.
- LGRC decisions should ideally be arrived at through consensus, failing which resolution will be based on majority vote.
- All categories of losses including Entitled Persons (EPs) will be identified during finalization of Right of Way (ROW) by DESCO's Consultant/CSC and to be finalized through the Local Level Grievance Redress Committee (LGRC).
- The LGRC will verify and recommend all the identified losses, EPs and their entitlements. Accordingly, LGRC will send all recommendations with relevant documents to the Project Director, DESCO for approval.
- The LGRC will not deal with any matters pending in the court of law.
- A minimum of three members (in addition to the Member Secretary) shall form the quorum for the meeting of the LGRC to proceed.
- Recommendation of LGRC will be approved by the Project Director.

#### **10.3.4 Project-level GRC**

The Project-level GRC (PGRC) will review all unresolved cases involving social and environmental issues of the project. The Project Director will be the head of the PGRC. The composition of the PGRC will be as follows:

1	Project Director, PIU, DESCO	Chairperson
2	Senior Safeguard Specialist(s) of DESCO's Environmental and Social Unit (ESU) or Representative of CSC Safeguard Team	Member-Secretary
3	Deputy Project Director, PIU, DESCO	Member
4	Team Leader of EPC contractor	Member
5	A representative of the aggrieved party	Member
6	A representative of the Ministry concerned or civil society	Member

The Member-Secretary in the PGRC will provide necessary knowledge and information regarding relevant standard policies and international protocols. He/she will also set examples of resolving such grievances from other development projects. The PGRC should establish fairness and transparency in the resolution of grievances of project-affected persons. In case of technical or environmental issues as well as any legal matters, the Engineering or Safeguards Team Leader of the EPC contractor will advise the PGRC of the situation at the construction site of concern. In specific cases, the environmental and social development specialists of ESU or external legal advisors may be consulted, if required.

#### Terms of Reference (ToR) for PGRC

The scope of work and the Terms of Reference (ToR) for PGRC are:

- Review, consider and settle unresolved grievances forwarded by LGRCs related to social and environmental issues, with regular fortnightly review of grievance-status and resolution.
- Any grievances presented to the PGRC should ideally be resolved within two-four weeks from the date of receiving the complaints from LGRC.
- In case of complicated cases, the PGRC Members can request additional information or carry out field level verifications.
- Resolutions should be based on consensus among Members, where all the decisions may be taken on majority vote.
- The PGRC will not deal with any matters pending in the court of law.
- All members are required to form the quorum for the meeting of the PGRC
- The resolutions of the GRC will be approved by the Project Director with records kept. Based on approved grievance resolution, action will be taken by the EPC contractor and the payment for any recommended entitlement to the Entitled Persons will be paid by the PIU.

The above mentioned three tiers will serve to resolve any grievances, but if the PAPs are not satisfied with the decision of the GRC, they have the right to take the grievance to a court of law at any stage in the grievance redress process. The project grievance procedure does not impede access to the country's judicial or administrative remedies. Affected people can approach the court of law at any time and independently of the project's grievance redress process. Affected peoples may (subject to eligibility criteria) also access ADB's Accountability Mechanism<sup>41</sup> whereby people adversely affected by ADB-financed projects can express their grievances, seek solutions, and report alleged violations of ADB's operational policies and procedures, including environmental and social safeguard policies.

#### **10.4 Processes for Filing Grievance Cases**

GRC procedures and operational rules will be publicized widely through community meetings and pamphlets and information on focal contact persons, how to file grievance etc. will be placed on the billboards of the construction sites/project site offices in the local Bangla language so that the PAPs are aware of their rights and obligations, and procedure of grievance redress. In addition, DESCO has a 24-hour call center number +880 2 161120 for receiving grievances which will be linked to the project. Grievances will be filed without any fear and stress and stakeholders may also raise grievances anonymously if they so wish through a drop box on site. The EPC contractors will support

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<sup>41</sup> There are two parts to ADB's Accountability Mechanism, (i) problem solving led by ADB's special project facilitator can assist the complainant in finding solutions to their problems, (ii) providing a process through which those affected by projects can file requests for compliance review by ADB's Compliance Review Panel.



the affected persons in drafting the grievances. All grievances must be submitted in writing to the Chair, PMU level GRC. But the grievances that need immediate action for the case like dust, noise, spills, inappropriate behavior, worker conflict, community health and safety etc. may also be raised to the respective construction site/ site office personnel even verbally or in written. The Project will set up systems to provide a written receipt of the recorded grievance to the complainant (at their address or through email/text message) with written updates every two weeks or final resolution within a month.

GRC procedures and operational rules will be publicized widely through community meetings and pamphlets and information on focal contact persons, how to file grievance etc. will be placed on the billboards of the construction sites/project site offices in the local Bangla language so that the PAPs are aware of their rights and obligations, and procedure of grievance redress. In addition, DESCO has a 24-hour call center number +880 2 161120 for receiving grievances which will be linked to the project. Grievances will be filed without any fear and stress and stakeholders may also raise grievances anonymously if they so wish through a drop box on site. The EPC contractors will support the affected persons in drafting the grievances. All grievances must be submitted in writing to the Chair, PMU level GRC. But the grievances that need immediate action for the case like dust, noise, spills, inappropriate behavior, worker conflict, community health and safety etc. may also be raised to the respective construction site/ site office personnel even verbally or in written. The Project will set up systems to provide a written receipt of the recorded grievance to the complainant (at their address or through email/text message) with written updates every two weeks or final resolution within a month. The resolutions of the GRC will be approved by the Project Director with records kept at site and project level.

The affected person himself/herself or appointed agents such as local elected officials/legal advisors are to represent the complainants. All GRC documents will be maintained by DESCO for review and verification by ADB or other relevant party involved in the project. The DESCO Field Office(s) and ESU will act as the Secretariat to the local GRCs. As a result, the records will be up-to-date and easily accessible on-site. If dissatisfied with the decision/verdict of the GRC, the affected person may request a further review of the decision of GRC by the LGRC. In such cases, the case will be forwarded to the Convener of the PGRC with all documentation. All grievances no matter how minor and quickly resolved (i.e., informal and site level to project level GRC) must be recorded, including the actions/resolutions taken and reported in the environmental monitoring reports submitted to ADB.

### **10.5 Grievance Redress Documentation and Monitoring**

DESCO will be responsible for recording the complaints, steps taken to address a grievance, a minute of the meetings, and preparation of a report for each complaint. In effect, the Project Director of PMU will keep records of all the grievances and their redress in monthly cumulative formats, which will be provided by the contractor and to be signed by the convener of the GRC. The format will contain information on the number of grievances received with nature, those resolved, and the number of unresolved grievances.

The complaint handling process will be reported to ADB through the quarterly progress reports as well as the semi-annual/annual environmental monitoring reports.



# 11. Environmental Management Plan

## 11.1 Introduction

ADB's Safeguard Policy Statement (SPS) 2009 requires that an Environmental Management Plan (EMP) be prepared to ensure construction and operation of the Dhaka Power System Expansion and Strengthening Project (the Project) will be undertaken in accordance with its safeguard requirements. This Chapter describes the EMP of the Project. It defines the roles and responsibilities for implementation, supervision and monitoring by DESCO and their Contractors; lists the mitigation measures which are to be implemented to reduce potential impacts and risks to a level acceptable to ADB and national regulatory authorities; gives guidance to the Contractors for preparation of their Construction Environmental and Social Management Plans (CESMP) and Health and Safety (H&S) Plans under the contract; gives an outline of the monitoring requirements to ensure that the mitigation measures are effective, the capacity development requirements to ensure all parties understand what is required, and, the corresponding cost of the mitigation, supervision and monitoring activities.

The primary aim of the EMP is to avoid, minimize, mitigate or compensate for potential negative environmental impacts and risks of the Project by identifying general and site-specific mitigation measures to be followed, and to support positive impacts where possible by enhancement measures. In doing so, it seeks to ensure compliance with (i) ADB's Safeguard Policy Statement 2009 requirements and international good practice as set out in the related International Finance Corporation (IFC) Environment, Health and Safety (EHS), General and Electric Power Transmission and Distribution guidelines, and (ii) applicable national environmental, health and safety requirements, including the international agreements which the Government of Bangladesh is a signatory to, as well as having cognizance of the sensitivity of local ecological and human receptors in the project area of influence around each project site.

The specific objectives of the EMP are to:

- Summarize the potential negative environmental impacts and risks arising from the various activities associated with the construction, and operation and maintenance phases of the Project;
- Facilitate the implementation of mitigation measures to avoid, minimize, mitigate or compensate all negative impacts and risks from the design phase, through the pre-construction, construction, and the operation and maintenance phases of the Project;
- Define the roles, responsibilities, and obligations of DESCO's Project Implementation Unit (PIU) supported by a Construction Supervision Consultant (CSC) and an environmental and social unit (ESU) which is to be established by DESCO's management;
- Set out the roles, responsibilities, and obligations of DESCO's Contractors and other third parties; and
- Define a supervision and monitoring mechanism, plus environmental reporting requirements to check if mitigation measures are effective and ensure the environmental compliance of the Project.

The EMP reflects the legal requirements of the Bangladesh government on environment, health and safety and ADB's Safeguard Policy Statement (2009) including international good practice related to the negative environmental impacts and risks predicted during implementation. It requires adherence to guideline levels and national standards; prohibits the use of PCBs in new transformers and the use

of asbestos containing materials in new construction; and requires DESCO and their contractors to undertake community awareness raising activities on the health and safety risks of construction and utility electrical equipment.

This EMP provides the overall Project-level EMP for contract packages involving works:

- EPC contract following ADB procurement requirements for the Design, Supply, Installation, Testing and Commissioning of 8no. new substations (DG1);
- EPC contract following ADB procurement requirements for the Design, Supply, Installation, Testing and Commissioning of 30 km of 132 kV Underground Transmission Line including construction of two (2) 132 kV Gas Insulated Switchgear (GIS) Bay Extensions at one (1) Existing Substation of PGCB (DG2); and
- Contract following DESCO procurement requirements for the Installation, Testing and Commissioning of 33 kV and 11 kV underground cables and 11 kV and 0.4 kV overhead distribution lines, distribution transformers and ring main units.

The generic parts of the EMP are applicable to all contract packages regardless they will follow ADB or DESCO procurement requirements. In addition, works-specific measures are provided for the three different types of contract package. Site-specific measures have also been developed for the 8no. new substations as shown in Table 11.1. Pertinent requirements related to equipment specifications will also need to be incorporated into the contract packages for the supply of 33kV and 11kV cables, poles, distribution transformers, RMU and other items under the Project. Notably DG5 on the supply of transformers and RMU for subsequent installation by DESCO with the 11kV and 0.4 kV distribution line works.

**Table 11.1: List of New Substations under the Project**

No.	Substation Name	Type*	
1	Airport**	132/33/11 kV	4 storey control building with basement
2	Bashundhara**	132/33/11 kV	4 storey control building with basement
3	Tongi^	132/33/11 kV	4 storey control building with basement
4	Kalshi∞	132/33/11 kV	4 storey control building with basement
5	Uttara (Rupayan City)**	33/11 kV	2 storey control building
6	Purbachal∞	33/11 kV	2 storey control building
7	Kalachandpur∞	33/11 kV	2 storey control building
8	Mirpur Ceramics∞	33/11 kV	2 storey control building

\*The substations are all Gas Insulated Substations (GIS). All substations are equipped with a 5KW solar system, control panels with scope including power and auxiliary transformers with foundations, batteries, substation automation and 132/33/11 kV power cables with termination in cable trenches, internal access roads and surface drains. Demolition, land filling and levelling will need to be undertaken, as needed.

\*\*Demolition of buildings, any underground tanks and pipes, and the removal of stored materials/waste is to be undertaken by third parties (associated works) before “clean” sites are handed over to DESCO and the EPC Contractor

∞Demolition (at Kalachandpur and Mirpur Ceramics) and removal of stored materials/waste (if any) by the EPC Contractor to create a “clean” site for construction is to be included in contract scope

^Removal of waste and initial landfilling to be undertaken either by DESCO or by the Housing Developer as third party (associated works) on behalf of DESCO – to be confirmed.

## **11.2 EMP Structure**

The definitive version of the EMP cleared by ADB is the most recent version disclosed on its website and it is against this that environment safeguards performance will be monitored by ADB. The EMP is a living document and may be updated as appropriate during project implementation, including in the event of any unanticipated impacts including design changes. However, any updated EMP will have to be cleared by ADB and disclosed on the ADB website.

Prior to the approval of detailed designs, DESCO will identify and review the implications of any design changes to the Project as assessed in the IEE and consult ADB regarding the need to update the IEE and thus EMP considering any variations put forward by their Contractors. If required, the IEE will be updated by DESCO for review, clearance, and disclosure by ADB before DESCO supported by the Construction Supervision Consultants (CSC) approve the Contractors designs and the start of any related works by their Contractors including site establishment and vegetation clearance.

DESCO will award seven (7) contract packages including two (2) civil works contract packages and five (5) packages to cover supply of goods following ADB procurement requirements. Further civil works contract packages in relation to 33 kV, 11 kV and 0.4 kV distribution lines will follow DESCO procurement requirements. The Contractors for all civil works packages will be contractually bound to implement the EMP. DESCO will ensure the EMP forms part of all bidding and contract documents for all works contract packages. During design and pre-construction, and construction, the Contractors will be responsible for implementing all relevant measures for the works in their contract package under the supervision of DESCO supported by their CSC up until handover of the infrastructure to DESCO. Any updates to it will be incorporated through a contract variation into the contract document. The Contractors must always follow the current version of the EMP which is the version disclosed on ADB's website.

To ensure the mitigation and monitoring measures are implemented, the environmental monitoring plan (EMoP) will be followed by DESCO supported by their CSC. Some quantitative monitoring in the EMoP will be delegated to the Contractors to undertake. In addition, in case of any requirement for corrective action due to noncompliance to the EMP during project implementation, these must be identified and immediately reported to ADB. Appropriate corrective action/s will be agreed between ADB and DESCO to bring the project implementation back on track. Corrective actions must be time-bound, budgeted and agreed between ADB and DESCO. The Contractors will cover the costs where corrective action is required due to noncompliance on behalf of the Contractor, its subcontractors or third parties it engages with the EMP.

This EMP covers the following:

- the proposed Corrective Action Plan for existing facilities (existing substations) to be implemented by DESCO prior to construction of the transmission and distribution lines;
- the Mitigation Plan, covering the mitigation of impacts and risks (during detailed design and pre-construction; construction, and operation and maintenance), including activity-specific and site-specific mitigation for the 8no. substation sites. Part of this plan is the requirement for Contractors to develop Construction Environmental and Social Management Plans (CESMPs) and H&S Plans with several sub-plans, incorporating general measures described in the Environmental Codes of Practice (ECPs);
- a quantitative EMoP including monitoring parameters and performance indicators;
- implementation arrangements, including (a) the organizational roles and responsibilities for mitigation, supervision, monitoring and reporting; (b) capacity building needs; and (c) an initial cost estimate/EMP budget subject to competitive bidding by contractors and CSC.

In addition, DESCO and their Contractors have a role in implementing the grievance redress mechanism (GRM) for the facilitation of complaints or queries on project-related activities.

### 11.3 Potential Impacts and Risks

The principal purpose of formulating the EMP is to ensure commitments made are translated into implementation. Potentially significant impacts relate to construction, no significant impacts are anticipated during operation. Impacts and risks are summarized as follows:

- Dust generation affecting the public and occupants of properties in immediately adjacent buildings due to demolition works and land filling and levelling works.
- Noise and vibration causing disruption and disturbance to the public and occupants of properties in immediately adjacent buildings especially from piling work.
- Use of hazardous materials, including transformer oils, batteries, and e-waste, and the generation of solid and hazardous wastes for disposal during both construction and operation.
- Loss of mature trees and scrub vegetation at substation sites including potential disturbance to nesting birds during site clearance and requiring 1:3 compensatory plantation.
- No protected area, forest land, natural habitat, or critical habitat is impacted. There is a natural wetland at Tongi substation, this is of local importance to non-threatened migratory birds and provides various ecosystem services to the local community but has already been largely modified by agriculture and fishery practices.
- Occupational health and safety risks to workers including from working along busy roads, at height in construction of 2-4 storey buildings, and with electrical equipment.
- Community health and safety due to the presence of workers, electrical works in the public domain and along busy roads, due to construction traffic, open trenches during cable laying, structural safety of immediately adjacent buildings due to vibrations from piling work etc.

### 11.4 Existing Facility Corrective Action Plan

Site inspections of existing substations related to the underground transmission and distribution line components were undertaken in the first quarter of March/April 2023. This environmental audit of the existing substations culminated in a Corrective Action Plan (CAP) to amend any noncompliance. This CAP is contained in Table 11.2. DESCO will implement the CAP prior to access being given to Contractors.

This is not applicable to the new substations.

**Table 11.2: Corrective Action Plan**

Si	Action To Be Taken	Party Responsible	Agreed Deadline
<b>Uttara 132/33/11 kV Grid SS</b>			
1	Demarcated and designated emergency assembly point to be defined at the site premises.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
2	The waste oil storage area be bunded to 110%.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area

Si	Action To Be Taken	Party Responsible	Agreed Deadline
3	Damaged transformers and barrels of waste oil are stored in designated and 110% bunded storage areas rather than keeping them on open ground and at absolute minimum on drip trays rather than keeping them on open ground.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
4	Emergency evacuation plan to be provided for the site premises. Monthly drills are to be performed and records kept.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
5	EHS training needs to be conducted at SS site on regular basis and records on this training need to be maintained at the SS site	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
6	PPE items need to be stocked at designated place	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
7	Regular monitoring on EHS issues at SS site needs to be ensured.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
8	Ensure grievance box/numbers as applicable within and outside of the premises and maintain a grievance register at the site.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
<b>Purbachal Sector-2 132/33/11 kV Grid SS</b>			
1	Emergency contacts numbers are to be posted at different places on the site premises.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
2	Ensure accident register at the site.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
3	Demarcated and designated emergency assembly point is defined at the site premises.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
4	Emergency evacuation plan to be provided for the site premises. Monthly drills are to be performed and records kept.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
5	EHS training needs to be conducted at SS site on regular basis and records on this training need to be maintained at the SS site	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
6	PPE items need to be stocked at designated place	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area

Si	Action To Be Taken	Party Responsible	Agreed Deadline
7	Regular monitoring on EHS issues at SS site needs to be ensured.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
8	Ensure grievance box/numbers as applicable within and outside of the premises and maintain a grievance register at the site.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
<b>Bashundhara D Block 132/33/11 kV Grid SS</b>			
1	Emergency contacts numbers are posted at different places on the site premises.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
2	Ensure accident register at the site.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
3	Damaged transformers and barrels of waste oil are stored in designated stores banded to 110% capacity rather than keeping them on open ground and at absolute minimum on drip trays rather than keeping them on open ground.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
4	EHS training needs to be conducted at SS site on regular basis and records on this training need to be maintained at the SS site	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
5	PPE items need to be stocked at designated place	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
6	Regular monitoring on EHS issues at SS site needs to be ensured.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
7	Ensure grievance box/numbers as applicable within and outside of the premises and maintain a grievance register at the site.	DESCO	Before connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
<b>Mirpur (Digun) 132/33 kV Grid SS ( PGCB)</b>			
1	Emergency contacts numbers are to be posted at different places on the site premises.	PGCB	Before access given for bay extension and connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
2	Ensure accident register at the site.	PGCB	Before access given for bay extension and connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
3	Barrels of waste oil are stored in designated stores banded to 110% capacity and at absolute minimum on	PGCB	Before access given for bay extension and connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area



Si	Action To Be Taken	Party Responsible	Agreed Deadline
	drip trays rather than keeping them on open ground.		
4	Keep ISO certificate at the SS	PGCB	Before access given for bay extension and connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
5	EHS training needs to be conducted at SS site on regular basis and records on this training need to be maintained at the SS site	PGCB	Before access given for bay extension and connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
6	PPE items need to be stocked at designated place	PGCB	Before access given for bay extension and connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
7	Regular monitoring on EHS issues at SS site needs to be ensured.	PGCB	Before access given for bay extension and connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area
8	Ensure grievance box/numbers as applicable within and outside of the premises and maintain a grievance register at the site.	PGCB	Before access given for bay extension and connecting the SS with the Dhaka Power System Expansion and Strengthening Project in DESCO area

DESCO corporate management and substation managers will be responsible for applying any corrective actions under the guidance of the PIU and the CSC unless PIU delegate them to the respective Contractor through the scope of the contract before access is granted for works located within existing substations. DESCO will need to work with PDGB to ensure the same for their substation. DESCO will be responsible for submitting a report confirming the completion of corrective actions to ADB for clearance prior to the Contractor being given access to the existing substation in question to undertake works including site establishment.

The Contractor for those transmission and distribution line contract packages involving existing substations will be responsible for implementing corrective actions that are delegated to them by DESCO as part of their contractual obligations, in addition to the requirements of the EMP mitigation plan which are to be followed whilst undertaking works in existing substations.

### 11.5 Mitigation Plan

The Mitigation Plan is contained in Appendix IX. It sets out the plan for the avoidance, minimization, mitigation and compensation of impacts and risks during the following three phases:

1. detailed design and pre-construction;
2. construction (including demolition when it is being undertaken by the EPC contractor);
3. operation and maintenance.

There are five parts to the Mitigation Plan, as follows, with Parts 2-3 applicable to the respective contract packages:

1. Part 1: General Mitigation (applicable to all civil works components)
2. Part 2: New Substations / Construction of 132 kV GIS Bay Extensions
3. Part 3: 132 kV and 33 kV Underground Cables and Part 5: 11kV and 0.4 kV Overhead Lines, Distribution Transformers and RMU – as equipment will be separately supplied equipment specifications will need to be incorporated into the supply contract packages (e.g., DG5 for distribution transformers and RMU) which will be following ADB procurement requirements.

The Mitigation Plan describes the general, activity- and site-specific mitigation measures to address the impacts and risks, which have been identified during the impact assessment, and ensure compliance with applicable national standards and international guidelines (Appendix XI). Performance indicators to check that the measures are being implemented effectively are listed, along with the responsible entities for implementing them and supervising and monitoring their effectiveness (either DESCO, the CSC and/or the Contractors). The Contractors will be contractually bound to implement these measures plus the more general ECPs by incorporating both into site-specific CESMPs and H&S Plans, as described in the following sections. Measures that must be commenced during the design and pre-construction phase will continue to be implemented by the Contractor during the construction phase. Within the defects liability period of 1.5 years the Contractor will also be responsible for maintenance. Following that, DESCO will take over the responsibilities for both operation and maintenance.

#### **11.6 Construction Environmental and Social Management Plans (CESMPs)**

The Contractor will be responsible for the development of site-specific Construction Environmental and Social Management Plans (CESMPs) and H&S Plans, setting out in detail how it will implement the measures listed in the Mitigation Plan and other commitments DESCO has made in this Project EMP. The general measures which will be included within them are described in the ECPs. Contractor will need to obtain PIU approval of its CESMP and H&S Plan prior to the commencement of works which includes site establishment and vegetation clearance. CSC will support the PIU in reviewing and approving the CESMPs and H&S Plans. DESCO will need to ensure the CESMPs and H&S Plans mirror and do not conflict with the Project EMP requirements and any requirement of national laws and regulations. The CESMP and H&S Plan will be a living document to be updated as required and reapproved by DESCO if construction methods or site conditions change or in response to an accident, near miss etc.

The key subplans of the CESMP which will be prepared and implemented by Contractor will include the following – the H&S Plan is to be a stand-alone plan given its importance but is considered here as a sub-plan:

- a. **Demolition and Construction Method Statements** describing how each activity involved in demolition (as applicable) and construction works will be undertaken (schedule, access routes, anticipated traffic volumes, and working methods) with respect to ensuring compliance with the Project EMP requirements.
- b. **Temporary Facilities Plan**, including details and the layout of the various temporary construction facilities required including any access roads, offices and workshops, material storage, laydown areas, refueling areas, waste storage areas, rest areas, sanitation and welfare facilities, construction labor camps or overnight accommodation.

- c. **Pollution Prevention Plan**, to be prepared with reference to the IFC EHS Guideline environmental requirements including those on Construction and Demolition.<sup>42</sup> This plan will detail the measures to control noise and vibration and, if required, include separate demolition, piling and blasting management plans. Measures to control dust and air emissions will be included and details of how water resources will be protected, how water discharges including spills and leaks, surface water runoff, bentonite slurry and concrete wash water will be managed. The procedures and designated areas for the environmentally safe and sound storage, transportation and use of fuel, oil, and other hazardous substances, as applicable, will be described. Further, this plan will cover the issue of SF6 management.
- d. **Spoil Management Plan** on the management of excess spoils from various excavation, site levelling and cut and fill activities. Management of drilling and piling muds.
- e. **Waste Management Plan**, detailing the measures required for the environmentally safe and sound collection, segregation, storage, transportation, and disposal of all solid and hazardous waste referring to the IFC EHS Guidelines on Waste Management and Construction and Demolition. The management of sanitary wastewater will be described. The plan will itemise how wastes can be reduced and recycled -- disposal will be the last resort.<sup>43</sup> It will identify the suitably licensed reuse/recycling vendors and waste management facilities for the disposal of solid and hazardous wastes to be used by the Contactor. Use of open dump sites for disposal is not permitted and for this reason municipalities must not be relied upon by the Contractor for the disposal of wastes. Note: a separate Asbestos Management Plan will need to be prepared if asbestos is to be expected in the buildings that are to be demolished.
- f. **Drinking Water Supply and Sanitation and Welfare Plan**. This Plan will detail measures to ensure adequate water supply and sanitation and welfare provisions for the temporary construction facilities, including offices, rest areas, washrooms, and construction labor camps or overnight accommodation in order not to cause shortages and/ or contamination of existing drinking water sources and to ensure the safe and healthy working conditions for the laborers.
- g. **Occupational and Community Health and Safety (H&S) Plan**. This plan will be informed by a facilitated health and safety risk assessment participated in by DESCO/CSC and the Contractors, and detail out workplace and community health and safety measures following the mitigation hierarchy referring to the IFC EHS Guidelines related to H&S and the ILO code of practice.<sup>44</sup> If the COVID-19 pandemic is still declared by the World Health

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<sup>42</sup> [https://www.ifc.org/wps/wcm/connect/topics\\_ext\\_content/ifc\\_external\\_corporate\\_site/sustainability-at-ifc/policies-standards/ehs-guidelines](https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines)

<sup>43</sup> For example, food waste can be composted, Plastic waste – can be reused and recycled, Other domestic waste e.g., cans, paper etc. much of this will be able to be recycled, Demolition waste e.g., bricks, concrete etc. a lot of which can be reused during construction or by others for their construction, Metals – can be recycled, Wood – can be recycled, and Hazardous used oil can be reused providing that it is taken by suitably licensed vendors to do so.

<sup>44</sup> [https://www.ilo.org/sector/Resources/codes-of-practice-and-guidelines/WCMS\\_861584/lang--en/index.htm](https://www.ilo.org/sector/Resources/codes-of-practice-and-guidelines/WCMS_861584/lang--en/index.htm)

H&S Plan will include:

Safety Training Program – to provide general and specialized training courses for all workers on the site and at all levels of supervision and management. General courses will consist of (i) an initial Safety Induction which all workers will be required to attend prior to being allowed to work on site, all visitors and project workers who have not attended the safety induction course must be always accompanied by inducted workers when within the working area and (ii) periodic safety training refreshers covering similar topics

Organization (WHO) at the time of construction, a sub-plan will set out prevention and protection measures including adequate sanitation and PPE for the workers. Risks of other communicable viral diseases to also be addressed.<sup>45</sup>

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to induction, conducted not less than once every six months. All subcontractor workers will be required to participate in relevant training courses appropriate to the nature, scale, and duration of the subcontract. Since they have heightened risk only trained workers must undertake certain activities e.g., working at height, working in confined spaces, working with electricity etc. Workers must have attended such training before they are involved in relevant works and the contractor must either offer an internal training course or organize for attendance at an external specialist training course. Workers must have a training record of attending a suitable training course. Untrained workers will not be permitted to work at height, enter confined spaces, work with live electricity etc.

Medical Check-Up/Health Surveillance – of workers fitness, eyesight, hearing, respiratory health, and communicable and noncommunicable diseases before works commence; and then repeated every six months by the contractor during construction. Only workers who have passed their fitness test and have the requisite medical clearance must undertake certain activities e.g., working with electricity etc.

Safety Meetings – to be conducted monthly during construction phase by DESCO. During construction the meetings will require attendance by the safety representatives of all contractors and subcontractors on-site. The minutes of all safety meetings including actions agreed will be taken and sent to DESCO within seven days of the meeting.

Safety Inspections – the contractor will regularly inspect, test, and maintain all safety equipment, scaffolds, guardrails, working platforms, hoists and other lifting equipment, ladders and other means of access, lighting and signage, firefighting equipment, first aid kit, stock take and condition of PPE etc. Signs will be graphic and in the languages of workers, kept clear of obstructions and legible to read. Lighting will meet illumination guidelines for the working area as per IFC EHS Guidelines on OHS. Equipment, which is damaged, dirty, incorrectly positioned or not in working order, will be immediately repaired, or replaced, by the contractor.

H&S Audit - during construction the contractor's H&S officer and DESCO will undertake monthly audits of compliance with the H&S plan.

Personal Protective Equipment (PPE) as a last resort where risks cannot be avoided – workers will be provided (before they start work) with appropriate PPE at no cost to the workers. PPE provided to workers (regardless formal and informal, directly contracted or subcontracted) in accordance with Table 2.7.1. Summary of Recommended Personal Protective Equipment according to Hazard in IFC EHS Guidelines on OHS including safety shoes, helmets, goggles, earmuffs, and face masks and ensure that this is always worn by them with a strict disciplinary system (no work condition if not compliant) being enforced for any non-compliance.

Work Zone Noise Levels: during construction protective measures need to be provided and as per the IFC EHS Guidelines on OHS, Table 2.3.1. sets the level at 85 dB (A) for 8 hours exposure and will be adopted, as well as 140 dB(C) peak/instantaneous noise exposure for workers working near the high noise generating machinery. High noise work areas must be adequately signposted. In these high noise work areas PPE in the form of sound reducing earmuffs/ear plugs to the workers are to be provided. In the first instance however, reduction in noise levels to the lowest practical level must be achieved by adoption of suitable preventive measures, such as, use of enclosures with suitable absorption material, etc. Workers operating in the high noise work areas will be given auditory tests as part of health surveillance.

EMF levels at the construction site to be kept within international good practice levels as per ICNRP (reference and peak values) for the occupational exposure.

Electricity: IFC EHS Guideline on Electric Power Transmission and Distribution requirements for working with electricity will be observed with only licensed electricians that meet the requirements set out in them allowed to work on live electricity with strict adherence to safety standards including those listed in said guidelines. Live lines will be deactivated and properly grounded before work is performed on, or in proximity, to the lines and this will be checked and certified in writing by the contractor's H&S Officer in advance. While working at heights personal safety measures such as harnesses, tool bags, ropes etc. will need to be provided.

<sup>45</sup> Contractors will provide adequate sanitation and welfare facilities including hand washing and PPE in sufficient quantity on-site and at labor camps/overnight accommodation so workers can follow healthy hygiene practices as well as avoiding conditions for vectors to breed; contractors will also consider local health care facilities' capacity to deal

- h. **Traffic Management Plan.** This plan will be prepared in consultation with the Dhaka authorities responsible for roads and traffic. It will identify the off-site routes to be used, entrances and exits off the public road, procedures for the safety of the local community, particularly pedestrians and vulnerable groups, and mechanisms to avoid traffic congestion because of construction traffic movements and where transmission and distribution line works interfere with the highway.
- i. **Biodiversity Management Plan** setting out procedures for site clearance, tree cutting and earthworks with pre-checks and supervision undertaken by the Contractor's ecologist plus (i) construction worker prohibitions on fishing, hunting, poaching, etc. (ii) an emergency fauna rescue and handling procedure, including contacts of forest department, nearest veterinary etc. and (iii) measures to avoid the spread of invasive species including the installation of washing stations for the pressure washing of vehicles at construction site entrances.
- j. **Chance Find Procedure** setting out how damage to existing physical cultural resources will be avoided and the procedure to be followed in the event of a chance find incident.
- k. **Labor Management Plan** addressing the recruitment and management of the workforce including details of sanitation and welfare facilities, construction labor camps or overnight accommodation per ILO guidelines<sup>46</sup> and a worker code of conduct<sup>47</sup> to ensure workers have appropriate conduct whilst working and living in the local community. It will ensure compliance with the national labor law including that all workers whether formally or informally employed by the Contractor or their subcontractor(s) have a contract, identification card, the right to stop work, and do not work more than the legal working hours; it will discourage the use of daily workers by subcontractors and ensure adequate keeping of wage records. It will address the encouragement of local and women employment as well as measures needed to protect vulnerable worker groups including gender-based violence/sexual exploitation, abuse, and harassment prevention.
- l. **Emergency Preparedness Plan** will be prepared by the Contractor after assessing all potential hazards and emergency scenarios that could be encountered in relation to

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with any infections agreeing with the nearest Health Center and/or Hospital for emergency cares of workers. Medical insurance will be provided by contractors for all workers with sick leave allowance to ensure symptomatic workers do not attend site; avoid no-work-no-pay policies, whereby by fear of not getting paid workers would be tempted to report to work and hide any symptoms.

<sup>46</sup>[https://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/---multi/documents/publication/wcms\\_116344.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---multi/documents/publication/wcms_116344.pdf) with particular attention to providing one bed per worker and lockable storage

<sup>47</sup> Code must be informed by the CSEMP and address the following aspects: Zero tolerance in respect of health and safety; Requirement on always wearing PPE on site; Zero tolerance of bribery or corruption; Respect for local community and customs, avoiding community conflict situations; Zero tolerance of illegal and unacceptable activities/behavior, including but not limited to engagement in: prostitution; gender-based violence/sexual exploitation, abuse, and harassment; illegal sale or purchase of alcohol; sale, purchase, or consumption of drugs; gambling; fighting etc.; Alcohol and drugs policy and testing regime; Role of workers in good housekeeping; Role of workers in maintaining good hygiene; Respect of wildlife and the environment; Description of disciplinary measures for infringement of the code of conduct and other employer rules (e.g., immediate removal from site, fine etc.)

pollution, health and safety, and security during construction to detail out how they will be quickly and effectively responded to.<sup>48</sup>

- m. **Stakeholder Engagement Plan** to set out how the Contractor will interact with the local community and other stakeholders, issue advance notice of construction works, and disseminate the GRM, and, manage site complaints in line with the GRM for the Project.
- n. **Training Plan** to set out how the Contractor will provide EHS training to its sub-contractors and all formally and informally employed workers on the construction site including daily tool box talks flagging their right to stop work if H&S risks are present, as well as awareness raising activities for the local community.

### 11.7 Environmental Codes of Practice (ECPs)

The following ECPs (Appendix X) contain general, non-activity- or site-specific measures which need to be integrated into the Contractor's CESMPs for implementation during the construction.

- ECP 1: Waste Management
- ECP 2: Fuels, Oils and Other Hazardous Substances Management
- ECP 3: Water Resources Management
- ECP 4: Drainage Management
- ECP 5: Soil Quality Management
- ECP 6: Erosion and Sediment Control
- ECP 7: Topsoil Management
- ECP 8: Topography and Landscaping Work
- ECP 9: Air Quality Management
- ECP 10: Noise and Vibration Management
- ECP 11: Protection of Flora
- ECP 12: Protection of Fauna
- ECP 13: Protection of Fisheries
- ECP 14: Road Transport and Road Traffic Management
- ECP 15: Construction Site and Labor Camp Management
- ECP 16: Cultural and Religious Issues
- ECP 17: Workers Health and Safety (including COVID-19 Prevention and Protection)
- ECP 18: SF6 Management

Measures in the IFC EHS General and Electric Power Transmission and Distribution guidelines, ADB's Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and

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<sup>48</sup> Including communication systems and protocols to report an emergency e.g., spills and leaks, health emergency, work-related accident including electrocution, traffic accident, accident involving the community, natural disaster including flooding or cyclones, fire, virus outbreak etc. It will need to be developed in consultation with local emergency services with adequate fire and first aid first-responders based on the construction site to facilitate immediate response. Provide readily available first-aid for workers as well as an ambulance for more serious cases. Make arrangements for a doctor on call and nearest Health Center and/or Hospital for emergency care of workers whether formally or informally employed by the Contractor or their subcontractors. Regular drills will be required involving all workers to prepare for any incident.

Communities from Asbestos Exposure Risks, the ILO Code of Practice on Safety and Health in Construction are to also be taken on board in preparing the CESMPs.

### **11.8 Environmental Monitoring Plan (EMoP)**

The Environmental Monitoring Plan (EMoP) (Appendix XII) sets out the minimum requirements for quantitative monitoring and performance standards to be complied with during construction. The main purpose of this EMoP is to ensure that the various tasks detailed in the EMP, particularly the mitigation measures, are implemented in an effective manner and any unanticipated impacts on environment and social parameters can be promptly addressed.

Quantitative monitoring activities may be modified during project implementation, depending on the contractors' performance and analytical results obtained. If performance is worse than expected, corrective action/s will be identified, and environmental monitoring activities will be adjusted accordingly by DESCO and their Contractors during pre-construction, construction or the Operations and Maintenance (O&M) phase to help resolve any unsatisfactory performance.

In addition to quantitative monitoring there will also be supervision and monitoring of EMP implementation. Monitoring of this qualitative compliance with the EMP will be carried out with the help of checklists prepared based on the mitigation measures detailed in the Mitigation Plan (Appendix IX).

### **11.9 Supervision, Monitoring and Reporting Arrangements**

DESCO will submit environmental monitoring reports to ADB on a semi-annual basis up until the completion of construction and on an annual basis during operation, within 15 days from the end of each reporting period i.e., June and December. A template report is included in Appendix XVIII. Submission of environmental monitoring reports will be required from loan effectivity. In between, DESCO will submit quarterly progress reports including an update on environment safeguards implementation following the template in the PAM.

The Contractor's EHS management team will establish their own internal systems for supervising, monitoring and reporting their EMP implementation. During the design, pre-construction and construction phases, contractors shall prepare and submit monthly EHS progress reports per an agreed template to the PIU of DESCO which will form part of their quarterly progress reports and the quarterly progress and semi-annual monitoring reports to be submitted to ADB by DESCO. The monthly EHS progress reports shall indicate any design changes made by the Contractor from the project as assessed in the IEE, and the Contractor's performance (including the performance of all their sub-contractors and any third parties) during pre-construction and construction regarding environmental safeguards implementation. The Contractor will also attend monthly meetings convened by DESCO to discuss EHS issues and establish a H&S Committee including worker representation who will also meet on a monthly basis.

The environmental monitoring reports of DESCO (which may be combined with social monitoring reports) will describe the physical progress of the project, any scope or design changes, compliance with the loan covenants with regard to safeguards, implementation of mitigating measures described in the EMP, quantitative monitoring data and analysis, GRM implementation, and any noncompliance issue and corresponding corrective actions. Once cleared by ADB's environment specialists, the monitoring reports will be posted on ADB's website as required by its Safeguard Policy Statement (2009) and ADB's Access to Information Policy and disclosed by DESCO on its website and locally to the communities through notices boards, leaflets, brochures, or handouts.

In the event of any unanticipated environmental impacts including location, route, design or scope changes during implementation, or if monitoring identifies a breach of performance standards that should be complied with by DESCO and/or their Contractors, Contractors must inform DESCO if they are the ones to become aware of such a situation. DESCO will immediately need to inform ADB, assess the significance of such impacts, evaluate the options available to address the unanticipated impact, and submit to ADB a time-bound and budgeted corrective action plan or updates in the IEE/EMP for review and clearance as required.

Complete photographic records and documentary records will be kept by the Contractors covering all activities on the construction site as well as key locations such as receptors adjacent to substations, off-site access roads, construction stores, sanitation and welfare facilities, labor camps, or overnight accommodation etc. Photographs and condition surveys of all key locations will be taken prior to construction activities beginning, to provide the environmental baseline. Copies of all geo-referenced photographs/condition surveys will be submitted to the PIU along with the contractor's monthly EHS progress report. Specifically, the Contractor will be responsible for the documents and reports in Table 11.3. Documentation and records to be kept by all parties in hard copy as well as electronic format are as follows (not an exclusive list):

- Definitive IEE and EMP (as disclosed on the ADB website)
- Legal register (of all applicable national legislation)
- National environmental clearance (EC) documentation
- Tree felling permits, vehicle emission test certificates etc.
- Training plan and training records with attendance records and photographs of the trainings
- Stakeholder engagement plan and records of all consultations undertaken with photographs and attendance records
- Records of emergency preparedness and response drills with photographs and attendance records
- Document review and approval records
- CESMPs/H&S Plans and sub-plans and copies of approval records
- Contractor (subcontractor) certifications and insurances
- Contractor (subcontractor) worker records including documentation of working hours
- Completed site checklists and photographic records
- Non-compliance notifications and corrective action instructions
- Contractor and operational accident record and incident reports
- GRM register

DESCO and their contractors will facilitate DOE and ADB to carry out the following monitoring actions to supervise project implementation:

- Conduct periodic site visits during the project implementation to confirm compliance with the national environmental clearance, ADB's Safeguard Policy Statement 2009, the project's loan covenants and EMP requirements.
- Review and comment on the periodic EMRs submitted to ensure that adverse impacts and risks of the project are mitigated as was planned and agreed with DOE and ADB, that any corrective actions required have been duly implemented, and that the GRM is fully functional.



- Work with DESCO to rectify to the extent possible any failures to comply with their safeguard commitments, as covenanted in the loan agreement, and exercise remedies to re-establish compliance as appropriate.
- Prepare a project completion report that assesses whether the objective and desired outcomes of the EMP have been achieved, considering the baseline conditions, and monitoring results.

For this purpose, DESCO and their contractors will provide DOE and ADB with access to the project site and all requested information on the project. For any ADB supervision missions DESCO or their contractors will provide all ADB staff with a project site health and safety induction and adequate PPE in accordance with Table 2.7.1 of the IFC EHS General Guidelines - Occupational Health and Safety Section and ILO Code of Practice on Safety and Health in Construction.

**Table 11.3: Main Documents Required from DESCO and Contractor**

Documents	Originator	Destination of the documents	Submission timing		
			Design and pre-construction period	Construction period	Operation period
Health and Safety Risk Assessment	Contractor	PIU and CSC (ESU)	X	X (at minimum annually updated and upon commissioning for handover to DESCO)	
Final design for approval	Contractor	PIU and CSC	X (Once, prior to the start of construction)		
CESMP and H&S Plans for approval (including subplans)	Contractor	PIU and CSC (ESU)	X (Once, prior to the start of construction)	X (updated through construction as needed)	
Environmental, health and safety checklists	Contractor	PIU and CSC (ESU)		X (every week, to be completed daily)	
Monthly EHS progress reports including EMoP results and records and record of monthly training and daily toolbox training	Contractor	PIU and CSC (ESU)	X (every month)	X (every month)	
Monthly EHS progress reports on status of EMP implementation and observations from site visits, minutes of site EHS meetings etc.	CSC	PIU (ESU)	X (every month)	X (every month)	

Documents	Originator	Destination of the documents	Submission timing		
			Design and pre-construction period	Construction period	Operation period
Environmental Monitoring Report	PIU (ESU)	ADB	X semi-annually from loan effectiveness	X Semi-annually	X Annually until PCR issued

## 11.10 Implementation Arrangements

### 11.10.1 Institutional Arrangements and Roles and Responsibilities

#### *Government of Bangladesh*

The Ministry of Power, Energy and Mineral Resources (MPEMR) is the main Project coordinating body on behalf of government. In addition, the DOE plays the role of environmental regulator - granting and enforcing environmental clearance for the project.

#### *DESCO's Management, PIU, and O&M Staff*

The overall responsibility for environmental and social performance of the project, implementation of the EMP and approving the detailed designs, CESMPs and H&S Plans will rest with DESCO. DESCO has already established a dedicated PIU to lead Project implementation. The PIU is headed by the Project Director (PD). A key role of the PIU is to supervise and monitor environmental safeguards compliance and report to ADB. On commissioning of the project components these will be turned over to DESCO O&M staff to operate and maintain. DESCO O&M workers will need to abide, in their behaviour and work, to directives issued by their employer with regards to environmental, health and safety management.

#### *DESCO's Environment and Social Unit (ESU)*

An Environment and Social Unit (ESU) comprising of qualified and experienced environmental and social development staff will be established under the DESCO management structure to support environmental and social safeguards implementation for DESCO's overall operations. The ESU technical staff will report to an Executive Engineer (Civil & Environment) managing the ESU who in turn would report to the Chief Engineer (Planning & Design). Due to the time required to create new regular staff positions the ESU will initially be formed prior to loan effectiveness by 3no. of DESCO's existing regular staff including 1no. management and 2no. technical staff, (i) a full-time Environmental and Social (E&S) Officer; and (ii) a full-time Health and Safety (H&S) Officer. But within two years of loan effectiveness DESCO will have created 4no. regular technical positions by advertising and recruiting the following suitably qualified and experienced staff (i) a full-time Environmental Officer, (ii) a full-time Health and Safety Officer, (iii) a full-time Social Officer, and (iv) a full time Labor Officer, all reporting to the Executive Engineer (Civil & Environment) – DESCO may support more extensive training (e.g. IOSH or NEBOSH certification) for initially assigned staff so that they will be able to apply for the roles.

Capacity development will be required to build up the environmental and social management capabilities of the ESU including the establishment of a corporate ESMS with help from ADB TA consultants, funded under the capacity building component of the Project.

Specifically, for this project, the ESU staff will be delegated to work as part of the PIU (reporting to PD) to support EMP implementation, supervision, monitoring and reporting. A key role of the ESU (E&S Officer) will also be to manage the Grievance Redress Mechanism (GRM) at project level on behalf of the PIU. On the advice of the ESU technical staff, the Executive Engineer (Civil & Environment) will be given authority to instruct the PIU and be given delegated authority to instruct the Contractor via the CSC to undertake corrective action in relation to any lapses in compliance with national laws and regulations or the EMP implementation.

The ESU will assist the PIU on issues related to environment, health and safety, labor and social management and work together with the CSC and Contractors' EHS staff. Contractors will submit progress reports on environment, health and safety and social issues to the PIU monthly during the pre-construction and construction period. The ESU technical staff will review them and report any issues to the PIU, compile quarterly environment safeguards implementation updates to be shared with the ADB through the quarterly progress reports, as well as preparing the semi-annual environmental monitoring reports with CSC on behalf of PIU up to the end of construction and then on an annual basis during the operation phase.

During operation, ESU will continue to ensure and report on EMP implementation by the DESCO O&M staff and be responsible for the annual environmental monitoring report submission.

The ESU will provide facilitation support to the CSC in providing environmental training to the PIU staff and contractors responsible for implementing the EMP during the construction phases of the project.

#### *Construction Supervision Consultant (CSCs)*

The PIU will engage a construction supervision consultant (CSC) to supervise the construction contractors to ensure compliance with detailed design standards and to assure the quality of the construction activities.

The CSC will also include consultants to supervise the contractors on EMP implementation. For this purpose, CSC will engage one Environmental Specialist, one Health and Safety Specialist, one Social Development Specialist, and one Labor Specialist on a full time basis as well as part time technical specialists as required, such as, an ecologist for supervising of the site clearance activities.

#### *Contractor and Subcontractors (if any)*

The Contractor is responsible for the implementation of the EMP with supervision and monitoring by the PIU and CSC supported by the ESU staff. The requirement to undertake relevant mitigation and monitoring actions as set out in the EMP applies to the construction site as well as off-site locations such as construction stores and at any labor camps or overnight accommodation provided. The contractor is required to ensure that the EMP requirements are cascaded down to all sub-contractors undertaking works regardless they are formally or informally employed. It is recommended the EMP be included in all subcontracts and the number of subcontractors in the chain be minimized to facilitate compliance with EMP requirements.

All construction workers whether formally or informally employed will need to abide, in their behaviour and work, to directives issued by their employer with regards to environmental, health and safety management.

Contractors will have a corporate EHS policy and environmental management certification preferably ISO 14001 (or equivalent) and EHS certification such as ISO45001 or equivalent.

The Contractors will include the following full-time staff on their EHS team: (i) an Environmental, Social and Health and Safety (ESHS) Manager (ii) an Environmental and Social (E&S) Officer, (iii) a Health and Safety (H&S) Officer and (iv) a Labor Officer. An ecologist will be available part-time with other technical experts brought into the EHS team as required to address the EMP requirements. In addition, there will be one EHS Supervisor for each active construction site and for each substation site. This person will be based on-site full-time to ensure the health and safety of all workers and local communities. The EHS Supervisor will act as the main contact for the EHS Team and act on its advice regarding EMP implementation. Each EHS Supervisor will be supported by full-time, dedicated, on-site Health and Safety steward(s) with at least one steward for each construction team of up to 50 persons. For the transmission and distribution line works a suitable number of Health and Safety Steward(s) will be required depending on how the contractor undertakes the work since the workers may be more dispersed compared to substation works. If a contractor is awarded more than one contract package, then an entirely separate EHS team is to be employed for each of them. Contractor is to also ensure their subcontractors appoint an EHS representative for each construction site.

The EHS Team will be tasked to develop the CESMPs and H&S Plans in accordance with the EMP and be responsible for ensuring its implementation during the construction activities, supported by sufficient numbers of 24-hour onsite EHS Supervisors. During construction, the EHS team will continually update the CSEMP and H&S Plan and oversee and report to PIU on the operation of the Project EMP/CESMP/H&S Plan throughout the contract period.

The ESHS Manager, supported by the E&S Officer, will be the Contractor's main focal point for all environmental, social, health and safety issues associated with the Project. They will be a suitably qualified and experienced full-time member of staff and must be on site at least five days per week with an alternative available during periods of annual or sick leave of more than 1-2 days. The required qualifications of the role of ESHS Manager and E&S Officer are as follows:

- Degree in environmental sciences and related expertise.
- At least 7 years for the ESHS Manager and 5 years for the E&S Officer experience in on-site environment supervision, including experience of EMP implementation on at least five construction/electrical infrastructure projects of a similar type, location, size and scale.

Specifically, the ESHS Manager shall be responsible for the following with the support of the E&S Officer:

- Identifying any areas of environmental sensitivity to be avoided with the support of field ecologists.
- Translate mitigation requirements written in the Project EMP/CESMP/H&S Plan and its sub-plans into practical measures on the ground.
- Ensure that all contractor management, subcontractor management, and construction workers are fully aware of the environmental sensitivities of the sites and their responsibilities, as outlined in the Project EMP/CESMP/H&S Plan (e.g., through back-to-back contract provisions, formal induction and training provision, daily toolbox talks ahead of construction works etc.).
- Supervise construction works with regular site walkovers and spot-checks (audits) of compliance, take field notes and photographs to demonstrate compliance or non-compliance with the Project EMP/CESMP/H&S Plan and its sub-plans.
- Participate in monthly meetings with the PIU, CSC and ESU to discuss EMP implementation progress and any EHS concerns,

- Coordinate completion of quantitative environmental monitoring in accordance with the EMoP requirements.
- Maintain environment records e.g., training records, EMoP results, waste records etc.
- Act as the contractor's GRM focal to keep affected persons informed of works and be available to receive and deal with any grievances at the project site level. The H&S and Labor Officers will help with managing all social and labor related grievances. They will also act as the GRM focals for workers receiving and recording grievances in the logbook.
- Prepare weekly environmental checklists and monthly EHS progress reports that shall be submitted to PIU (ESU) for review. The CSC will provide a template of the checklist to the contractor, the monthly reports will also include general progress with the project and EMP implementation with photographs, regular site visits and spot checks (audits) undertaken, training provided, environmental incidents, e.g., spills of liquids, health and safety incidents, progress with any environmental initiatives, e.g., energy savings, recycling, community awareness etc., records of any environmental monitoring, conclusions and recommendations (corrective action), impacts on unanticipated changes in projects etc.

The qualifications for the H&S Officer are:

- NEBOSH/IOSH certification or similar qualification.
- At least at least 6 years on-site H&S experience including risk assessment and management planning for at least five construction/electrical infrastructure projects of similar type, location, size, and scale.

The main responsibilities of the H&S Manager will be:

- Facilitate H&S Risk Assessments for detailed design and for specific construction work activities.
- Produce H&S Plans for the construction work with subplans for specific construction work activities.
- Provide H&S training, including effective daily toolbox training sessions at each work site with the support of sufficient numbers of 24-hour onsite EHS Supervisors and H&S Steward(s).
- Participate in monthly meetings with the PIU, CSC and ESU to discuss EMP implementation progress and any EHS concerns,
- Establish a H&S Committee including appropriate representatives from DESCO, CSC, contractor and subcontractor management, and a representative number of construction workers and hold monthly meetings together with the Labor Officer to address any concerns,
- Conduct routine site inspections and issue internal stop notices, if necessary, for unsafe activities.
- Maintain H&S statistics records for near misses, as well as incidents.
- Keep records of accidents and report them accordingly with lessons learned to avoid future repeats.
- Undertake awareness raising activities to make the community aware of the H&S risks posed by the Project.
- Preparation of weekly H&S checklists and provide H&S input to the Contractor's monthly EHS progress reports.

- Support the ESHS Manager as a GRM focal for workers receiving and recording grievances in the logbook.

The qualifications for the Labor Officer are:

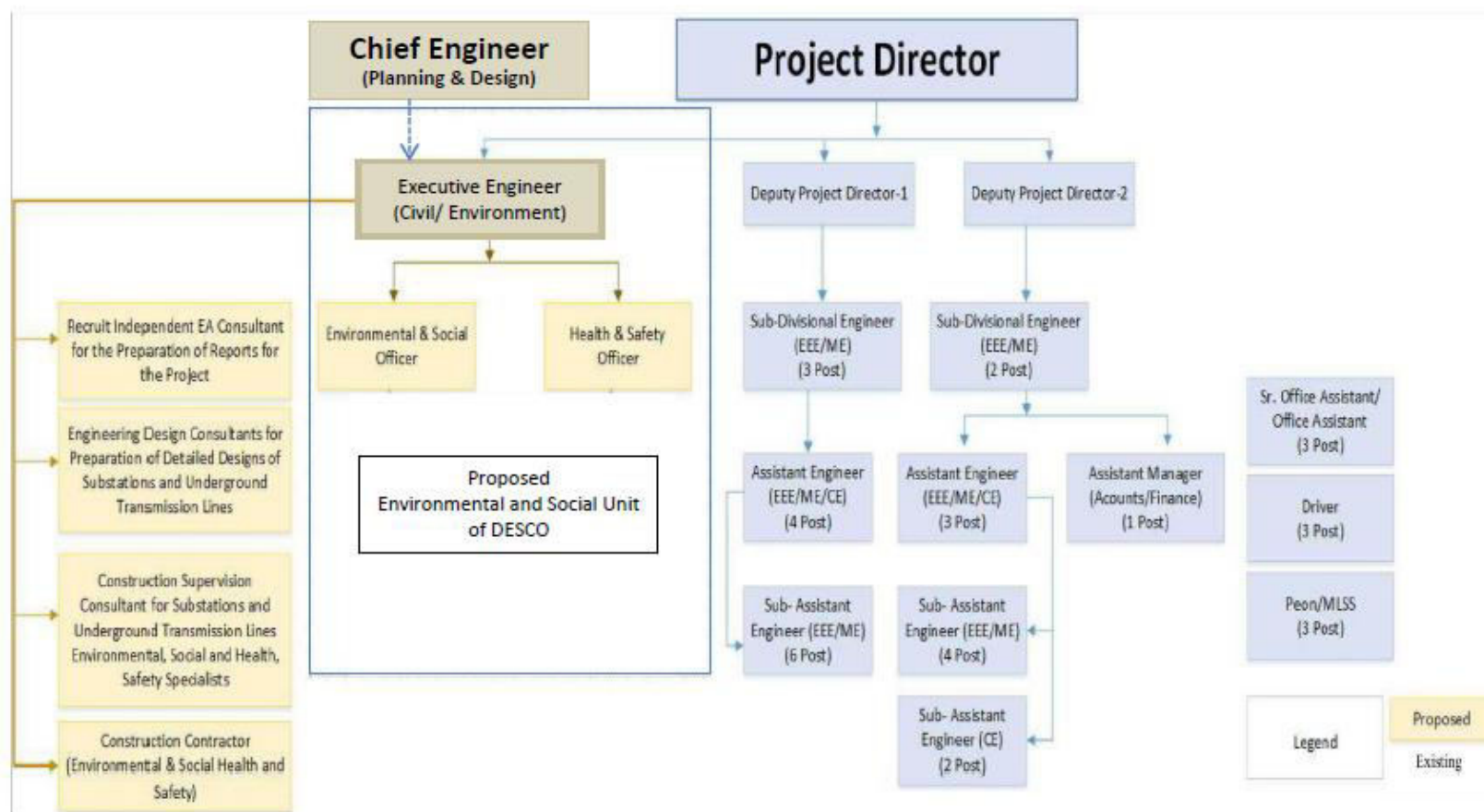
- Degree in social sciences and related expertise.
- At least at least 5 years labor management experience including on-site experience of construction/electrical infrastructure projects of similar type, location, size, and scale.

The main responsibilities of the Labor Officer will be:

- Produce labor related management plans for the construction work and ensure management of construction workers is per national requirements with labor camps and other contractor provided accommodation meeting international good practice standards.
- Develop code of conduct and provide code of conduct training, including regular toolbox training sessions at each work site.
- Maintain labor records including copies of insurances, contracts and working hours, eligibility of construction workers for employment etc.
- Participate in monthly meetings with the PIU, CSC and ESU to discuss EMP implementation progress and any EHS concerns,
- Participate in the H&S Committee and hold monthly meetings together with the H&S Officer,
- Preparation of weekly sanitation and welfare facility checklists and provide labor input to contractors monthly EHS progress reports.
- Support the ESHS Manager as a GRM focal for workers receiving and recording grievances in the logbook.

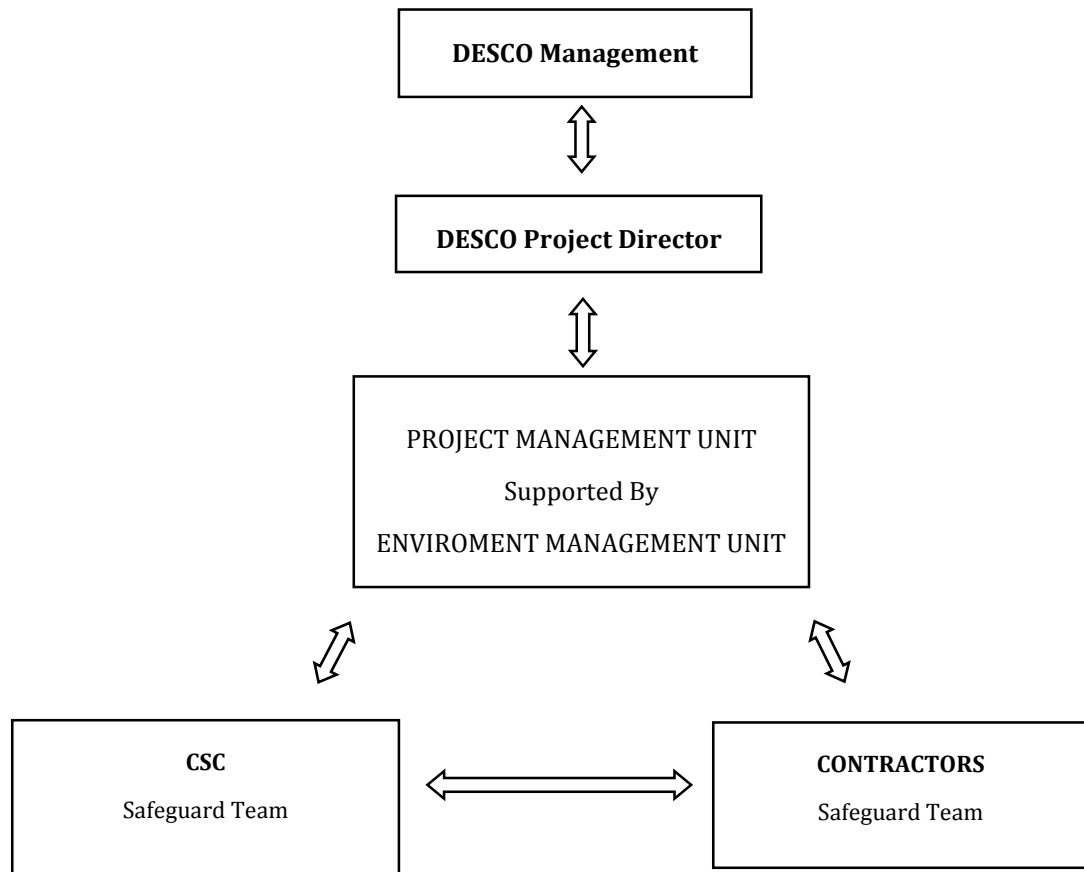
#### *Institutional Structure and Responsibilities*

The organogram of the PIU, including the initial set up of the ESU, is shown in Figure 11.1 with the institutional arrangement in Figure 11.2. Table 11.4 presents the responsibilities of DESCO's PIU (ESU) as well as the CSC and construction contractor(s).



Note: ESU to be established will be organic in DESCO to support projects as and when needed, inside two years of loan effectiveness the ESU staffing will have been expanded.

**Figure 11.1: Organogram for Environmental and Social Management of Project**



**Figure 11.2 Project Implementation Organogram**

**Table 11.4: Roles and Responsibilities for EMP Implementation**

Organizations	Responsibilities
DESCO management	<ul style="list-style-type: none"> <li>• Establishing ESU within DESCO initially with at least one full-time Environmental and Social Officer and one Health and Safety Officer and expanding the staffing inside of two years of loan effectiveness. ESU staff shall be suitably qualified and experienced on environmental, social, and health and safety matters to ensure implementation of safeguards across DESCO operations. Additional staff or consultants may be engaged by the ESU full-time or intermittently, as needed to support.</li> <li>• Appointing ESU as a constituent part of PIU to support EMP implementation during construction and operation.</li> <li>• Ensuring adequate management support, budget, staff, and other resources are allocated to satisfactorily implement, supervise, and monitor implementation of the EMP during all phases.</li> <li>• Ensuring that all PIU (ESU) and O&amp;M staff support and attend all capacity development and training activities provided for them.</li> <li>• Adopting a zero-tolerance approach to H&amp;S and developing and adopting systems, institutional arrangements, and guidelines (standard operating procedures) to ensure compliance with national environment, health and safety, social and labor laws and regulations and international good practice across DESCO operations and its projects.</li> </ul>



Organizations	Responsibilities
	<ul style="list-style-type: none"> <li>• Once operational, any contractors hired for maintenance works or decommissioning will be supervised and monitored by DESCO (ESU) with roles and responsibilities being the same as those of the contractors for the construction.</li> <li>• Ensure that monitoring reports (semi-annual during construction and annual during O&amp;M phase) are submitted to ADB up until the project completion report is issued.</li> </ul>
PIU	<ul style="list-style-type: none"> <li>• Ensure effective implementation of construction of the project in accordance with the definitive EMP. Seek the support of ESU for (i) updating the national EIA for the purposes of Environmental Clearance, and (ii) updating the IEE/EMP subject to ADB review and clearance because of any location, route, design or scope changes.<sup>49</sup></li> <li>• Ensuring adherence to all applicable national environment, health, safety, and labor laws and regulations in force at the time.</li> <li>• Ensuring adherence to ADB’s Safeguard Policy Statement (2009) and the related IFC Environment, Health and Safety (EHS), general and power transmission and distribution guidelines (2007).</li> <li>• Recruitment and supervision of Construction Supervision Consultants (CSC).</li> <li>• Incorporating the EMP into the bidding and contract documents before issuing tenders and contract awards.</li> <li>• Reviewing bids to ensure they are in accordance with the EMP requirements prior to contract award.</li> <li>• Ensuring the IEE with at least the executive summary translated into Bangla is disclosed on the DESCOM website with hard copy available at construction sites and full translation free of charge into Bangla if it is requested by the public, publishing the key findings and availability through notices boards, leaflets, brochures, or handouts.</li> <li>• Reviewing and approving the contractor’s detailed designs as well as CESMP/H&amp;S Plan and subplans to ensure they incorporate and are in accordance with the EMP requirements.</li> <li>• Implementing the EMP throughout all phases or, if responsibilities are delegated, supervising, and monitoring its implementation by the contractor with support of ESU.</li> <li>• Ensuring all necessary national permits and permissions, and any requirements for renewal, are complied with before the commencement of related work, maintain records with copies of all the clearances, permits, licenses, and insurances obtained.</li> <li>• Ensuring no temporary or permanent relocation for the purposes of construction, or following the resettlement plan</li> <li>• Ensuring the contractor provides adequate training to their subcontractors and all workers including daily EHS toolbox talks and emergency response drills; suggesting topics for the training based on site observations.</li> <li>• Undertaking, with the support of ESU and CSC, monthly EHS meetings including site walkover inspection to determine the status of EMP implementation by the contractor during construction as well as random “spot check” site visits to audit their</li> </ul>

<sup>49</sup> Per national requirement, an Environmental Impact Statement needs to be prepared to secure an Environmental Clearance Certificate. In the context of ADB SPS 2009 requirement, an IEE is required. The EIA constitutes the IEE in this document and given the change in scope since the EC was granted will be resubmitted to DOE as part of renewing the EC for the Project.

Organizations	Responsibilities
	<p>EMP implementation. Minutes of meetings and findings of site walkover inspections will be attached to the EMRs to be submitted to ADB.</p> <ul style="list-style-type: none"> <li>• Identifying areas for improvement, unsafe acts, and any noncompliance with the EMP by the contractor and/or DESCO staff and instructing corrective actions to be taken by them to bring implementation back on track.</li> <li>• Thoroughly investigating all unanticipated impacts, near-misses, incidents, and chance finds; preparing a detailed incident report where applicable, identifying and instructing on corrective actions particularly to avoid any repetition of near-misses and accidents.</li> <li>• Monitoring and reporting with support of ESU on EMP implementation including reporting on EMP implementation in quarterly progress reports and preparing semi-annual EMRs for submission to ADB up until the completion of construction, reverting to annual up until the ADB project completion report, or for longer period if it is required by the ADB PCR. Ensuring the EMRs are disclosed on the DESCO website and ensuring the same are locally disclosed on the DESCOM website with translation to Bangla free of charge if it is requested by the public, publishing the key findings and availability through notices boards, leaflets, brochures, or handouts.</li> <li>• Reporting to ADB of any noncompliance or breaches with ADB safeguard requirements in a timely manner and take corrective actions promptly. Developing and taking all requisite corrective action in case of any noncompliance with the EMP including repair of any property damages and financial compensation (insurance) for health and safety incidents.</li> <li>• Reporting any unanticipated impacts, accidents, and chance finds to ADB within 48 hours of them occurring along with a corrective action plan.</li> <li>• Reporting immediately to ADB any grievances submitted to the GRM upon receipt.</li> </ul>
ESU	<ul style="list-style-type: none"> <li>• Building up and sustaining institutional capacity in environmental management, health and safety, including conducting public awareness programs on electrical safety etc. Supporting PIU in delivering on its roles and responsibilities listed above.</li> <li>• Preparing a detailed training plan and providing support to CSC in organizing training venues and developing and delivering the suite of training activities for DESCO staff and contractors in relation to awareness raising on EMP implementation.</li> <li>• Support PIU with local disclosure of the IEE and help with translation into Bangla if requested. Explanation of its content to be extended free of charge to affected persons on request.</li> <li>• Updating the national EIA for Environmental Clearance, and (ii) updating the IEE/EMP subject to ADB review and clearance because of any location, route, design or scope changes prior to approval of detailed design. Obtaining DOE's clearance or renewal (as applicable) and ADB's clearance prior to the commencement of any work, including site establishment and vegetation clearance. Once cleared, ADB will disclose the updated IEE/EMP on its website whilst DESCO will locally disclose it.</li> <li>• Preparing a stakeholder engagement plan to elaborate on ongoing consultation and information disclosure in relation to EMP implementation considering gender, vulnerable groups, and Indigenous Peoples – the Project is classified as IP C; preparing consultation materials for distribution to affected communities including notices boards, leaflets, brochures, or handouts.</li> </ul>

Organizations	Responsibilities
	<ul style="list-style-type: none"> <li>• Undertaking and documenting all ongoing consultation, details of consultations such as minutes of the meetings, photographs to be documented in the EMRs submitted to ADB.</li> <li>• Establishing and operationalizing the GRM for affected persons (construction workers and local community members) in line with the IEE including appointing GRM Focals and establishing a GRC, disseminating contacts, recording and promptly resolving grievances received. All ongoing grievance-related information will be documented in the EMRs submitted to ADB.</li> <li>• Undertaking environmental monitoring as set out in the EMP during all phases, documenting quantitative and qualitative monitoring results; for quantitative monitoring by DESCO hire surveyors and accredited, and quality assured, third-party laboratories.</li> <li>• Preparing inputs to quarterly progress reports and semi-annual EMRs for submission to ADB up until the completion of construction, reverting to annual on operation for submission to ADB via PIU.</li> </ul>
CSC	<ul style="list-style-type: none"> <li>• Appointing one environmental, one H&amp;S, one social development, and one labor specialist as key team members as well as part time technical specialists such as field ecologists, to ensure adequate supervision and monitoring of the contractors.</li> <li>• Providing a suite of training activities for DESCO staff and contractors in relation to awareness raising on EMP implementation.</li> <li>• Supporting PIU in reviewing contract documents for inclusion of EMP measures before contract award, detailed designs and CESMP/H&amp;S Plan in accordance with the EMP requirements.</li> <li>• Supervising contractors for EMP implementation and preparing monthly reports to submit to PIU.</li> <li>• Supporting the ESU in updating the environmental assessment, preparing inputs to quarterly progress reports, semi-annual EMRs for submission to ADB up until the completion of construction.</li> </ul>
Contractor	<ul style="list-style-type: none"> <li>• Preparation and implementation of CESMP/H&amp;S Plan which needs to be cleared by PIU and CSC prior to mobilization.</li> <li>• Ensuring adequate budget, staff and other resources are allocated to comply with and implement the contractor's responsibilities under the EMP and to supervise and monitor the active construction site to protect the environment and ensure the health and safety of all workers and affected communities.</li> <li>• Recruitment of at least one Environmental, Social and Health and Safety (ESHS) Manager, one Environmental and Social (E&amp;S) Officer, one Health and Safety (H&amp;S) Officer, one Labor Officer, a part time ecologist, and sufficient 24-h EHS Supervisors and OHS Steward(s) for each construction site to be able to undertake regular on-site supervision and monitoring activities before the commencement of works.</li> <li>• Implementing of all measures and responsibilities allocated to the EPC Contractor under the EMP for the full duration of the contractor's involvement including maintenance period.</li> <li>• Ensuring adherence to all applicable national and state environment, health, safety, and labor laws and regulations in force at the time.</li> </ul>

Organizations	Responsibilities
	<ul style="list-style-type: none"> <li>• Ensuring adherence to ADB's Safeguard Policy Statement (2009) and the related IFC Environment, Health and Safety (EHS) general and power transmission and distribution guidelines (2007).</li> <li>• Whilst DESCO has already obtained most permits and licenses, the Contractor may be required to obtain any necessary outstanding permits and permissions before the commencement of related work. Copies of all clearances, permits, licenses, and insurances to be kept.</li> <li>• Ensuring the detailed design reflects the EMP requirements; seeking to ensure it has the same or no worse impact than the indicative designs which were assessed in the IEE.</li> <li>• Supporting DESCO to update (as required) the IEE in respect of the detailed design by providing sufficient details to inform a revised project description and any subsequent reassessment of impacts and risks.</li> <li>• Undertaking and documenting a facilitated health and safety (H&amp;S) risk assessment considering for all phases and including consideration of COVID-19 risks amongst others.</li> <li>• Adopting a zero-tolerance approach to H&amp;S on the project, enforce all workers to comply with the H&amp;S requirements of the EMP including the wearing of appropriate PPE on the construction site.</li> <li>• Ensuring that all construction workers including all formal and informal employees and subcontractors understand their responsibilities to implement the EMP and mitigate environmental impacts and risks associated with pre-construction and construction activities.</li> <li>• Providing EHS training for subcontractors, formal and informal construction workers and other personnel as required.</li> <li>• Supporting DESCO in undertaking ongoing consultation and implementing the site-level GRM; in particular, the contractor's GRM Focal shall thoroughly document details of complaints and make its best efforts to resolve the complaints at project site level; all this information is to be included in the contractor's monthly reports to DESCO.</li> <li>• Undertaking environmental monitoring as set out in the Environmental Monitoring Plan (EMoP) during pre-construction and construction and documenting both qualitative and quantitative monitoring results; for quantitative monitoring the contractor is to hire surveyors and accredited, and quality assured, third party laboratories.</li> <li>• Participating in monthly meetings with the PIU, CSC and ESU to discuss EMP implementation progress and any EHS concerns and establishing a H&amp;S Committee who will also meet monthly.</li> <li>• Submitting monthly environmental management reports to DESCO (monthly EMP reports will be stand-alone but included as part of the contractors' monthly progress reports) relating to the work undertaken over the reporting period and documenting the environmental measures including monitoring activities that have been carried out, problems encountered, record data including near misses and accidents, grievances received, and follow-up actions that were taken (or will be taken) to correct the problems.</li> <li>• Informing DESCO immediately in case of any approved detailed design changes or unanticipated environmental impacts occurring during implementation, and as required, provide any information needed to DESCO to enable them to promptly</li> </ul>

Organizations	Responsibilities
	<p>update the national EIA for Environmental Clearance or the IEE/EMP for clearance by ADB before any changes are implemented.</p> <ul style="list-style-type: none"> <li>• Informing DESCO within 24 hours in case of chance find or accident on site and providing within 48 hours an incident report with corrective action detailing how reoccurrence will be prevented.</li> <li>• Informing DESCO immediately in case of any non-compliance and help them to prepare as necessary a corrective action plan for clearance by ADB. Contractor is required to implement all necessary corrective action requested by DESCO to ensure the project remains in compliance with national and state regulatory requirements, ADB's SPS 2009, the project's loan covenants and EMP requirements.</li> </ul>

### 11.10.2 Capacity Building Needs

As DESCO does not yet have a dedicated Environmental and Social Unit (ESU) they presently lack familiarity with EHS requirements, especially ADB requirements and international good practice. DESCO staff who will be working on the project will need to be provided with the appropriate training on environmental safeguards in general and the specifics of management and monitoring requirements. The contractor's staff as well would also need some training and awareness raising to ensure they fully understand the EMP requirements. As such, a preliminary training program is being proposed to equip DESCO staff and contractor with the needed safeguards capacity. The training modules will be delivered through CSC who will bring in technical expertise for any specialized trainings. The exception is the facilitated H&S workshop which will be attended by the CSC but organized by the Contractor. Training modules may be changed during project implementation depending on the needs; ESU will develop a training plan upon loan effectiveness to reconfirm requirements. All trainings will be delivered following national COVID-19 protocols and WHO guidelines if the pandemic is still declared.

Separate training and capacity building will be provided in relation to the Project outcome to establish the ESU with ESMS.

**Table 11.5: Preliminary Training Program**

Training Session	Required Attendees/Recipients	Delivery Mode/Duration	Training Conducted by	Budget Source
Introduction to ADB's Safeguard Policy Statement (2009), IFC EHS Guidelines, national requirements, and Project EMP including EMoP	PIU, ESU, Contractors' Management and Environment Safeguards Teams	Lecture session, presentation, and discussion. In Person/ 1 day	CSC	CSC Budget
Corrective action for existing substations (good practices)	SS staff of DESCO, PIU, ESU	Lecture session, presentation, and discussion. In Person/ 2 day	CSC	CSC Budget
EMP implementation for detailed design	PIU, ESU, Contractors' Design Teams and Environment Safeguards Teams	Lecture session, presentation, and discussion. In Person/ 1 day	CSC	CSC Budget
Facilitated H&S workshop (detailed design stage)	PIU, ESU, CSC, Contractors'	Facilitated workshop	Contractor	Contractor Budget

<b>Training Session</b>	<b>Required Attendees/Recipients</b>	<b>Delivery Mode/Duration</b>	<b>Training Conducted by</b>	<b>Budget Source</b>
	Management, Design, Construction, and Environment Safeguards Teams, SS and O&M representatives of DESCO	In Person/ 1 day		
PCB and SF6 awareness raising	SS staff of DESCO, PIU, demolition contractor for Kalachandpur SS, ESU, Contractors' Management, Design Teams and Environment Safeguards Teams	Lecture session, presentation, and discussion. Online/ 0.5 day	CSC	CSC Budget
GRM operation (initial run at start of project, and then again on handover to operational staff)	PIU GRM Focal Points, ESU, Contractors' Management and Focal Points, and other GRC committee members	Lecture session, presentation, and discussion. In Person/ 1 day	CSC	CSC Budget
EMP implementation for pre-construction and construction, including workshop on CSEMP preparation	PIU, ESU Contractors' Construction and Environment Safeguards Teams	Lecture session, presentation, and discussion. In Person/ 1 day	CSC	CSC Budget
Facilitated H&S workshop (construction stage)	PIU, ESU, CSC, Contractors' Management, Design, Construction, and Environment Safeguards Teams, SS and O&M representatives of DESCO	Facilitated workshop In Person/ 1 day	Contractor	Contractor Budget
Environmental quality monitoring requirements; site supervision and monitoring including use of detailed monitoring framework (checklists) and preparing Environmental Monitoring Reports	PIU, ESU Contractors' Management, Construction, and Environment Safeguards Teams	Lecture session, presentation, and discussion. In Person/ 2 days	CSC	CSC Budget
Facilitated H&S workshop (commissioning stage)	PIU, ESU, CSC, Contractors' Management, Design, Construction, and Environment Safeguards Teams, SS and O&M representatives of DESCO	Facilitated workshop In Person/ 1 day	Contractor	Contractor Budget
EMP implementation at handover upon commissioning (site restoration and O&M)	PIU, ESU, Contractors' Management and Environment Safeguards Teams, SS and O&M representatives of DESCO	Lecture session, presentation, and discussion. In Person/ 1 day	CSC	CSC Budget

### 11.10.3 Implementation Schedule

Strictly no contracts will be awarded before the EMP cleared by ADB as disclosed on the ADB website has been incorporated into the contract documentation. Further, no site establishment or construction activity is to take place before DESCO has received and approved the contractor's CSEMP/H&S Plan including all subplans. Environmental clearance has already been obtained for the Project from DOE. The tentative implementation schedule of the project is listed in Table 11.6. The contractors will submit a more detailed implementation schedule for the detailed design, pre-construction, and construction once the contract is awarded.

**Table 11.6: Key EMP Milestones in Implementation Schedule**

	Description	Indicative Time Frame
<b>1</b>	<b>Project Implementation</b>	
A	Site Clearance and Land Fill (Third Parties)	Airport: June 2024 Bashundhara: June 2024 Uttara (Rupayan City): June 2024 Tongi: June 2024
B	Bidding Documents Approval	Substations: April 2023 132 kV UG Cables: September 2023 Distribution Component: August 2023 (Goods)
C	Procurement (Contract Award)	Substations: February 2024 132 kV UG Cables: March 2024 Distribution Component: February 2024
D	Construction commencement	Substations: June 2024 132 kV UG Cables: September 2024 Distribution Component: June 2024 (depends on the contracts processed by DESCO)
E	Construction Completion	Substations: December 2026 132 kV UG Cables: December 2025 Distribution Component: December 2025 (depends on the contracts processed by DESCO)
F	Defects Liability Period	Substations: 1 year 132 kV UG Cables: 1 year Distribution Component: For Goods packages, financed by ADB: 90 days. For installation works, it depends on the contracts processed by DESCO.
<b>2</b>	<b>Pre-Construction Phase</b>	
A	Implementation of mitigation measures and conduct environmental monitoring for which DESCO and third parties are responsible e.g., demolition of buildings, land fill	Immediate implementation noting EMP requirements must be implemented by third parties at Airport, Bashundhara, Uttara (Rupayan City) and Tongi, and reflected in the goods and works contracts for which the bidding documents may be issued prior to ADB project approval (advance contracting arrangements)
B	Tongi Substation Land Fill	Prior to starting of landfill work at Tongi Substation (immediate implementation as may be undertaken prior to ADB project approval)

	Description	Indicative Time Frame
	(Confirmed National Clearances, <sup>50</sup> ADB TA Supported Supervision Consultant if CSC is not on board)	
C	Establishment of GRM	Immediate implementation, but latest within one month of loan effectiveness
D	Establishment of ESU and appointment of ESU interim staff (3no.)	Immediate implementation, but latest within one month of loan effectiveness
E	Appointment of CSC	CSC must be appointed within three months of the loan effectiveness and prior to the approval of detailed design, CSEMP/H&S Plan approval, granting of Contractor site access, site establishment, site preparation, etc.
F	Implementation of mitigation measures and conduct of environmental monitoring for which contractor is responsible	Upon award of the contract
G	Updating the national EIA and IEE/EMP to reflect detailed design and obtaining DOE and ADB clearance of the updates	Prior to approval of the detailed design
H	Submission and approval of the Contractor's Specific Environmental Management Plan (CSEMP) and H&S Plan	One month before the start of works including any site establishment, site preparation, demolition, and earthworks
<b>3</b>	<b>Construction Phase</b>	
A	Implementation of mitigation measures and conduct of environmental effects monitoring following the EMP and EMoP.	After award of the contract
B	Monthly Progress Report (EHS)	5th day after effective month (covering the month prior)
C	Semi-Annual EMR during construction for submission to ADB	15th day after end of first June or December once loan has been effective for at least one full quarter, the last construction EMR will be submitted after the commissioning and DLP of all works documenting in depth how all pre-construction and construction activities were complied with
D	Restoration of construction sites	Before demobilization of contractor
<b>4</b>	<b>Operation Phase</b>	
A	Implementation of mitigation measures and monitoring activities for operational period	Upon commissioning and the handover to DESCO
B	Annual EMR during construction for submission to ADB	First operational EMR will be submitted 12 months after the last construction EMR was submitted up until the ADB PCR is issued.

<sup>50</sup> ECC of DESCO expressly prohibits the filling of wetland, it is unclear if the Housing Developer has a valid permission to fill the wetland. It must be ensured such permission has been granted before any filling is commenced. DESCO intends to seek permission through renewal of the project EC.



#### 11.10.4 Cost Estimate / EMP Budget

Costs will be associated with implementation of the Mitigation Plan, the EMoP and capacity development. The provisional breakdown for the EMP implementation cost is given in Table 11.7.

Necessary budgetary provisions must be planned and allocated by DESCO and competitively bid by the CSC and contractor for their scope of work. The main EMP budget items have been identified, and an indicative budget allocated for each. The budget will be refined during project implementation but enables preparedness for financial requirements. For DESCO counterpart finance about \$0.36 million (39.29 million BDT) will be required for construction, \$0.07 million per year for operation. For CSC and contractor related costs these are only an estimate based on an estimate of the construction and installation cost, since the contracts are subject to competitive bidding it will be for the contractor/consultants to reflect in their BOQ and ensure adequate budget is provided in their bids for the EMP implementation.

The construction EMoP will be part of the Contractor's contract, whereas the operational EMoP will be the responsibility of DESCO O&M team.

Operational cost is an annual cost, it will be incurred annually for each year of operation.

Separate training and capacity building will be provided in relation to the Project outcome to establish the ESU with ESMS – the cost of the national environment consultant (at 15 person months) is costed separately to the EMP budget/cost, as it will be funded by ADB TA.

**Table 11.7: Budget for EMP Implementation\***

EMP Item	Cost item	Rate	Cost (in Million USD)	Budget Source
<b>Implementation Arrangements (Construction)</b>				
ESU	Executive Engineer (Civil & Environment) – Full Time 5 years	1455/ month	0.09	DESCO Counterpart
	Environmental Officer 1 – Full Time 5 years	875/ month	0.05	DESCO Counterpart
	Social Officer 2 – Full Time 5 years	875/ month	0.05	DESCO Counterpart
	Labor Officer – Fully Time 5 years	875/ month	0.05	DESCO Counterpart
	Health and Safety (H&S) Officer – Full time 5 years	875/ month	0.05	DESCO Counterpart
	Training and capacity building activities (venue hire, ancillary costs etc.)	2000/ session	0.02	DESCO Counterpart
	Ongoing Consultation, GRM Implementation, including COVID-19 Precautions for Consultation or GRC Meetings to cover ad hoc cost of printing leaflets, purchasing masks and hand sanitizers for consultees,	200 per month	0.01	DESCO Counterpart

EMP Item	Cost item	Rate	Cost (in Million USD)	Budget Source
	hire of venue or food purchase etc.			
	EC renewal cost (five years)	2500 per year	0.01	DESCO Counterpart
CSC Safeguard Consultants	Environmental Specialist - international, part time 5yrs, 12 months	16500/ Month	0.02	CSC Budget, DESCO to include in TOR
	H&S Specialist – international, part time 5yrs, 12 months	16500/ month	0.02	CSC Budget, DESCO to include in TOR
	Environmental Specialist – national, full time during construction (2.5yrs or pro rata)	5500/ month	0.2	CSC Budget, DESCO to include in TOR
	H&S Specialist – national, full time during construction (2.5yrs or pro rata)	5500/ month	0.2	CSC Budget, DESCO to include in TOR
	Social Development Specialist – national, full time during construction (2.5yrs or pro rata)	5500/ month	0.2	CSC Budget, DESCO to include in TOR
	Labor Specialist – national, full time during construction (2.5yrs or pro rata)	5500/ month	0.2	CSC Budget, DESCO to include in TOR
	Part time ecological expertise to support supervision of site clearances, 4 months	5500/ month	0.02	CSC Budget, DESCO to include in TOR
	Training and capacity building activities as per Table 4 scope (expert resource persons on PCB etc.)	1000/ session	0.01	CSC Budget, DESCO to include in TOR
Contractor’s EHS Team	Environmental, Social and Health and Safety (ESHS) Manager, full time during construction (2.5yrs or pro rata)	5500/ month	0.2	Contractor, DESCO to include in BOQ
	Environmental and Social Officer full time during construction (2.5yrs or pro rata)	3,300/ month	0.1	Contractor, DESCO to include in BOQ
	Health and Safety Officer full time during construction (2.5yrs or pro rata)	3,300/ month	0.1	Contractor, DESCO to include in BOQ

EMP Item	Cost item	Rate	Cost (in Million USD)	Budget Source
	EHS Supervisor x 8 Substations full time during construction (2.5yrs or pro rata)	8,880/month	0.3	Contractor, DESCO to include in BOQ
	EHS Supervisor for transmission and distribution lines full time during construction (2.5yrs or pro rata)	8,880/month	0.3	Contractor, DESCO to include in BOQ
	H&S Steward(s) for supervising each x 50-person construction team full time during construction (2.5yrs or pro rata)	8,880/month	0.3	Contractor, DESCO to include in BOQ
	Labor Officer full time during construction (2.5yrs or pro rata)	3,300/month	0.1	Contractor, DESCO to include in BOQ
	Ecologist, Part Time full time during construction (4 months)	3,300/month	0.01	Contractor, DESCO to include in BOQ
<b>DESCO Mitigation and Monitoring Plan Implementation</b>				
Implementation of CAP at existing SS	See CAP	5000	0.02	DESCO Counterpart
Pre-construction environmental quality monitoring including third parties	See EMoP	-	0.01	DESCO Counterpart and Third-Party Cost
<b>Contractor's Mitigation and Monitoring Plan Implementation</b>				
Contractor's EMP implementation cost (including PPE provision, training and capacity building, community awareness raising activities etc.)	See Mitigation Plan (Appendix I) Estimate as 1% of civil costs 8no. SS \$90.1 million 132 kV underground lines \$42.8 million 33/11/0.4kV lines \$4.4million	-	1.4	Contractor, DESCO to include in BOQ
Compensatory plantation for tree loss	1:3 ratio for trees cut (loss is to be minimized, if possible) (Note: Table 11.7 summarizes the no. of trees to be cut at the SS sites.)	25	0.005	Contractor, DESCO to include in BOQ
Landscaping of SS	Ecological and visual enhancement	5000	0.04	Contractor, DESCO to include in BOQ
Pre-construction/construction/commissioning environmental quality monitoring	See EMoP (Appendix XII)	-	0.08	Contractor, DESCO to include in BOQ

EMP Item	Cost item	Rate	Cost (in Million USD)	Budget Source
Provision of O&M monitoring equipment for ESU	See EMoP (Appendix XII)	-	0.01	Contractor, DESCO to include in BOQ
<b>Total Cost (million USD)</b>			<b>4.2</b>	
<b>O&amp;M Costs</b>				
ESU	Executive Engineer (Civil & Environment)	1455/month	0.02	DESCO O&M Budget
	Environmental Officer	875/month	0.01	DESCO O&M Budget
	Social Officer	875/month	0.01	DESCO O&M Budget
	Labor Officer	875/month	0.01	DESCO O&M Budget
	Health and Safety (H&S) Officer	875/month	0.01	DESCO O&M Budget
SS environmental quality monitoring including third parties		Annual Cost	0.01	DESCO O&M Budget
<b>Total Cost (million USD)</b>			<b>0.07</b>	

\*Budget is indicative and will be subject to competitive bidding and may be adjusted during the project implementation depending on the project need, ensuring all impacts and risks are adequately addressed.

**Table 11.8: Nos. of Trees to be Cut, Retained and Replanted at the SS sites**

Name of the Proposed SS	Nos. of Trees to be Cut	Nos. of Trees to be Retained	Nos. of Trees for Compensation Plantation
Mirpur Ceramic SS	3	1	9
Kalshi SS	22	0	66
Kalachandpur SS	4	1	12
Purbachal SS	7	4	21
Bashundhara SS	16	0	48
Airport SS	17	3	51
Rupayan City SS	0	1	0
Tongi SS	0	0	0
Total	69	10	207

## 12. Conclusions and Recommendations

The Project will see the construction of (i) four (4) new 132/33/11 kV gas-insulated and four (4) new 33/11 kV gas-insulated substations; (ii) installation of new underground cables, consisting of 30 circuit kilometers (ckm) at 132kV, 50 ckm of 33 kV, and 100 km at 11kV, and (iii) installation of 150 km of new 11kV and 0.4kV (low tension) overhead distribution lines. The substations will be automated and be equipped with 2-4 story control buildings, 5kW solar systems, transformers, batteries, internal access roads, surface drains etc. For the underground cables two new 132 kV gas-insulated switchgear bay extensions at an existing substation of Power Grid Company of Bangladesh Limited (PGCB) will be constructed, fiber optic cables will be installed alongside the conductors. There will be one (1) river-bridge crossing and several Horizontal Direction Drilling (HDD) crossings. For the overhead lines there will be related distribution transformers 750 x 11/0.4kV kVA and 70 x 11/0.23 kV) and 100 x GIS ring main units to be installed. The assessment has been undertaken based on the 8 substation locations and indicative routings for 132 kV and 33 kV with routings for 11 kV and 0.4 kV currently unknown. Environmental audit of 4 existing substations to which the 132kV underground cable connections will be made has also been conducted, with one of these substations (Mirpur Digun, owned and operated by PGCB) including two bay extensions within the existing site. Other components of the Project do not involve construction works and will have no or minimal environmental impact.

The Project Area is primarily urban, characterized by a very high population density with all the associated environmental challenges: dust, noise, heavy traffic and associated air pollution, and insufficient waste management. In the parts of the Project Area extending to the outskirts of Dhaka, pollution levels are less as the suburban environment is still under construction with empty plots for apartment buildings pegged out on previously rural, agricultural land as the city expands. DOE has historically granted EIA approvals for these developments, roads and power lines are already installed. To strengthen the distribution network, the developers of these areas have donated land to DESCO for the purposes of building substations. The only project site which is substantially different in character is the proposed substation at Tongi. The setting is also a suburban area under development, but it is more rural in character, still being used for agriculture, and the site lies adjacent to a sizeable, enclosed, temporary water body which develops during the rainy season, but reduces in size during the dry season. This is a natural waterbody albeit heavily modified. Land use includes paddy cultivation and low-key aquaculture. Initial desktop baseline investigations did not identify any particular biodiversity value of the site. However, as the waterbody is sizeable (3ha) and consultations with local people gave the impression migratory birds, which may also include threatened species, could be supported a bird survey by an avifauna expert was commissioned. The subsequent bird survey in the period of December 2022 – February 2023 counted a total of thirty-six (36) different species, including both migratory and resident species, albeit none of them are threatened. Chayakunka 5th Residential Project Authority (Housing Developer) has reportedly obtained Site Clearance from the DoE (DESCO has not been able to obtain the actual document to date), but reportedly has yet to receive EIA approval. As the landowner, it intends to infill 0.3 ha or about 10% of the 3ha waterbody, raise the level of the site, and donate the land to DESCO for the purpose of building a substation to support its planned development of this area. However, as there is uncertainty regarding the status of the landowner's EIA approval for these infilling works, DESCO will secure clearance for them from DOE itself. The potential impacts of infilling are assessed in this EIA. As the landowner will undertake these works, DESCO will supervise and monitor them to ensure the EMP is followed and that works are consistent with ADB's Safeguard Policy Statement (2009) requirements.

There are no indigenous people in the Project Area, nor will any involuntary resettlement be required for substation construction. A resettlement plan has been prepared as there might be temporary involuntary income losses to business due to the installation of overhead lines and construction of underground cables.

Overall construction, operation and maintenance of the Project is likely to give rise to direct, indirect, cumulative and induced environmental impacts that are mostly site-specific, generally reversible, temporary and of short duration. No protected area, internationally or nationally important biodiversity or physical cultural resources will be impacted. Given the urban setting of the proposed substation sites only about 70 trees will need to be cut, to be compensated for with three trees planted to each one cut. Felling of trees along the cable routes will be reduced to the absolute minimum and avoided, wherever possible. Significant adverse irreversible, diverse, or unprecedented environmental impacts are unlikely to arise. However, due to the densely populated urban setting many receptors will be affected by the impacts that do occur. The most significant impacts of the Project are increased noise and vibration, increased dust, and traffic levels during construction. Demolition of existing buildings, site clearance, and the need for piling to facilitate new substation construction will further increase noise, vibration and dust levels, especially at Kalachandpur substation where residential apartments are immediately adjacent to the site. Temporary road blockages will be required, causing delays and congestion. Occupational and community health and safety risks will also be present. The potential for accidents will be increased, especially during the underground cable laying and overhead line works in the public domain. The underground cables will be laid in sections within the existing roads. Some underground cables will be laid using Horizontal Directional Drilling (HDD) where there are environmental and social sensitivities to be avoided which is the preferred option to minimize disruption and disturbance but, in most cases, on cost grounds, open trenching will be used. There is the potential for injury to pedestrians. These impacts need to be seen within the context of the Project Area's baseline where many other construction activities are ongoing in the urban area, and the noise levels are on occasion already exceeding the national standards. Baseline daytime noise measurements showed that noise levels range from a minimum of 41.3dB(A) near the proposed substation site at Tongi to a maximum of 66.2dB(A) near the proposed substation sites at Purchabal. Due to this environment, the affected people may be more tolerant of disturbances, but cumulative impacts still need to be minimized. During operation and maintenance there remain safety risks due to the presence of electricity infrastructure. Use of polychlorinated biphenyls (PCBs) and asbestos in the substations will be prohibited. The four new 132/33/11 kV gas insulated substations will use SF<sub>6</sub>, a potent greenhouse gas, so any leakage will need to be controlled and monitored.

The potential environmental impacts of the project are all well understood and can be mitigated by DESCO through adherence to national requirements and international good practice measures and standards as set out in the IFC General and Electric Power Transmission and Distribution Environment, Health and Safety Guidelines and the ILO Code of Practice on Safety and Health in Construction. Mitigation measures have been developed for all predicted adverse impacts and risks. Noise and vibration during construction will be managed and the community will be kept informed through regular communication. The construction period will be kept to a minimum, night-time construction in residential areas will be avoided, temporary acoustically designed noise barriers will be used and only well-operated and maintained equipment will be employed. Water spraying and use of screens will help to manage dust at the construction sites. The cable laying and overhead line works along the public roads will be clearly marked and sign-posted with pictorial signs and lights. In order to enable access to the roadside shops and other buildings, concrete or wooden bridges with side protection will be laid for pedestrians to be able to cross over unimpeded. Prior survey of existing utilities will be done to avoid damage being caused, and DESCO will ensure roads will be resurfaced in conjunction with Dhaka North City Corporation immediately on completion of each section to

minimize disruption. Contractors will dedicate enough health and safety supervision staff to each underground cable or overhead line section and develop a work plan to ensure each stretch is completed and the road restored before moving onto the next. The final surfacing works for the roads will be paid for by DESCO but done by Dhaka North City Corporation. It usually takes about 3-6 weeks to be completed. However, immediately following cable installation works, the contractors will infill the roads to the extent that they can be safely reused again by people and vehicles and will continue to maintain them to ensure safe travel whilst avoiding dust and erosion up until the final surfacing works are completed. DESCO must also ensure that when replacing overhead lines alternative arrangements are put in place to maintain health and safety and any street lighting and other cables that use existing poles prior to their removal. For any existing distribution transformers being removed (other than those in storage at an existing switching station to be demolished, removal is not anticipated at this stage) it must be confirmed that these do not contain PCB oil with environmentally safe and sound storage or disposal. There will remain high potential for grievances given the highly populated urban environment, and DESCO will set up a grievance redress mechanism for workers and local communities as well as ensuring works are preceded by extensive community consultation and advance information dissemination. The complainant can access the national judicial system at any time during the GRM and is not contingent to the resolution of the grievance.

All the mitigation measures to control these impacts are defined in the Project's EMP whose implementation by the contractors will be supervised and monitored by DESCO. The EMP includes (i) the mitigation and compensation measures reflecting national requirements and international good practice, (ii) the requirement to approve contractors' Construction Environmental Management Plans (CEMPs) including health and safety risk assessments and health and safety plans, prior to commencement of any works, (iii) an Environmental Monitoring Plan to ensure that the mitigation measures are effective, including the monitoring of health and safety incidents; and (iv) the requirement to submit regular environmental monitoring reports to ADB. It also includes the Corrective Action Plan informed by the environmental audit to address environment, health and safety management at existing substations to which the 132 underground cables will be connected. Implementation of the EMP will be assured by a program of environmental supervision and monitoring during the preconstruction, construction, and operation and maintenance stages by the contractors and DESCO. Any unanticipated impacts or requirements for corrective action during implementation will be reported by DESCO to ADB. To support DESCO with EMP implementation, supervision and monitoring an Environmental and Social Unit (ESU) initially with three staff will be established under the DESCO management structure. A Construction Supervision Consultant (CSC) including a full-time Environment Specialist, Health and Safety Specialist, Social Development Specialist, and Labor Specialist will also be appointed. The contractors will be required to have full-time on-site counterpart officers to the CSC.

A total of three-hundred and eighty-five (385) affected people and other interested stakeholders were consulted between October 2020 and May 2023 leading up to preparation of this EIA report. Of these, seventy-two (72) or 19% were female. Five (5) public stakeholder consultation meetings were held with six (6) Key Informant Interviews (KIIs) in addition to informal consultations both during the preparation of the EIA report and during ADB's Missions to the Project Sites in October 2022 and February 2023. General support for the project was expressed, as the need for a stable electricity supply in the Project Area is paramount. It was considered the project would support development of the area and potentially lead to more employment opportunities. The environmental and social concerns raised were related to the construction phase, including disturbance due to increased traffic and more traffic congestion than usual, due to road blockages during cable laying and overhead line installation, as well as noise and dust. The accident risk was mentioned too. The timing of works was raised, with the request that night-time work be limited as far as possible. The EIA report will be

disclosed on ADB's website and locally by DESCO on their website, at their head office, at the substation sites, and at the underground cabling and overhead line construction site offices with a translation of the Executive Summary into Bengali. The meaningful consultation process will continue during project implementation to ensure that all affected people and other interested stakeholders are fully engaged and can participate in the project's development, particularly before the commencement of works and to inform the final routings for underground cabling and overhead lines.

DESCO will establish and advertise a Grievance Redress Mechanism (GRM) for workers and local communities to raise issues that cannot be dealt with informally by the contractors. This will consist of an entry tier and then a two-tier bottom-up Grievance Redress Committee (GRC) system. There will be an informal tier with the contractor before the three formal tiers begin. The three formal tiers include: first tier - site level resolution by the DESCO site team; second tier – GRC at the district level; and third tier – GRC at the project level. These GRCs will be established through gazette notifications from the Ministry of Power, Energy and Mineral Resources. Training will be provided under the project for all people involved in the GRM. The affected people will be informed through public consultation that they have a right to have their grievances redressed by the project. Contractors will carry out awareness raising among workers on the GRM at the start of employment onsite. Contact details of the GRM are to be displayed at the substation sites, construction site offices and active construction sites. A suggestion box will be set-up at the project sites and will be regularly checked for any grievances received. Grievances will be resolved by the DESCO site team at the site level (first tier) as far as possible, but if unresolved at this level, they will be raised to the district level (second tier), and if the complainant is still not satisfied with the resolution, then they will be elevated to the project level GRC (third tier). Grievances will be redressed within a maximum of a month from the date of lodging the complaints, with pollution and, health and safety issues being redressed immediately. GRC decisions will be on a majority basis. Details of grievances will be disclosed in the environmental monitoring reports from the reporting period of receipt until the reporting period of closure.

This EIA report, including EMP, is considered sufficient to meet national requirements and ADB's Safeguard Policy Statement (2009) requirements for the category B project. In case of any scope, sites or routing change, and/or unanticipated impact during project implementation, the EIA and EMP will be updated as required by DESCO for review and clearance by DOE (as required by law) and ADB (as per ADB Safeguard Policy Statement (2009) requirements) before any related works commence or are allowed to continue. Notably since the 132 kV and 33 kV routings assessed in this EIA report are only indicative and will not be finalized along with the 11 kV and 0.4 kV routings until the contractors are on board, during project implementation it will need to be updated, reviewed and cleared before final routings are approved by DESCO and works commence.