

# Environmental Monitoring Report

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## Bangladesh: Dhaka and Western Zone Transmission Grid Expansion Project

Prepared by Prepared by the Power Grid Company of Bangladesh Ltd. for the Asian  
Development Bank.

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# Environmental Monitoring Report

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Reporting Period: - January 2022-June 2022

## Dhaka and Western Zone Transmission Grid Expansion Project

(ADB Loan-3853, Grant-0675, AIIB Loan-L0272A)

Prepared by the *Power Grid Company of Bangladesh Ltd*

## Abbreviations

PGCB	:	Power Grid Company of Bangladesh (PGCB) Ltd.
DWZTGEP	:	Dhaka and Western Zone Transmission Grid Expansion Project
IEE	:	Initial Environment Examination
LILO	:	Line In Line Out
ECC	:	Environmental Clearance Certificate
DoE	:	Department of Environment
ADB	:	Asian Development Bank
SPS	:	Safeguard Policy Statement
RoW	:	Right of Way
ICNIRP	:	International Commission on Non-Ionizing Radiation Protection
EMF	:	Electro Magnetic Force
PMU	:	Project Management Unit
kWh	:	kilo Watt hour
MVA	:	Mega Volt Ampere
FY	:	Fiscal Year
GCC	:	General Conditions of Contract
SCC	:	Special Conditions of Contract
CESMP	:	Construction Environment and Social Management Plan
PPE	:	Personal Protective Equipment
GRM	:	Grievance Redress Mechanism
GRC	:	Grievance Redress Committee
CAP	:	Corrective Action Plan
DC	:	Deputy Commissioner
PIU	:	Project Implementation Unit
TBER	:	Technical Bid Evaluation Report
EHS	:	Environment Health and Safety
FGD	:	Focus Group Discussion

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## EXECUTIVE SUMMARY

The Dhaka and Western Zone Transmission Grid Expansion Project (DWZGEP) of a total investment of \$730.0 million will ensure that the capacity of electricity supply in Dhaka and western zone of Bangladesh is upgraded, with improvements in the technical efficiency of the transmission system. The proposed project is expected to provide support for the construction of new substations and transmission lines and support the improvements of existing transmission network of PGCB. The DWZTGEF will also strengthen the power transmission system in southwest and northwest Bangladesh to enhance its reliability and efficiency. The project area comprises agricultural land, where, due to inadequate surface water supply, cultivation mostly depends on groundwater. Hence electricity demand is at its peak during the irrigation season. Furthermore, the electricity demand in the southwest is expected to rise in the near future with large scale industrialization expected as construction of the Padma Bridge has been completed. The subprojects of DWZTGEF are situated in five administrative divisions and twenty districts of Bangladesh, comprising construction of 15 new substations, ten overhead transmission lines and ten Line-In Line-Out (LILO) connections of a total length of 394 km overhead lines, 9.5 km underground lines in Dhaka, and bay extensions in 9 existing grid substations. All the subprojects are located in agricultural lands and in settlement areas. No ecologically sensitive habitats or national protected areas are found in the project area. According to the Environment Conservation Act 1995 and Environment Conservation Rules 1997 (amended in 2017) of Bangladesh, transmission lines and grid substations are categorized as ‘Orange B category’ projects that require an Initial Environmental Examination (IEE) for site clearance and environment clearance. Environmental Clearance Certificate from Department of Environment has been issued on 28/07/2020 and valid till 28/07/2022. The project also needs to comply with Asian Development Bank (ADB)’s safeguard requirements. IEE document has been prepared to fulfil environmental assessment requirements under ADB’s Safeguard Policy Statement (SPS) 2009. IEE will be updated and disclosed if any unexpected impacts or design changes occur during project implementation. The IEE study has been done based on both primary and secondary data. A composite and interdisciplinary approach has been developed for this study, based on the guidelines of DoE and ADB’s SPS 2009. A scoping process was followed for identifying Important Environmental (IECs) and Social Components (ISCs), which are likely to be impacted by interventions of the project. Impacts to ecological resources will be minimal and localized in all phases of the project because there is no ecological or environmentally sensitive area. The Right of Way (RoW) of the transmission lines and the lands for the grid substations (GSs) are on low lying ground. Lands along the transmission lines are predominantly cultivated, at least in the dry season, and have homestead activities. Rice-based crops are grown mainly in the dry season along with potatoes, onions, mustard, garlic, jute and other vegetables. An area of 79.60 acres land in 15 new substations plus one existing substation and 1 acre of land tower footings, will be changed from the land type of agricultural use and fisheries. The proposed bay extensions would not require land acquisition as the required land extents are available within the existing GSs premises, except for Satkhira, which needs 3 acres for the bay extension. There will be minor impact of noise for short periods during construction of foundations for the transmission line towers and also result in temporary increase in traffic, but work will take place during day time

and residents close by will be warned of any foundation piling activity. The transmission and LILo lines will traverse some populated areas. Therefore, inspection of existing electromagnetic field (EMF) along the selected routes of existing and new transmission lines in populated areas would be important. For housing structures, clearance between the transmission line and roof tops should be 6.5m-8m and for river crossings it will be 14.6m-15.9m which will be ensured through using towers of appropriate extensions. The estimated EMF values are within the ICNIRP public exposure limits. No houses or people will be directly affected by the EMF of transmission and LILo lines.

During the construction phase of the project, there will be some environmental impacts with machinery and vehicle movement for construction tower foundations, the erection of towers and stringing of conductors. Various activities will take place for towers and new GSs construction including land filling, storage of construction materials, activities of workers and movement of construction vehicles. Mitigation measures are proposed in the Environmental Management Plan (EMP) and is included in contracts to ensure that good practices are observed as per the measures identified in the EMP. PMU ensures that EMP is being strictly followed during the project implementation time.

A Grievance Redress Mechanism (GRM) has been established. The PGCB has set up a Project Management Unit (PMU) to implement the project. The implementation of EMP and CAP will be monitored to ensure the ADB's SPS 2009 will be met. This safeguard report highlights project progress detail including any environmental and social safeguard issue.

<b>Project Name: Dhaka and Western Zone Transmission Grid Expansion Project</b>	
Executing Agency	Power Grid Company of Bangladesh (PGCB) Ltd.
Implementing Agency	Power Grid Company of Bangladesh (PGCB) Ltd.
Environment Safeguards Categorization	B
Environment Safeguards Documentation	IEE/Existing Facilities CAP/EMP
Project Stage Obtained	Design/Construction
Detailed Design Required Post-Approval	Design service is included in EPC contractor's scope, approval required from PGCB.  Detailed design approved for the following transmission line subprojects:  <ol style="list-style-type: none"> <li>1. Satkhira Monirampur</li> <li>2. Satkhira-Rupsha</li> <li>3. Kustia-Meherpur</li> <li>4. Kaliganj-Mehshpur</li> <li>5. Purbasadipur-Domar</li> </ol>

	<ul style="list-style-type: none"> <li>6. Domar-Hatibandha</li> <li>7. Niyamatpur-Patnitala</li> <li>8. Gopalganj-Sibchar</li> <li>9. Bagerhat-Pirojpur-Bhandaria</li> </ul>
Contract(s) Awarded	2 for transmission line construction (packages 3 and 4) and 2 for substation construction (packages 7 and 8)
Bidding Document(s) Include EMP Cleared by ADB	7 bid documents (3 transmission lines & 4 substations) have been cleared by ADB so far.
Contract(s) Awarded Include EMP Cleared by ADB	YES, 2 for transmission line construction and 2 for substation construction
National Environment, Health and Safety Clearance(s) Obtained	YES, ECC is valid till 28/07/2022, further extension has been applied
Contractor(s) Given Access to Site	YES, 2 for transmission line construction
Construction Progress (%)	<p>10%</p> <p>Construction progress for following subprojects that have started on site:</p> <ul style="list-style-type: none"> <li>1. Package-3: Tower foundation works of Satkhira-Monirampur and Satkhira-Rupsha transmission lines are ongoing, overall progress is approximately 12% as of June, 2022.</li> <li>2. Package-4: Tower foundation works of Gopalganj-Sibchar and Purbasadipur-Domar transmission lines are ongoing, overall progress is approximately 14% as of June, 2022.</li> </ul>
Unanticipated Impacts including Change of Scope or Design	<p>Scope of package-1 has been reduced significantly, the draft bid document incorporating the revised scope has been sent to ADB</p> <p>Changes in alignment of routes for 2 transmission line contracts awarded, Addendum 1 to IEE (draft issued to ADB) covers the following subprojects:</p> <ul style="list-style-type: none"> <li>1. Satkhira-Monirampur</li> <li>2. Gopalganj-Sibchar</li> </ul>



	Addendum 2 to IEE is still a work in progress but will cover the following subprojects: <ol style="list-style-type: none"> <li>1. Satkhira-Rupsha</li> <li>2. Purbasadipur-Domar</li> <li>3. Niyamatpur-Patnitala</li> </ol>
Number of Site Inspections and Audits Undertaken by Environment Safeguards Staff in Reporting Period	7
Corrective Action Required from Previous Reporting Period	No
Outstanding Corrective Action this Reporting Period	No
Non-Compliances Recorded this Reporting Period	YES, construction has commenced during the period covered by this EMR on 2 transmission line contracts awarded without updating the IEE to reflect change in transmission line alignments in advance. Necessary baseline data was collected before starting construction works and physical works started while updating the IEE was in process. Now IEE addendum-1 has been disclosed by ADB and addendum-2 being revised as per ADB comments.
Corrective Action Required	YES
Number of Health and Safety Incidents	0
GRM Functional	YES, GRM functional at construction sites of packages-3 and 4. For other packages, it will be made functional once the construction activity commences.
Number of Unresolved Grievances from Prior Reporting Period	0
Number of Grievances Received in Reporting Period	3 (all minor)
Number of Grievances Resolved this Reporting Period	3 (all resolved)
Number of Grievances Still Outstanding	0
Number of Grievances referred to Court of Law	0

Number of Grievances referred to the Accountability Mechanism	0
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## **1. Introduction**

The development policy framework of the Government of Bangladesh envisages sustainable development and moving towards a middle-income threshold by year 2021. The per capita income is rising steadily, from \$1,110 in 2014 to \$1,675 in 2018. The GDP growth rate in 2016 was 7.2% while in 2018, it further increased to 7.9%, meeting the national economic growth target of 7.0%. In contrast, the per capita grid electricity consumption in Bangladesh is only 336 kWh, which is lower than its neighboring countries. Electricity consumption is growing rapidly at an annual rate of over 6%, largely due to the growth in per capita income, increasing industrialization and the expansion of the agriculture and commercial sectors. Energy demand is expected to increase threefold by 2035 as the government rolls out connections to rural households and Bangladesh continues on a trajectory of strong economic growth. Electricity demand would need to increase to 33,708 MW by 2035 to meet the desired service quality and quantity projected under future growth. In the endeavor to become a high-income country by 2041, development of energy and power infrastructure is vital for Bangladesh.

The government's strategy is to promote power sector and it has embarked on implementation of a master plan to add low cost, base load power generation capacity to compensate for declining domestic gas production and replacement of expensive diesel and fuel oil-based power plants. It is providing subsidies, including for life line consumption, to support the objective of increasing electricity distribution to all parts of the country. For the energy sector, national targets include increased access to electricity, from 93% in 2018, and reaching 100% by 2021. Increase in per capita consumption, from 170 kWh in 2010 to a target of 514 kWh by 2020 is anticipated.

The Power Division, under the Ministry of Power, Energy and Mineral Resources (MPEMR) leads the power sector while the Bangladesh Energy Regulatory Commission (BERC) is the regulatory body which regulates electricity, gas, and petroleum sectors. The electricity sector is unbundled into generation, transmission, and distribution segments. Backbone transmission lines and substation network in the country are operated by the Power Grid Company of Bangladesh Limited (PGCB). As of December 2018, PGCB network comprised transmission lines operated at 400 kV, 230 kV and 132 kV voltage levels with a total length of 11,396 circuit km and 125 132/33 kV substations with a cumulative capacity of 20,211 MVA. Development of transmission and distribution network in line with generation has been identified as a key element of the power sector strategy in the 'Bangladesh Seventh Five Year Plan FY2016 – FY2020'. Development of an inter-region transmission network is required due to the unbalance in concentration of generation and demand, while local network expansions are required to cater the increasing demand at new load centers. Due to the growing electricity demand, a considerable number of grid substations and transmission lines have already been overloaded. Therefore, urgent upgrades and expansions are required by PGCB to supply power to the key economic corridors in the southern and western regions including greater Dhaka area.

The Dhaka and Western Zone Transmission Grid Expansion Project (DWZTGEP) focuses on expanding the local transmission network to deliver electricity to new and expanding load centers while meeting the network operating criteria.

**Component 1: Transmission system in Greater Dhaka expanded.** The project will construct and commission substations with a total capacity of 4,450 MVA and 40 km of transmission lines in Greater Dhaka.

**Component 2: Transmission system in Western Zone expanded.** The project will construct and commission substations with a total capacity of 3,070 MVA and 368 km of transmission lines in western zone.

**Component 3: Institutional Capacity of PGCB strengthened.** The project will enhance capacity by establishing a Drone Inspection Center within the operation and maintenance department of PGCB with some gender equality element.

### **Scope of the Project:**

#### **A. 400 kV Transmission Line: 02 km**

1. LILO of Ghorashal-Kaliganj-Purbachal-Bashundhara transmission line to Kaliganj and Purbachal: 01 km each

Previously this scope included construction of Kaliganj-Purbachal 400 kV transmission line (18 km). However, due to RoW issues on another project of PGCB, the scope has been revised and it has been decided that the Kaliganj-Purbachal line will be built by that project of PGCB as a part of Ghorashal-Kaliganj-Purbachal-Bashundhara line. Only connection from this line to Kaliganj and Purbachal substations will be done under DWZTGE Project, each connection will be 01 km, so 02 km in total. Hence scope has reduced significantly and there will be less environmental impact due to the scope reduction. Also, since Kaliakoir-Bhulta 400 kV line has not been constructed yet, LILO of this line to Kaliganj has been excluded.

#### **B. 230 kV Transmission Line: 138.5 km**

1. LILO of Tongi–Ghorasal 230kV double circuit line at Kaliganj : 3.5 km

2. Satkhira-Rupsha 230 kV double circuit line (initially charged at 132 kV): 62 km with 0.7 km river crossing line
3. Purbasadipur-Domar 230 kV double circuit transmission line (Initially Charged at 132kV): 46.5 km
4. Gopalganj (N)-Shibchar 230 kV double circuit line (initially charged at 132 kV): 25 km with 0.4 km river crossing line
5. LILO of Rupsha Power Plant- Khulna (S) double circuit 230 kV Line at Rupsha Substation: 0.5 km
6. LILO of Barishal-Bhola-Borhanuddin double circuit 230 kV Line at Bhola substation : 1 km

Due to unavailability of required land, both Purbachal 400kV and 230 kV substations will be constructed in the same area. Hence lines connecting the substations (Purbachal 400 kV – Purbachal-2 230 kV double circuit underground cable line : 5km and River Crossing portion of Purbachal 400 kV – Purbachal-2 230 kV double circuit line: 0.5 km) will no longer be required.

### **C. 132 kV Transmission Line: 244 km**

1. Rampura-Bashundhara 132kV double circuit cable line: 11.0 km underground

Previously the route length was determined as 9.5 km. However, in order to avoid conflict with the under construction metro line in the vicinity of the proposed route, the route has been revised slightly and route length has increased to 11.0 km. This has already been cleared by ADB in the bid document and TBER.

2. Satkhira-Monirampur 132 kV double circuit line: 33 km
3. Kaliganj-Maheshpur 132 kV double circuit line: 28 km
4. Kushtia-Meherpur 132 kV double circuit line: 48 km
5. Niyamatpur-Patnitola 132 kV double circuit line: 32.5 km
6. Domar-Hatibandha 132 kV double circuit line: 35 km with 850 m river crossing line
7. Bagerhat-Pirojpur-Bhandaria 132 kV double circuit line: 49.5 km with 1.3 km river crossing line
8. LILO of Goalpara-Bagerhat 132 kV double circuit line at Rupsha: 3.5 km

9. LILO of Gopalganj-Gallamari 132 kV double circuit line at Rupsha: 0.5 km
10. LILO of Noapara-Khulna Central double circuit 132kV line at Phultola: 1 km
11. LILO of Madaripur- Faridpur 132 kV double circuit line at Bhanga: 0.5 km
12. LILO of Barishal-Bhandaria double circuit 132kV line at Jhalokathi: 1.5 km

**D. 400 kV Substation: 02 nos.**

1. 400/230/132 kV Indoor GIS Substation: Purbachal with 3×52/750 MVA 400/230 kV transformers and 2×350/450 MVA 230/132 kV transformers

The original plan was to construct Purbachal 400/230 kV and Purbachal-2 230/132 kV substations at sites approximately 5.5 km apart. However, required land for Purbachal-2 substation could not be handed over by the concerned authority and hence both the 400/230 and 230/132 kV substations will be constructed in the premises of the 400/230 kV substation and it will be a 400/230/132 kV substation.

2. 400/230 kV Indoor GIS Substation: Kaliganj (Gazipur) with 2×750 MVA 400/230 kV transformer (Future 132 kV Provision)

**E. 230 kV Substation: 02 nos.**

1. 230/132/33 kV Indoor GIS Substation: Rupsha with 3x 250/350 MVA 230/132 kV and 3x80/120 MVA 132/33 kV transformer
2. 230/33 kV Indoor GIS Substation: Bhola with 2x120/140 MVA 230/33 kV transformer (Future 132 kV Provision)

**F. 132 kV Substation: 10 nos.**

1. 132/33 kV Indoor GIS Substation: Phultola with 3x80/120 MVA 132/33 kV transformer
2. 132/33 kV Indoor GIS Substation: Monirampur with 2x80/120 MVA 132/33 kV transformer
3. 132/33 kV Indoor GIS Substation: Maheshpur with 2x80/120 MVA 132/33 kV transformer
4. 132/33 kV Indoor GIS Substation: Meherpur with 2x80/120 MVA 132/33 kV transformer
5. 132/33 kV Indoor GIS Substation: Domar with 2x80/120 MVA 132/33 kV transformer (Future 230 kV Provision)

6. 132/33 kV Indoor GIS Substation: Hatibandha with 2x80/120 MVA 132/33 kV transformer
7. 132/33 kV Indoor GIS Substation: Jhalokathi with 2x80/120 MVA 132/33 kV transformer
8. 132/33 kV Indoor GIS Substation: Pirojpur with 2x80/120 MVA 132/33 kV transformer
9. 132/33 kV Indoor GIS Substation: Bhanga with 3x80/120 MVA 132/33 kV transformer
10. 132/33 kV Indoor GIS Substation: Shibchar with 3x80/120 MVA 132/33 kV transformer (Future 230 kV Provision)

**G. 132 kV Bay Extension: 20 nos.**

1. 4 nos. 132 kV AIS Bay Extension at Satkhira Substation  
(increase in bay extensions from 2nos. originally planned but there is no additional land required)
2. 2 nos. 132 kV AIS Bay Extension at Kaliganj Substation
3. 2 nos. 132 kV AIS Bay Extension at Patnitala Substation
4. 2 nos. 132 kV GIS Bay Extension at Niyamatpur Substation (change from AIS due to lack of space)
5. 2 nos. 132 kV AIS Bay Extension at Gopalganj Substation
6. 2 nos. 132 kV GIS Bay Extension at Bagerhat Substation (change from AIS due to lack of space)
7. 2 nos. 132 kV AIS Bay Extension at Kushtia Substation<sup>1</sup>
8. 2 nos. 132 kV GIS Bay Extension at Purbasadipur Substation
9. 2 nos. 132 kV GIS Bay Extension at Bhandaria Substation

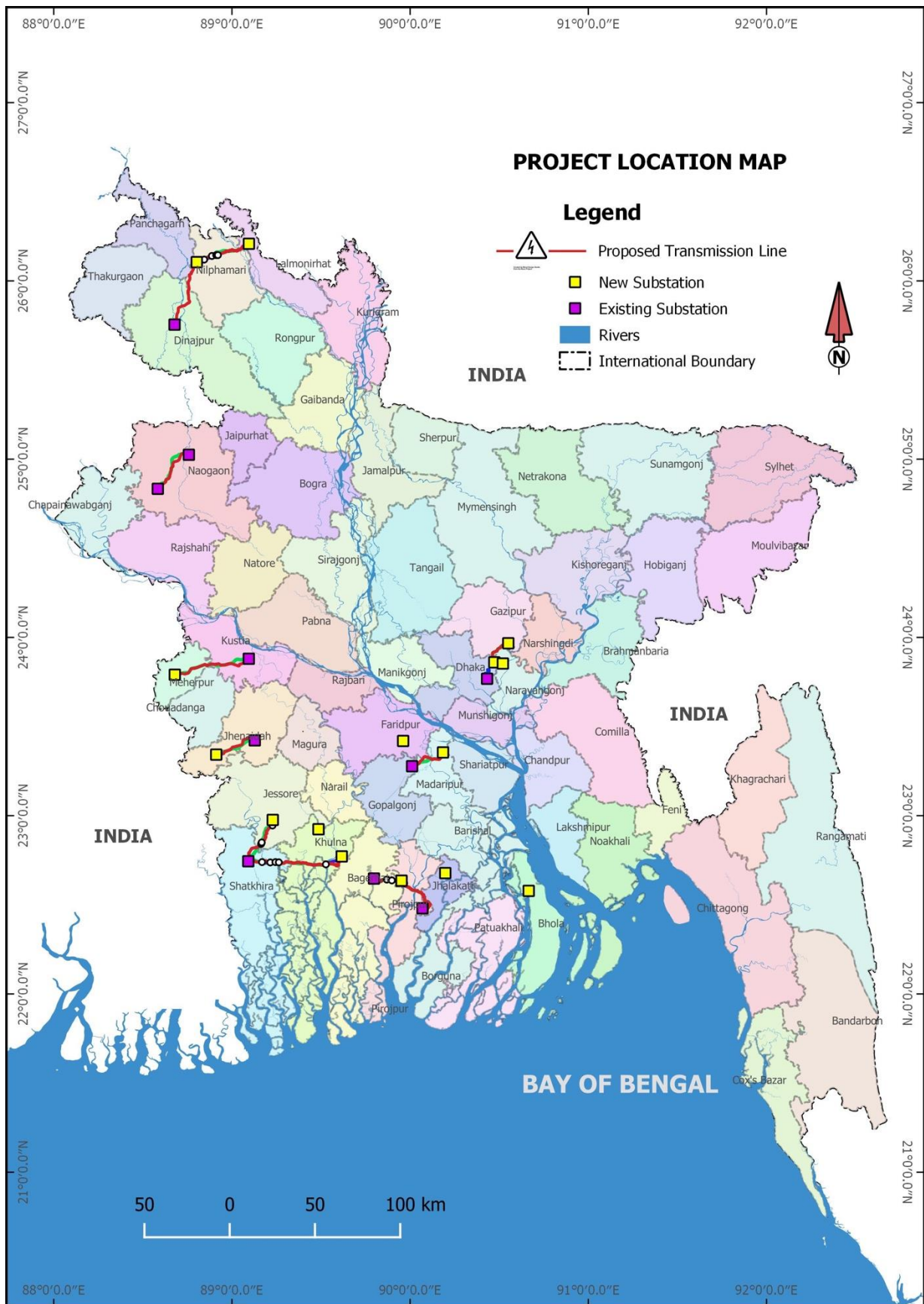
Geographically, the project area is spread over 42 city corporations/municipalities/sub-districts of 21 districts of 5 administrative divisions of Bangladesh which are listed below:

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<sup>1</sup>It was incorrectly reported in the IEE as a GIS but it has always been planned as an AIS

<b>Division</b>	<b>District</b>	<b>City Corporation/ Municipality/ Sub-District</b>
Dhaka	Dhaka, Faridpur, Madaripur, Gazipur, Narayanganj, Gopalganj	Dhaka North City Corporation, Kaliganj, Rupganj, Bhanga, Shibchar, Madaripur Shadar, Moksedpur
Barishal	Pirojpur, Bhola, Jhalokathi, Patuakhali	Bhola Shadar, Jhalokathi Shadar, Mirjaganj, Pirojpur Shadar, Rajarpur, Bhandaria
Khulna	Bagerhat, Jashore, Jhenaidah, Khulna, Kushtia, Meherpur, Shatkhira	Bagerhat Shadar, Fakirhat, Kochua, Rupsha, Vatighata, Keshobpur, Monirampur, Kaliganj, Maheshpur, Dumuria, Phultola, Kushtia Shadar, Mirpur, Rajoir, Gangni, Meherpur Shadar, Shatkhira shadar, Tala
Rajshahi	Naogaon	Mahadevpur, Niamotpur, Patnitola
Rangpur	Dinajpur, Lalmonirhat, Nilphamari	Birganj, Kaharule, Khanshama, Hatibandha, Dimla, Domar, Nilphamari Shadar
5 (Five)	21 (Twenty-One)	42 (Forty-Two)





## 2. Project Implementation Status

Environmental Clearance Certificate from Department of Environment has been issued on 28/07/2020 and renewed on 11/08/2021 which is valid till 27/07/2022. Application for further renewal of the ECC has been submitted (see Annexures 1, 2 & 3). Bid documents of each package contains SCC Clause -47 which makes the EMP part of the contract (see Annexure-4). Also, as per SCC Clause 9.8 c) of the bid documents of each package, the eligible contractor will not be allowed to start any physical work before submission and subsequent approval of CESMP (see Annexure-5). Links to approved CESMPs of packages-3 and 4 are available as Annexure-6.

**Table 1: At a glance of component wise project scope and present status**

Package	Description	Progress	Construction Progress	Remarks on Performance
Package- 1	400 kV and 230 kV LILO at Kaliganj & Purbachal	Draft bid document sent to ADB on 28/04/2022		
Package-2	Rampura- Bashundhara 132kV double circuit underground cable line: 9.5 km underground + 1.5 km overhead	TBER sent to ADB on 07/06/2022		
Package-3	Satkhira-Rupsha 230 kV double circuit line (initially charged at 132 kV): 62 km with 0.7 km river crossing line, LILO of Rupsha Power Plant- Khulna (S) double circuit 230 kV Line at Rupsha Substation: 0.5 km, Satkhira-Monirampur 132 kV double circuit line: 33 km, Kaliganj-Maheshpur 132 kV double circuit line: 28 km, Kushtia-Meherpur 132 kV double circuit line: 48 km, LILO of Goalpara-Bagerhat 132 kV double circuit line at Rupsha: 3.5 km, LILO of Gopalganj-Gallamari 132 kV double	Contract signed with L&T, India on 09/05/2021. Now piling work and material procurement is ongoing. IEE addendum-1 (draft) submission date: 18/04/2022 IEE addendum-1 (final) submission date: 23/08/2022 IEE addendum-2 (draft) submission date: 04/08/2022	In Satkhira-Monirampur line piling work of 39 towers out of 94 approved tower locations and in Satkhira-Rupsha line, 17 locations out of 128 approved locations completed as of June 30, 2022.	Contractor started on site prior to clearance of IEE addendum. However, necessary environmental baseline data was recorded before commencement of construction activities.

Package	Description	Progress	Construction Progress	Remarks on Performance
	circuit line at Rupsha: 0.5 km, LILO of Noapara-Khulna Central double circuit 132kV line at Phultola: 1 km	Construction activity started: March, 2022		
Package-4	Purbasadipur-Domar 230 kV double circuit transmission line (Initially Charged at 132kV): 46.5 km, Gopalganj (N)-Shibchar 230 kV double circuit line (initially charged at 132 kV): 25 km with 0.4 km river crossing line, LILO of Barishal-Bhola-Borhanuddin double circuit 230 kV Line at Bhola substation : 1 km, Niyamatpur-Patnitola 132 kV double circuit line: 32.5 km, Domar-Hatibandha 132 kV double circuit line: 35 km with 850 m Teesta River Crossing, Bagerhat-Pirojpur-Bhandaria 132 kV double circuit line: 49.5 km with 1.0 km Katcha River Crossing & 300m Bhairab River Crossing, LILO of Madaripur- Faridpur 132 kV double circuit line at Bhanga: 0.5 km, LILO of Barishal-Bhandaria double circuit 132kV line at Jhalokathi: 1.5 km	Contract signed with Transrail Lighting, India on 30/06/2021. Now piling work and material procurement is ongoing.  IEE addendum-1 (draft) submission date: 18/04/2022  IEE addendum-1 (final) submission date: 23/08/2022  IEE addendum-2 (draft) submission date: 04/08/2022  Construction activity started: March, 2022	In Gopalganj-Sibchar line, piling work of 15 towers out of 58 approved tower locations, in Purbasadipur-Domar line, piling work of 12 towers out of 113 tower locations and in Niyamapur-Patnitala line, piling work 01 tower out of 84 approved tower locations completed as of June 30, 2022.	Contractor started on site prior to clearance of IEE addendum. However, necessary environmental baseline data was recorded before commencement of construction activities.
Package-5	400/230 kV Indoor GIS Substation: Kaliganj (Gazipur) with 2x750 MVA 400/230 kV transformer (Future 132 kV Provision)	TBER sent to ADB on 26/06/2022		

Package	Description	Progress	Construction Progress	Remarks on Performance
Package-6	400/230 kV Indoor GIS Substation: Purbachal with 3×750 MVA 400/230 kV transformer & 230/132 kV Indoor GIS Substation: Purbachal-2 with 2×350/450 MVA 230/132 kV transformer.	TBER sent to ADB on 21/06/2022		
Package-7	230/132/33 kV Indoor GIS Substation: Rupsha with 3x250/350 MVA 230/132 kV and 3x80/120 MVA 132/33 kV transformer, 132/33 kV Indoor GIS Substation: Phultola with 3x80/120 MVA 132/33 kV transformer, 132/33 kV Indoor GIS Substation: Monirampur with 2x80/120 MVA 132/33 kV transformer, 132/33 kV Indoor GIS Substation: Maheshpur with 2x80/120 MVA 132/33 kV transformer, 132/33 kV Indoor GIS Substation: Meherpur with 2x80/120 MVA 132/33 kV transformer, Four nos. 132 kV AIS Bay Extension at Satkhira Substation, Two nos. 132 kV AIS Bay Extension at Kaliganj Substation, Two nos. 132 kV AIS Bay Extension at Bagerhat Substation & Two nos. 132 kV AIS Bay Extension at Kushtia Substation.	Contract signed with CMEC-CNEEC JV on 27/02/2022		
Package-8	230/33 kV Indoor GIS Substation: Bhola with	Contract signed with Energypac-CSEPDI		

Package	Description	Progress	Construction Progress	Remarks on Performance
	<p>2x120/140 MVA 230/33 kV transformer (Future 132 kV Provision), 132/33 kV Indoor GIS Substation: Domar with 2x80/120 MVA 132/33 kV transformer (Future 230 kV Provision), 132/33 kV Indoor GIS Substation: Hatibandha with 2x80/120 MVA 132/33 kV transformer, 132/33 kV Indoor GIS Substation: Shibchar with 3x80/120 MVA 132/33 kV transformer (Future 230 kV Provision), 132/33 kV Indoor GIS Substation: Bhanga with 3x80/120 MVA 132/33 kV transformer, 132/33 kV Indoor GIS Substation: Jhalokathi with 2x80/120 MVA 132/33 kV transformer, 132/33 kV Indoor GIS Substation: Pirojpur with 2x80/120 MVA 132/33 kV transformer, Two nos. 132 kV AIS Bay Extension at Patnitala Substation, Two nos. 132 kV AIS Bay Extension at Niyamatpur Substation, Two nos. 132 kV AIS Bay Extension at Gopalganj Substation, Two nos. 132 kV GIS Bay Extension at Purbasadipur Substation &amp; Two nos. 132 kV GIS Bay Extension at Bhandaria Substation.</p>	<p>Consortium on 23/06/2022</p>		

<b>Package</b>	<b>Description</b>	<b>Progress</b>	<b>Construction Progress</b>	<b>Remarks on Performance</b>
Package-10	Procurement of Drones	Preparation of draft bid documents ongoing.		
S-2	Consultancy for Drones Legislation implementation	Contract signed on 08/10/2021		
S-3	Consultancy for External Social Monitoring.	Contract signed on 15/03/2022		

### **3. Compliance to National Regulations**

The Environment Conservation Act of 1995 establishes the requirement for an environmental assessment in Bangladesh. Any proposed "industrial unit or project" must obtain prior approval from the Department of Environment (DoE). The act has classified projects to be assessed by the DoE in four categories (Green, Orange A, Orange B and Red). Electrical infrastructure projects involving transmission lines longer than 50 km are categorized as Orange B category, which triggers an automatic requirement for an IEE. Environmental Clearance Certificate from Department of Environment has been issued on 28/07/2020 and renewed on 11/08/2021 which is valid till 27/07/2022. Application for further renewal of the ECC has been submitted.

Land acquisition for substations is done in accordance with the Acquisition and Requisition of Immovable Property Act, 2017 according to which the DC of the respective district determines the compensation amount for lands to be acquired as well as trees, crops, vegetation etc. situated in that land. Project office deposits the money to the DC who is authorized by law to distribute the compensation amount among the affected people. Under the DWZTGE Project, there will be land acquisition in 15 places out of which compensation amount has been handed over to the DC of 14 districts while acquisition of remaining 1 place is under approval. In all cases, all the concerned people have been notified properly as per requirements of the law and project office has deposited the compensation amount as determined by the DC.

### **4. Compliance to Environmental Covenants from the ADB Loan Agreement**

Environment: PGCB is complying with (a) all applicable laws and regulations of ADB relating to environment, health, and safety; (b) the Environmental Safeguards; (c) all measures, and requirements set forth in the IEE, EMP and CAP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.

Land Acquisition and Involuntary Resettlement: PGCB is complying with (a) all applicable laws and regulations of the Borrower relating to land acquisition and involuntary resettlement; (b) the Involuntary Resettlement Safeguards; and (c) all measures, and requirements set forth in the RP, and any corrective or preventative actions set forth in the Safeguards Monitoring Report. Under

this project, lands that are only used for cultivation in the dry season is being acquired. Therefore, there is no resettlement under this project.

Tribes, Minor Races, Ethnic Sects and Communities: PGCB ensures that the Project does not have any Tribes, Minor Races, Ethnic Sects and Communities Safeguards impacts.

Safeguards Related Provisions in Bidding Documents and Works Contracts: Bid documents of each package contains SCC Clause-47 which makes the EMP part of the contract (Annexure-4). Also, as per SCC Clause 9.8 c) of the bid documents of each and every package, the eligible contractor will not be allowed to start any physical work before submission and subsequent approval of CESMP (Annexure-5). Links to approved CESMPs of packages-3 and 4 are available as Annexure-6.

Labor Standards, Health and Safety: PGCB has included specific provisions in the bidding documents and contracts financed by ADB under this Project requiring that the contractors, among other things: (a) comply with the Borrower's applicable labor law and regulations and incorporate applicable workplace occupational safety norms; (b) do not use child labor; (c) do not discriminate workers in respect of employment and occupation; (d) do not use forced labor; (e) allow freedom of association and effectively recognize the right to collective bargaining; and (f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors. These requirements are added in the bid document as SCC 22.2.7 and GCC 22.2 (Annexures 7 & 8).

Schedule #, Para. #	Covenant	Compliance Status	Remarks
Schedule 4, Para. 10	<u>Environment:</u> The borrower shall or shall cause PGCB to ensure that the preparation, design, construction, implementation, operation, and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health, and safety; (b) the Environmental Safeguards; (c) all measures and requirements set forth in the IEE, EMP and CAP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Being complied	
Schedule 4, Para. 11	<u>Land Acquisition and Involuntary Resettlement:</u> The borrower shall or shall cause PGCB to ensure that all rights-of-way required for the Project are made available to the Works contractor in accordance	Being complied	Necessary RoW are being made available to the contractors as per work schedule following all applicable laws and regulations. There will be

	with the schedule agreed under the related Works contract and all land acquisition and resettlement activities are implemented in compliance with (a) all applicable laws and regulations of the Borrower relating to land acquisition and involuntary resettlement; (b) the Involuntary Resettlement Safeguards; and (c) all measures and requirements set forth in the RP, and any corrective or preventative actions set forth in the Safeguards Monitoring Report.		no resettlement under this project and the requirements of RP and safeguard reports are being followed properly.
Schedule 4, Para. 12	Without limiting the application of the Involuntary Resettlement Safeguards or the RP, the borrower shall or shall cause PGCB to ensure that no physical or economic displacement takes place in connection with the Project until:  (a) compensation and other entitlements have been provided to affected people in accordance with the RP; and  (b) a comprehensive income and livelihood restoration program has been established in accordance with the RP.	Being complied	This project will not require any resettlement.
Schedule 4, Para. 13	<u>Tribes, Minor Races, Ethnic Sects and Communities</u> : The borrower shall or shall cause PGCB to ensure that the Project does not have any Tribes, Minor Races, Ethnic Sects and Communities Safeguards impacts. If the Project does have any such impacts, the <u>borrower shall or shall cause</u> PGCB to take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower and with the SPS.	Being complied	This project will not have any impact on any Tribes, Minor Races, Ethnic Sects and Communities
Schedule 4, Para. 14	Human and Financial Resources to Implement Safeguards Requirements: The borrower shall	Being complied	Both PGCB and the contractors have human and financial resources to



	make available or cause PGCB to make available necessary budgetary and human resources to fully implement the EMP and the CAP.		implement the respective responsibilities of EMP and CAP.
Schedule 4, Para. 15	<p><u>Safeguards Related Provisions in Bidding Documents and Works Contracts:</u></p> <p>The borrower shall or shall cause PGCB to ensure that all bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>(a) comply with the measures relevant to the contractor set forth in the IEE, the EMP, the CAP, and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report;</p> <p>(b) make available a budget for all such environmental and social measures;</p> <p>(c) provide the Borrower and PGCB with a written notice of any unanticipated environmental, resettlement or tribes, minor races, ethic sects and communities risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP and the RP;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) reinstate pathways, other ;local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	Being complied	All the provisions are included in bidding and contract documents.

<p>Schedule 4, Para. 16</p>	<p>Safeguards Monitoring and Reporting:</p> <p>The Borrower shall do the following or shall cause PGCB to do the following:</p> <p>(a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP and the RP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan;</p> <p>(c) no later than 90 days after the Effective Date, engage qualified and experienced external expert under a selection process and terms of reference acceptable to ADB, to verify information produced through the Project monitoring process, and facilitate the carrying out of any verification activities by such external experts;</p> <p>(d) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP of the RP promptly after becoming aware of the breach.</p>	<p>Being complied</p>	
<p>Schedule 4, Para. 17</p>	<p>Prohibited List of Investments</p> <p>The Borrower shall and shall cause PGCB to ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.</p>	<p>Being complied</p>	

Schedule 4, Para. 18	<p><u>Labor Standards, Health and Safety:</u></p> <p>The Borrower shall and shall cause PGCB to ensure that the core labor standards and the Borrower's applicable laws and regulations are complied with during project implementation. The Borrower shall cause PGCB to include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things:</p> <p>(a) comply with the Borrower's applicable labor law and regulations and incorporate applicable workplace occupational safety norms;</p> <p>(b) do not use child labor;</p> <p>(c) do not discriminate workers in respect of employment and occupation;</p> <p>(d) do not use forced labor;</p> <p>(e) allow freedom of association and effectively recognize the right to collective bargaining; and</p> <p>(f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors Schedule engaged under the Project and to members of the local communities surrounding the Project area, particularly women.</p>	Being complied	Appendix-7 and 8
Schedule 4, Para. 19	The Borrower shall cause PGCB to strictly monitor compliance with the requirements set forth in paragraph 17 above and provide ADB with regular reports.	Being complied	

## **5. Compliance to Project Administration Manual (PAM)**

Environment (category B): The project is classified as environmental category B as it is a transmission system improvement project, which will not pass through any ecologically sensitive area and will not bring significant adverse environmental impacts that are irreversible, diverse or unprecedented. An initial environmental examination (IEE) has been prepared in accordance with ADB's Safeguard Policy Statement (2009) and GoB legislation. The project environmental impacts from overhead line, underground cable and substations have been adequately assessed and mitigation measures have been developed that commensurate to the impacts in separate EMPs. Meaningful consultations were undertaken to reflect the opinions and views in alignment selection and impacts mitigation stages.

Climate Change: The climate change impact of the project is categorized as medium. Climate risk vulnerability assessment (CRVA) has been conducted and the CRVA results have been incorporated into the project design. In addition, the project contributes to climate mitigation by using high efficiency transmission lines.

Involuntary resettlement (category A): The substations have been carefully designed to be constructed in the lands that are used for cultivation only in the dry season. Therefore, there is no resettlement under this project. The overhead transmission lines have temporary impacts for crops and permanent impacts for trees and land under four tower legs. Underground lines will follow the right of way of existing roads without having resettlement impacts.

Indigenous Peoples (category C):- The project does not affect dignity, human rights, livelihood systems or culture and territories of Indigenous Peoples.

Gender and Social Dimensions: The project is categorized as having some gender elements. Under the PRC Fund grant for procurement of Drones, the project will directly support women's employment in the Drone Inspection Center in PGCB. The project will also generate jobs for local communities during construction as a direct benefit. Further, contractors will carry out HIV/AIDS awareness activities for their laborers at work sites, which will be monitored by the construction supervision consultants. PGCB will ensure that contractors adequately provide health and safety measures for the construction workers and further ensure that bidding documents include clauses on how contractors will address this, including an information and awareness raising campaign for construction workers on sexually transmitted diseases, including HIV/AIDS and human trafficking (see Annexures 7 & 8).

### Institutional Setup of PGCB for Implementation of EMP:

Contract Department of PGCB is responsible for preparing the bid document, tender invitation, bid evaluation and contract award. They have ensured inclusion of relevant EMP clauses in the bid document of each and every package which has been reviewed and confirmed by ADB. During implementation of the project, the PIU is responsible for overall supervision, monitoring, reporting and enforcing the EMP through the implementing contractors. Setup of the PIU is attached as Annexure-15. PGCB's Social and Environmental Unit (ESU) will provide the internal expertise support while PGCB appointed consulting firm (EQMS Consulting Ltd.) will provide the external expertise required for the overall implementation of the EMP.

## **6. Grievance Redress Mechanism**

GRM is a locally based, project-specific way to deal with and resolve complaints and grievances faster and thus enhance project performance standards in terms of environmental, social and resettlement management. The fundamental objectives of the GRM, implemented through a Grievance Redress Committee (GRC) are to resolve any environmental and resettlement related grievances in consultation with the aggrieved party to facilitate smooth implementation of environmental and resettlement plans and establishes accountability of the affected people.

A GRC (Annexure-9) is formed to receive and resolve complaints as well as grievances from aggrieved persons from the local stakeholders including the Project-affected persons. Based on consensus, the GRC will help to resolve issues/conflicts amicably and quickly, saving the aggrieved persons from having to resort to expensive, time-consuming legal actions. The procedure will, however, not prevent a person's right to go to the courts of law.

The established GRC will function throughout the life cycle of the project implementation and PGCB will ensure its accessibility to affected parties and transparency and efficiency in grievance resolution. However, it will not deal or interfere with any matters which are already placed before the country's courts of law. The Project will provide publicity for the GRC established using a variety of media such as brochures and leaflets printed in Bengali and through community level awareness raising programs.

Contractors of packages-3 and 4 has set up sign-boards/banners in every construction sites which lets the people know about the ongoing activities. Complain log books are made available at each site. PGCB and EQMS Ltd., the consultant arranges regular formal/informal discussion sessions with the local mass to inform them about the GRC and know how people are feeling about the ongoing construction activities. The general vibe among the common people is very positive and they are eager to experience the better quality electricity in their area. EQMS has distributed leaflets within the vicinity of the construction areas in order to make people aware of the GRC.

As of now no issue regarding grievances has been raised to the GRC.

## **7. Compliance to Environmental Management Plan**

EMP has been prepared for the substation and transmission line subprojects. It describes the anticipated impacts, monitoring requirements, and development of mitigation measures with respect to the following stages: (i) pre-construction, (ii) construction, and (iii) operation and maintenance. Detailed, site-specific mitigation measures and monitoring plans are developed and is being implemented throughout the project implementation phase.

EMP for the project identifies feasible and cost-effective mitigation and remediation measures to be taken to reduce potential significant, adverse impacts to acceptable levels. Here, proper mitigation measures are proposed for each potential impact, including details of responsible parties for implementation of the mitigation measures and the associated monitoring program.

Environmental monitoring reports are being submitted to ADB on a semi-annual basis during construction phase, while on an annual basis during operation basis by PGCB. If any of the safeguard requirements that are covenanted in the legal agreements are found not to be satisfactorily complied, an appropriate corrective action plan (CAP) will be developed and implemented as agreed upon with ADB to rectify unsatisfactory safeguard compliance.

### EMP SUBSTATIONS

Item	Requirement or Mitigating Measures	Corrective Action	Compliance Status	Remarks
Land acquisition/requisition				No substation construction contracts were made effective during the reporting period.
Topsoil				
Cutting of trees/Clearing of vegetation				
Fauna (wildlife)				
Construction waste				
Drainage congestion and flooding				
Noise level				
Air quality and dust				
Soil quality				
Siting of construction camps				
Traffic congestion/road accident				
Pollution due to Wastes				
Community H&S				
Occupational H&S				
Physical cultural resources				
Employment generation/income				

### EMP TRANSMISSION LINES

Item	Requirement or Mitigating Measures	Corrective Action	Compliance Status	Remarks
Tree felling/ Clearing of vegetation	Owners to be properly compensated	The compensation to local people being handed over by the contractor which will be reimbursed by PGCB	Being complied	Annexure-10
Requisition of Land	Landowners must be notified and properly compensated.	No land is being acquired for transmission line. For tower erection, landowners are being compensated as per law.	Being complied	
Fauna (wildlife)	Owners to be properly compensated	The compensation to local people being handed over by the contractor which will be reimbursed by PGCB	Being complied	

Item	Requirement or Mitigating Measures	Corrective Action	Compliance Status	Remarks
Construction Waste	To be removed from the site by the Contractor for proper disposal	The contractor ensures generation of minimum construction debris. Whatever wastage generated, is collected, separated and removed from site by the contractor.	Being complied	Annexure-11
Noise level	Noise generation to be kept at a minimum level not to disturb the local community.	All construction activities and movement of vehicles are done only in the daytime (9AM to 5PM).	Being complied	
Air quality and dust	Dust generation to be kept at a minimum level to ensure air quality	Proper covering and spray of water to be ensured in construction sites.	Being complied	Annexure-12
Soil quality	Prevention of Spillage and leakage of liquid at tower sites	Diesel and lubricants of generators and winching machines are captured from all dripping points	Being complied	
Siting of construction camps (if needed for tower construction)	Consent from land owners are required, proper compensation to be provided and the surrounding environment to be protected.	Camps are setup in empty lands and far from any water body/stream. Contractor pays rent/compensation to the landowners.	Being complied	
Traffic congestion/ road accident	Traffic congestion to be controlled to avoid any traffic accident	Control of traffic during movement of construction vehicles ensured.	Being complied	Annexure-13
Pollution due to wastes	Solid waste to be properly cleared-off.	Contractor to have a functional waste management plan and clear-off all the wastes immediately after completion of works.	Being complied	Annexure-23
Community H&S	Safety barriers and warning signs surrounding the tower construction sites	Safety signs are available at all construction sites.	Being complied	Annexure-24
Occupational Health and Safety	Health and Safety measures for the construction workers to be ensured	Proper protective gears (PPE), caution sign and demarcation of construction sites to be ensured.	Being complied	Annexure-14

Item	Requirement or Mitigating Measures	Corrective Action	Compliance Status	Remarks
Employment generation/ income	Employ local people, especially PAPs, for the tower construction activities as much as possible.	Local people are being employed as much as possible. Also local vehicles are being hired for movement of man, machine and material.	Being complied	

## 8. Environmental Supervision and Monitoring Results

### Environmental Supervision

S L	Date	Type and Purpose of the visit	Location (s) visited	EA, IA, Consultant staff participating	Remarks
1	12.01.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Satkhira	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed 132kV transmission route from Satkhira to Monirampur
2	19.01.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Monirampur	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed 132kV transmission route from Satkhira to Monirampur
3	28.01.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Niyamatpur/ Patnitala	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed 132kV transmission route from Niyamatpur to Patnitala
4	15.02.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Gopalganj and Shibchar	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed 230kV transmission route from Gopalganj (N) to Shibchar



SL	Date	Type and Purpose of the visit	Location (s) visited	EA, IA, Consultant staff participating	Remarks
5	11.03.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Batiaghata, Rupsha	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed 230kV transmission route from Satkhira to Rupsha
6	24.05.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Purba Sadipur/ Domar	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed transmission route from Purba Sadipur to Domar
7	25.05.2022	Conducting FGD	Hatibandha	EQMS experts, Contractor EHS staff and PGCB representative	

#### Quantitative Environmental Monitoring

SL No	Activity/Measuring Parameters	Responsibility	Tentative Timeline
01	Environmental audit of existing substations related to DWZTGEP	EQMS Consulting Ltd	Q3, 2022
02	Baseline Data Collection for P3 Sites	L&T Ltd.	Refer to the link given in Annexure-16
03	Baseline Data Collection for P4 Sites	Transrail Lighting Ltd.	
04	Updating the IEE on the basis of approved route of transmission line	EQMS Consulting Ltd	Addendum-1 to the IEE sent to ADB, link is available in Annexure-17

#### Budget for EMP Implementation

Item	Budgeted Amount	Spend to Date / Remarks
Tree Planting	As per price schedule of individual packages	No claim for payment submitted by the contractors till date
Contractor's EMP Cost		
EMoP Laboratory Analysis		

## 9. Labor Management and Covid-19 Context

For the construction of the project, all the workmen will be engaged by contractor and the necessary amenities will be provided as per applicable rules and regulations. This LMP assesses the potential risks and impacts of assignment of labor for the Transmission Line Project and addresses them through mitigation measures in light of Labor policies and provisions.

COVID-19 situation in Bangladesh is still vulnerable and if the COVID safety protocols are not maintained adequately, it may spread among the labors and adjacent communities. As there will be migrant labors with the project and COVID may spread to the adjacent community through the migrant labors if there is an outbreak. Contractor will maintain and follow the health and safety guidelines of WHO for development project during construction phase. In addition, Contractor shall close contact with nearest hospitals and community clinic for any emergency.

## 10. Pollution Control

Trainings/Drills/ Inspections	Number and Position of Participant/s	Location/s and Date/s	Remarks
Tool Box Talk	All labors across all construction sites	Daily	Annexure-27

Type of Materials/Waste	Approximate Volume (units)	Source or Destination	Remarks
Material examples: Transformer Oil Sand for Fill			No incident reported

## 11. Health and Safety

	Number and Position of Person/s Involved	Location/s and Date/s of Incident	Detailed Description of Incident	Time-bound Corrective Action
Fatality	None			
Non-fatal Injury (Lost Time)				
Non-fatal Injury (Minor)	01	Gopalganj-Sibchar TL 15/04/2022	Minor bruise in the right hand palm	Washed with antiseptic liquid and adhesive bandage applied from the first aid box
Near-miss	None			

Illness	02	Satkhira-Monirampur TL 21/06/2022	Viral flu and fever	Recovered with one day rest
Other Incidents	None			

## 12. Meaningful Consultation and Grievance Redress

The PMU keep records of all the grievances in a site-specific logbook (Annexure-18) and the first priority is to resolve the grievances locally through mutual consultation. If any grievance is not redressed at local level, the issue will be brought to the attention of the GRC and the GRC will consult with the relevant stakeholders to resolve the issue in the most amicable way possible ensuring all the concerns of the relevant parties have been addressed. So far, no such issue has been forwarded to the GRC and minor issues reported at site have been resolved at local level.

Date	Venue	Participants	Main Issues Raised
22-06-2022	Satkhira to Monirapur 132 kV Transmission Line	Local Community	Movement Disturbances
22-06-2022		Landowner	Occupancy of additional land
29-06-2022	Purbasadipur to Domar 230 kV Transmission Line	Farmer	Transport

Complaint/s or Affected Persons	Location/s and Date/s of Complaint	Description of Grievance/Complaint	Timeline	Time-bound Corrective Action
Local Community	Vill: Muktagram Date: 22-06-2022	Left construction materials along the roadside.	Resolved within the complaint issuing day	Construction materials to be removed within the same day
Landowner		Contractor occupied additional land for their construction activities	Resolved within the complaint issuing day	Contractor to move out of the occupied additional land within the next day
Ataur Rahman	Vill: Bachagram Date: 29-06-2022	Materials carrying transport are moving speedily in the local road	Resolved within the complaint issuing day	Instructed the driver for slow movement in the local road

### 13. Training and Awareness Activities

PIU has conducted day long training on EHS for contractors of package-3 and 4 as well its own staff through the experts from EQMS Consulting Ltd (Annexure-19). The training was fruitful in creating awareness among the participants on importance of EHS activities, determining shortfalls and ensuring proper corrective actions. As contract for more packages will be signed in the future, similar training program for the new contractors will be arranged. Community level awareness raising program through FGD has also been conducted at project sites (Annexure-20) in order inform the common mass about the project activities and outcomes as well as complain registering procedure (if any).

### 14. Status of CAP

Status of CAP from the Environmental Audit of the Existing Substations:

Sl no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
01	Purbasadipur substation:	The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	Practice of regular cleaning of substation and appropriate waste handling and disposal practices were introduced.
02		Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.
03	Kustia substation:	The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	The substation yard was cleaned and appropriate waste handling and disposal practices maintained.
04		Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Hazardous and non-hazardous material rearrange and retrofitting proper impermeable bund work going on.
05		The substation needs the yard cleanness and appropriate	PGCB	Practice of regular cleaning of substation and appropriate

		waste handling and disposal practices.		waste handling and disposal practices were introduced.
06	Bagerhat substation	Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Hazardous and non-hazardous material rearrange and retrofitting proper impermeable bund work is yet to start.
07		The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	The substation yard was cleaned and appropriate waste handling and disposal practices maintained.
08	Bhandaria substation	Handlin of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Some of the hazardous and non-hazardous material rearranged and work for shifting the heavy materials and retrofitting proper impermeable bund is yet to start.
09		The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	The substation yard was cleaned and appropriate waste handling and disposal practices maintained.
10	Niyamatpur substation	Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.
11		The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	Practice of regular cleaning of substation and appropriate waste handling and disposal practices were introduced.
12	Satkhira substation	Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.

Status of CAP from the General Recommendations:

Sl no	Action to be Taken	Responsibility	Agreed Deadline	Implementation Status as of June 2022
1	DOE has recommended 28 conditions with issued ECC to comply and the Project will need to fulfill those over the Project period	EPC Contractor; PIU (PGCB)	Over the project Period	DoE recommendations will be followed throughout the contract.
2	It is recommended that the Project will submit the application for ECC renewal one month prior to expiry from next year	PIU (PGCB)	27 June 2022	ECC renewal application has been submitted. (Annexure-3)
4	All the EPC Contractors need to prepare CESMP including H&S management plan as well as environment management and obtain approval from the PIU before construction works start.	EPC Contractor	Before the construction works start for each and every package.	CESMP submitted by the contractor of Package-3 and 4 has been reviewed and approved by PGCB. (Annexure-6)
5	To carry out awareness measures on the GRM system at beginning stage/ before construction works begin	EPC Contractor; PIU (PGCB)	Beginning stage/ before construction works start	EQMS Consulting Ltd. has carried out some awareness measures, more will follow.
6	PIU will conduct EHS trainings to be complied with requirement of EMP and ADB's SPS 2009 for all the EPC Contractors before commencement of construction activities.	PIU (PGCB)	Before the construction works start	Training for Packages-3 and 4 contractors was conducted on 27/03/2022. (Annexure-19)
7	To carry out Environmental Audit for existing substation including time bound Corrective Action Plan (CAP) and the CAP is addressed by the substation's management before the construction works begins.	EPC Contractor; PIU (PGCB)	Before construction works start	The environmental audit is being conducted by EQMS Consulting Ltd., report will be delivered by Q3-2022.
8	This is recommended that EPC Contractors will carry out pre construction baseline monitoring against Environmental Monitoring Plan	EPC Contractor	Before the construction works start; For package-03, by 20 October 2021	Baseline date for 2 (two) transmission lines from each of packages-3 and 4 has been submitted (Annexure-16) and others will follow

9	It is recommended that DWZTGEP carries out short IEE addendum for the change in project description to be cleared and disclosed by ADB before any related work will go ahead.	PIU (PGCB)	30 November 2021	Addendum-1 to the IEE sent to ADB (Annexure-17) and Addendum-2 will be submitted by Q3-2022.
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## 15. Conclusion

Although construction work at some transmission line sites started before disclosure of the relevant IEE addendums in order to take advantage of the construction in dry season, PIU ensured that necessary baseline data is collected prior to commencement of the construction activities. In all future cases, this issue will be taken care of with utmost sincerity to ensure IEE addendums are submitted to ADB prior to construction work begins. In general, the PMU of PGCB is very responsive on environmental and social safeguards throughout the project implementation period. It ensures adherence to EMP and other applicable requirements and active in enforcing proper corrective measures whenever any gap is identified.

## Annexure-1: Environmental Clearance Certificate

Government of the People's Republic of Bangladesh  
**Department of Environment**  
Head Office, E-16 Agargaon  
Dhaka-1207, Bangladesh  
www.doe.gov.bd

Memo No: 22.02.0000.018.72.055.20. 160

Date: 28/07/2020

**Subject: Environmental Clearance for Dhaka and Western Zone Transmission Grid Expansion Project of Power Grid Company of Bangladesh Ltd. (PGCB).**

Ref: Your Application dated 10/06/2020 and 19/07/2020.

With reference to the above, the Department of Environment (DOE) is pleased to award the Environmental Clearance in favor of the Dhaka and Western Zone Transmission Grid Expansion Project of Power Grid Company of Bangladesh Ltd. (PGCB) subject to fulfilling the following terms and conditions:

1. The activity under this Project shall not result in the loss of containment of any materials that would affect health or will have damaging impact on the environment or natural resources.
2. Proper and adequate sanitation facilities shall be ensured in labor camps throughout the proposed Transmission Pipeline construction program.
3. No solid waste can be burnt in the project area. An environment friendly solid waste management should be in place during whole the period of the project in the field.
4. Proper and adequate on-site precautionary measures and safety measures shall be ensured so that no habitat of any flora and fauna would be demolished or destructed.
5. All the required mitigation measures suggested in the EMP report along with the emergency response plan are to be strictly implemented and kept operative/ functioning on a continuous basis.
6. To reduce dust, spraying of water over the earthen materials should be carried out from time to time.
7. Resettlement plan should be properly implemented and people should be adequately compensated.
8. After the construction work, top soil should be properly restored. No wetland should be filled up.
9. Construction material should be properly disposed off after the construction work is over.
10. As described in the report environmental monitoring should be strictly followed and monitoring report should be shared with DOE to ensure the environmental management properly.
11. At the time of commissioning of the Transmission Pipeline and other facilities utmost precautionary measures should be taken to reduce the possibility of accident.
12. The Environmental Management Plan (EMP) included in the EMP Report shall strictly be implemented and kept functioning on a continuous basis.

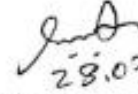




13. In case of any emergency, the following information shall immediately be reported to Headquarter of the Department of Environment (DOE) simultaneously
  - a) Nature of incident (fire, accident, collision, etc.)
  - b) Personnel affected (injured, missing, fatalities, etc.)
  - c) Emergency support available and its location (standby transport, medical facilities, etc.)
  - d) Weather conditions
  - e) Current operations (abandoning the site, fire fighting, etc.)
14. All pollution incidents shall be reported immediately and simultaneously to the nearby Office of the Department of Environment.
15. Full and adequate utilization of the techniques for mitigation of pollution and environmental damage as well as that for treatment of wastes shall be ensured.
16. Power Grid Company of Bangladesh Ltd (PGCB) shall submit a detail work plan with time schedule of development activities at least 7(seven) days ahead of the work commences in the field to Headquarter of the Department of Environment (DOE) simultaneously.
17. On completion of the Transmission Pipeline and other construction, the project authority shall hand-over and leave the land to the actual land-owner in a replenished condition in terms of fertility and topography.
18. Comprehensive Environmental Performance report shall be submitted on a monthly basis to the DOE Headquarter including actual intervention and the rehabilitation, mitigation and treatment options adopted at the project site.
19. All parameters of effluent, gaseous emission, noise, solid waste, hazardous waste, etc. shall be within the limits in the Environment Conservation Rules (ECR) 1997. In case of non-coverage of ECR 1997 the World Bank Environment, Health and Safety Guideline shall be adhered to.
20. There shall be specific format for Environment Monitoring. Environmental Monitoring Reports shall be made available to DOE Head Quarter on a monthly basis during the whole period of the well development project.
21. Rehabilitation of human settlement or compensation for any sort of activity which will incur damage or loss of public or private property or any natural resources shall be addressed as per Government of Bangladesh rules and regulations;
22. No activity of cutting/razing/dressing of hill or hilly land is endorsed under this clearance without due permission/clearance of the concerned authority of the Government of Bangladesh.
23. Appropriate permission would be required to obtain from the forest department in favor of cutting/felling of any plant/tree/sapling forested by any individual or government before doing such type of activity.
24. Power Grid Company of Bangladesh Ltd (PGCB) shall extend active cooperation to DOE officials to facilitate their visit to the site as and when necessary.
25. This clearance is valid only for the said component of Power Grid Company of Bangladesh Ltd (PGCB)as figured out in the EMP report submitted to this department.



26. This clearance is valid for one year from the date of issuance and the project authority shall apply for renewal to the Head Office of DoE with a copy to the divisional/Regional offices of DoE concerned at least 30 days ahead of expiry.
27. Violation of any of the above mentioned conditions shall render this Environmental Clearance as void and legal action will be taken as per Environmental Conservation Act, 1995 and Environmental Conservation Rules, 1997.
28. This Environmental Clearance Certificate has been issued with the approval of the appropriate authority.

  
28.07.2020

(Syed Nazmul Ahsan)  
Director (Environmental Clearance)  
Phone # 8181673

**Project Director (Chief Engineer)**

Dhaka and Western Zone Transmission Grid Expansion Project  
Power Grid Company of Bangladesh Ltd (PGCB)  
NLDC Bhaban (8<sup>th</sup> floor), Avenue-3, Jahurul Islam City  
Aftabnagar, Badda, Dhaka-1212.

**Copy Forwarded to :**

- 1) PS to Secretary, Ministry of Environment, Forest and Climate Change, Bangladesh Secretariat, Dhaka.
- 2) Director, Department of Environment, Dhaka Regional/ Rajshahi/ Khulna/ Barishal/ Rangpur Divisional Office, Dhaka/ Rajshahi/ Khulna/ Barishal/ Rangpur.
- 3) Assistant Director, Office of the Director General, Department of Environment, Head Office, Dhaka.

## Annexure-2: Renewal of Environmental Clearance Certificate

শেখ হাসিনার বাংলাদেশ  
পরিচ্ছন্ন পরিবেশ



Government of the People's Republic of Bangladesh  
Department of Environment  
Head Office, Paribesh Bhaban  
E-16 Agargaon, Dhaka-1207  
www.doe.gov.bd

Memo No: 22.02.0000.018.72.055.20.115

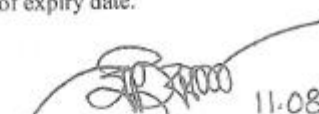
Date: 11/08/2021

**Subject:** Renewal of Environmental Clearance for Dhaka and Western Zone Transmission Grid Expansion Project of Power Grid Company of Bangladesh Ltd.

**Ref:** Your Application dated 14/07/2021.

With reference to your above application, the Department of Environment hereby renews the Environmental Clearance Certificate in favor of Dhaka and Western Zone Transmission Grid Expansion Project of Power Grid Company of Bangladesh Ltd. The terms and conditions stated in the Environmental Clearance Certificate of the above project issued on 28/07/2020 vide memo no. 22.02.0000.018.72.055.20.160 shall remain valid for the renewed period.

2. This renewal is valid until 27 July, 2022. An application for further renewal along with a) the renewal fees (as per the ECR, 1997) b) VAT on renewal fees (in separate Treasury Chalan) and c) all associated documents shall be submitted to the Head Office of DoE with a copy to Concerned Regional/Divisional Offices at least 30 days ahead of expiry date.

  
(Masud Iqbal Md. Shameem)  
Director (Environmental Clearance)  
Phone: 8181673

11.08.2021

**Project Director (Chief Engineer)**  
Dhaka and Western Zone Transmission Grid Expansion Project  
Power Grid Company of Bangladesh Ltd (PGCB)  
PGCB Bhaban, Avenue-03, Jahurul Islam City  
Aftabnagar, Badda, Dhaka.

### Copy Forwarded to :

- 1) PS to the Hon'ble Secretary, Ministry of Environment, Forest and Climate Change, Bangladesh Secretariat, Dhaka.
- 2) Director, Department of Environment, Dhaka Regional/Rajshahi/Khulna/Barishal/Rangpur Divisional Office, Dhaka, Bogura, Khulna, Barishal, Rangpur.
- 3) Assistant Director, Office of the Director General, Department of Environment, Head Office, Dhaka.

## Annexure-3: Application for Renewal of Environmental Clearance Certificate



পাওয়ার গ্রিড কোম্পানি অফ বাংলাদেশ লিঃ  
POWER GRID COMPANY OF BANGLADESH LTD.  
(An Enterprise of Bangladesh Power Development Board)



স্মারক নং-২৭.২১.০০০০.৪৫৩.০১৪.০.০০.২২.৮২০

মহাপরিচালক  
পরিবেশ অধিদপ্তর  
ঢাকা।

পরিবেশ অধিদপ্তর, সদর দপ্তর  
গৃহীত তারিখ: ৩০/০৬/২০২২ ইং  
নং: \_\_\_\_\_  
স্বাক্ষর: \_\_\_\_\_  
তারিখ: \_\_\_\_\_

বিষয়ঃ "ঢাকা এবং পশ্চিমাঞ্চলীয় গ্রিড সঞ্চালন ব্যবস্থা সম্প্রসারণ" শীর্ষক প্রকল্পের পরিবেশগত ছাড়পত্র নবায়ন প্রসঙ্গে।

মহোদয়,

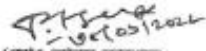
পাওয়ার গ্রিড কোম্পানি অফ বাংলাদেশ লিঃ, ঢাকা এবং পশ্চিমাঞ্চলের বিদ্যুৎ সঞ্চালন ব্যবস্থার অবকাঠামোগত উন্নয়নের লক্ষ্যে "ঢাকা এবং পশ্চিমাঞ্চলীয় গ্রিড সঞ্চালন ব্যবস্থা সম্প্রসারণ" শীর্ষক প্রকল্প গ্রহণ করেছে যা গত ২৬/১১/২০১৯ইং তারিখে একনেক সভায় অনুমোদিত হয়েছে। উক্ত প্রকল্পটি বাস্তবায়নের জন্য গত ২৮/০৭/২০২০ইং তারিখে পরিবেশ অধিদপ্তর হতে পরিবেশগত ছাড়পত্র গ্রহণ করা হয়েছে যার বর্ধিত মেয়াদ ২৭/০৭/২০২২ইং তারিখ পর্যন্ত। বর্ধিত প্রকল্প বাস্তবায়নের মেয়াদ ৩০/০৬/২০২৫ ইং পর্যন্ত বিধায় ইস্যুকৃত পরিবেশগত ছাড়পত্র নবায়ন করা প্রয়োজন।

এমতাবস্থায়, ঢাকা এবং পশ্চিমাঞ্চলীয় গ্রিড সঞ্চালন ব্যবস্থা সম্প্রসারণ" শীর্ষক প্রকল্পের পরিবেশগত ছাড়পত্র নবায়ন করার জন্য অনুরোধ করা হল।

সংযুক্তিঃ

১. পরিবেশগত ছাড়পত্র নবায়নের অনুলে জমাকৃত ফি টাকা ১,২৫,০০০/- (এক লক্ষ পঁচিশ হাজার) এর চালান (চালান নং- T7, তারিখ: ২২/০৬/২০২২ ইং) এর অরিজিনাল কপি
২. মূল চালান এর ১৫% ভ্যাট জমা প্রদানের চালান (চালান নং- T6, তারিখ: ২২/০৬/২০২২ ইং) এর অরিজিনাল কপি
৩. মূল পরিবেশ ছাড়পত্র ও নবায়নকৃত পরিবেশ ছাড়পত্র -০১ কপি
৪. Environmental Safeguard Monitoring Report-০১ কপি
৫. একনেক অনুমোদন ও প্রকল্পের মেয়াদ সংক্রান্ত দলিল-১ কপি
৬. পরিবেশ ছাড়পত্র নবায়নের অনলাইন আবেদনের প্রমাণক- ১ কপি

আপনার বিশ্বস্ত,

  
(মোঃ আবুল কাশেম)

প্রকল্প পরিচালক (প্রধান প্রকৌশলী) অঃ দাঃ  
ঢাকা এবং পশ্চিমাঞ্চলীয় গ্রিড সঞ্চালন  
ব্যবস্থা সম্প্রসারণ প্রকল্প, পিজিসিবি, ঢাকা।



অনুলিপিঃ

১. ব্যবস্থাপনা পরিচালক, পিজিসিবি, ঢাকা।
২. নির্বাহী পরিচালক, পিএন্ডডি, পিজিসিবি, ঢাকা।
৩. প্রধান প্রকৌশলী(পিএন্ডডি), পিজিসিবি, ঢাকা।
৪. পরিচালক (পরিবেশগত ছাড়পত্র), পরিবেশ অধিদপ্তর, ঢাকা।
৫. ব্যবস্থাপক, পরিবেশ ও সামাজিক ইউনিট, পিজিসিবি, ঢাকা।
৬. দপ্তর নথি।

## Annexure-4: SCC-47

### **47. Environmental Management Plan**

The Contractor shall comply with all applicable national, provincial and local environmental laws and regulations.

The Contractor shall (a) establish an operational system for managing environmental impacts, (b) carry out all of the monitoring and mitigation measures set forth in the [Initial Environmental Examination ("IEE")] or [Environmental Management Plan ("EMP")] and (c) allocate the budget required to ensure that such measures are carried out. The Contractor shall submit semi-annual reports on the carrying out of such measures to the Employer.

More particularly, the Contractor shall comply with (i) the measures and requirements set forth in the initial environmental examination and the environmental management plan attached hereto as Appendix [2,3]; and (ii) any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the initial environmental examination and the environmental management plan.

The Contractor shall allocate a budget for compliance with these measures, requirements and actions."

Appendix to SCC (will be provided in PDF form) with the bidding document):

1. Resettlement Plan (RP)
2. Initial Environment Examination (IEE)
3. Environment management Plan (EMP)

## Annexure-5: SCC-9.8 (c)

### **9. Contractor's Responsibilities**

**A new Sub-Clause 9.8.c) is added:**

9.8.c) The Contractor shall elaborate and submit for approval within 30 (thirty) days from the Effective Date of the contract, his own and works-specific (Construction) Environmental and Social Management Plan ((C)ESMP) in line with the ESMP attached in this section. The Employer shall comment or approve the document within 14 days from the receipt. The final (C) ESMP should be concluded in joint workshops between the authorized representatives of the Employer and the Contractor.

## **Annexure-6: Link to Approved CESMPs**

<https://drive.google.com/drive/folders/1DlIJYg-ItKw7izRHxLEvEKG2SOLni2HB?usp=sharing>

## **Annexure-7: SCC 22.2.7**

### 22.2.7 Health and Safety

- (d) The Contractor shall throughout the contract (including the Defect Liability Period):
  - (i) conduct Information, Education and Consultation Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labour (including all the Contractor's employees, all Sub-Contractors and Employer's and Project Manager's employees, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities particularly women, concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to of Sexually Transmitted Diseases (STD) - or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular;
  - (ii) provide male or female condoms for all Site staff and labour as appropriate; and
  - (iii) provide for STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labour.
  - (iv) conduct health and safety programs for workers employed under the project, and shall include information on the trafficking of women and the risk of sexually transmitted diseases, including HIV/AIDS in such programs

## Annexure-8: GCC 22.2

### 22.2 Labor

#### 22.2.1 Engagement of Staff and Labor

- (a) Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, housing, feeding, and transport.
- (b) The Contractor shall provide and employ on the Site in the installation of the Facilities such skilled, semi-skilled, and unskilled labor as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged to use local labor that has the necessary skills.
- (c) The Contractor shall be responsible for obtaining all necessary permit(s) and/or visa(s) from the appropriate authorities for the entry of all labor and personnel to be employed on the Site into the country where the Site is located. The Employer will, if requested by the Contractor, use his best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.
- (d) The Contractor shall at its own expense provide the means of repatriation to all of its and its Subcontractor's personnel employed on the Contract at the Site to the place where they were recruited or to their domicile. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and

recover the cost of doing so from the Contractor.

#### 22.2.2 Persons in the Service of Employer

The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst the Employer's Personnel.

#### 22.2.3 Labor Laws

- (a) The Contractor shall comply with all the relevant labor Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration, and emigration, and shall allow them all their legal rights.
- (b) The Contractor shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous, or disorderly conduct or behavior by or amongst its employees and the labor of its Subcontractors.
- (c) The Contractor shall, in all dealings with its labor and the labor of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious, or other customs and all local laws and regulations pertaining to the employment of labor.

#### 22.2.4 Rates of Wages and Conditions of Labor

- (a) The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.
- (b) The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, and allowances as are chargeable under the Laws for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

#### 22.2.5 Working Hours

- (a) No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the SCC, unless
  - (i) otherwise stated in the Contract;
  - (ii) the Project Manager gives consent; or
  - (iii) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall



immediately advise the Project Manager.

- (b) If and when the Contractor considers it necessary to carry out work at night or on public holidays so as to meet the Time for Completion and requests the Project Manager's consent thereto, the Project Manager shall not unreasonably withhold such consent.
- (c) This Subclause shall not apply to any work which is customarily carried out by rotary or double shifts.

#### 22.2.6 Facilities for Staff and Labor

- (a) Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Specification.
- (b) The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

#### 22.2.7 Health and Safety

- (a) The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay, and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- (b) The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the performance of the Contract, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.
- (c) The Contractor shall send to the Project Manager, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety, and welfare of persons, and damage to property, as the Project Manager may reasonably require.

#### 22.2.8 Funeral Arrangements

In the event of the death of any of the Contractor's personnel or accompanying members of their families, the Contractor shall be responsible for making the appropriate arrangements for their return or burial, unless otherwise specified in the

SCC.

22.2.9 Records of Contractor's Personnel

The Contractor shall keep accurate records of the Contractor's personnel, including the number of each class of Contractor's Personnel on the Site and the names, ages, gender, hours worked, and wages paid to all workers. These records shall be summarized on a monthly basis in a form approved by the Project Manager and shall be available for inspection by the Project Manager until the Contractor has completed all work.

22.2.10 Supply of Foodstuff

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.

22.2.11 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

22.2.12 Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

22.2.13 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give barter, or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter, or disposal by Contractor's Personnel.

22.2.14 Arms and Ammunition

The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

22.2.15 Prohibition of All Forms of Forced or Compulsory Labor

The contractor shall not employ "forced or compulsory labor" in any form. "Forced or compulsory labor" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

22.2.16 Prohibition of Harmful Child Labor

The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

## Annexure-9: GRC



Ref. No.:27.21.0000.453.06.001.21.122

Date: 04/03/2021

### Office Order

As per approval of PGCB management a Grievance Redress Committee for "Dhaka & Western Zone Transmission Grid Expansion Project" has been formed by following members:

Sl. No.	Name & Designation	Name of the Office	Status in Committee
1.	Deputy Project Director of concerned package	DWZTGEP, PGCB	Convener
2.	Executive Engineer of concerned package	DWZTGEP, PGCB	Member
3.	Manager Accounts & Admin	DWZTGEP, PGCB	Member
4.	Sub -Divisional Engineer / Assistant Engineer/ Sub Asst. Engineer of concerned package	DWZTGEP, PGCB	Member
5.	Project Manager or representative of concerned Turnkey Contractor	Concern Turnkey Contractor	Member
6.	Representative of RAP implementation consultant.	RAP implementation consultant	Member
7.	Local Union Parishad Member	Union Parishad	Member

Committee will manage construction related complaints & payment for compensation and make report time to time to undersigned.

  
(Md. Sharfuddin Hossain)  
Project Director (CE)  
Dhaka & Western Zone Transmission  
Grid Expansion Project  
Mobile No: 01713850419

#### Copy to:

1. Managing Director, PGCB
2. Executive Director (P&D/O&M/Finance), PGCB.
3. Chief Engineer, (P&D), PGCB
4. Mr.....Convener/ Member of the Committee.
5. BRM, ADB, Dhaka.
6. Office Copy.

## Annexure-10: Compensation Paid by the Contractor to the Local Community

Sl No.	Line Ref.	Loc. No.	Beneficiary Name	Documents				Amount												Total Amount(BDT)			
				No. of Leg	ID Proof	Bank Details	Land Document	PILE				PILE CAP				Tower Erection							
								Amount(BDT)	Disbursed (Yes/No)	Voucher Ref. No.	Location/Approach/Tree	Amount (BDT)	Disbursed (Yes/No)	Voucher Ref. No.	Location/Approach/Tree	Amount (BDT)	Disbursed (Yes/No)	Voucher Ref. No.	Location/Approach/Tree				
1	SMTL	10/6	SHAHINUR RAHMAN S/O-MOKAM ALI		YES	YES	YES	12,534						NO				NO					12,534
2	SMTL	10/7	FATAMA KHATUN BEAUTY		YES	YES	YES		YES		4 LEG	10,734	YES					NO					10,734
3	SMTL	10/7	MORZINA KHATUN		YES	YES	YES		YES		APPR.	14,275	YES					NO					14,275
4	SMTL	10/7	MD TEPU SULTAN		YES	YES	YES		YES		APPR.	2,614	YES		APPR.			NO					2,614
5	SMTL	10/6	SAHANA BEGUM C/O- MD MOZIBAR RAHMAN		YES	YES	YES		NO			9,254	YES					NO			4 LEGS		9,254
6	SMTL	15/0	MD. ABDUL GAFUR		YES	YES	YES	18,220						NO				NO			PILE		18,220
7	SMTL	10/6	FATAMA KHATUN BEAUTY		YES	YES	YES		NO			2,510	NO		APPR.			NO					2,510
8	SMTL	10/6	ABENUR BEGUM		YES	YES	YES		NO			2,510	NO		APPR.			NO					2,510
9	SMTL	14/1	MD SHAHDUL ISLAM		YES	YES	YES	3,745			2 LEG			NO				NO					3,745
10	SMTL	14/1	MOSLEM UDDIN		YES	YES	YES	6,085			MATERIALS STACKING			NO				NO					6,085
11	SMTL	14/1	MOSLEM UDDIN		YES	YES	YES	6,797			2 LEG			NO				NO					6,797
12	SMTL	14/1	JUBAN ALI		YES	YES	YES	8,417			MATERIALS STACKING			NO				NO					8,417
13	SRTL	6/5	DEBASHISH SAHA		YES	YES	YES	14,000	YES		APPR			No				NO					14,000
14	SRTL	6/5	PRADIP KUMAR SAHA		YES	YES	YES	7,897	YES		APPR			No				NO					7,897
15	SRTL	6/5	NIRANJAN SAHA		YES	YES	YES	8,600	YES		APPR			No				NO					8,600
16	SRTL	6/5	MD SAYLUDDIN GAZI		YES	YES	YES	8,000			APPR			No				NO					8,000
17	SRTL	6/4	ABDUS SHOVHAN GAZI		YES	YES	YES	25,611	YES		2 LEG			No				NO					25,611
18	SRTL	6/4	ABDUL GAFFAR CHOWDHURY		YES	YES	YES	13,829	YES		APPR			No				NO					13,829
19	SRTL	6/1	HASAN MOROL S/O-BABUR ALI MOROL		YES		YES	5,521	YES		APPR.			No				NO					5,521
20	SRTL	6/2	MD AZAHARUL PARE		YES	YES	YES	941	YES		1 LEG			No				NO					941

## Annexure-11: Waste Collection and Separation



**Annexure-12: Covering and Spray of Water**



**Annexure-13: Traffic Control**



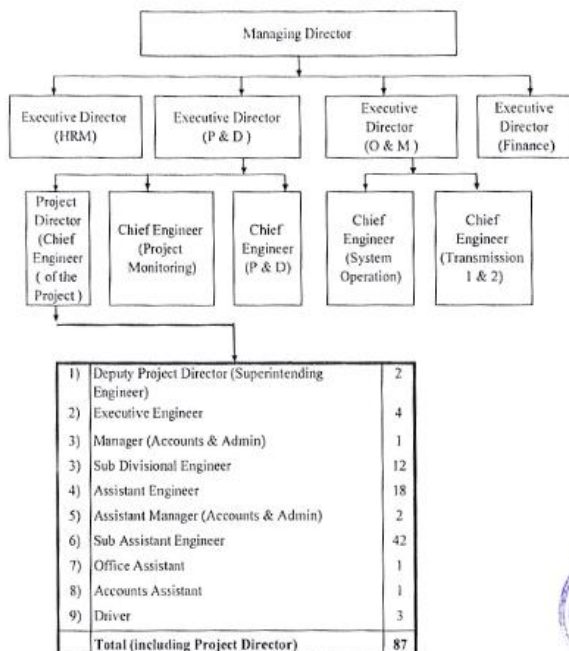
## Annexure-14: Ensuring Personal Safety



## Annexure-15: PIU Set-Up

45 Annexure - II(a)  
Project Name: Dhaka and Western Zone Transmission Grid Expansion Project

### ORGANIZATION CHART FOR EXECUTION MANPOWER (PGCB)



NB: A Cross Functional Team headed by GM Finance will assist the Project Director (PD) in establishing ERP in PGCB during the implementation phase of the project. (Appendix-XXIII Page: 268)

*MD. FERDOUS RAHMAN DPU*  
Sub-Divisional Engineer  
Project Planning, PGCB

*MD. FERDOUS RAHMAN DPU*  
Sub-Divisional Engineer  
Project Planning, PGCB

*MD. FERDOUS RAHMAN DPU*  
Sub-Divisional Engineer  
Project Planning, PGCB

### Setup of Environment & Social Unit, PGCB

Sl. No.	Name	Designation	Comments
01.	Nafisa Sher	Manager	
02.	Tareque Ahmed Bhuiyan	Assistant Manager	
03.	Tabassum HasanTanisha	Assistant Engineer	
04.	Nusrat Jahan	Sub-Assistant Engineer	Working against overall manpower setup of PGCB.
05.	Md. Nur Alam Ziku	Sub-Assistant Engineer	Working against overall manpower setup of PGCB.

## Annexure-16: Link to Baseline Date

[https://drive.google.com/drive/folders/116Pv1\\_8bc5\\_ZwPFahPxxvtiOzxm9vo73?usp=sharing](https://drive.google.com/drive/folders/116Pv1_8bc5_ZwPFahPxxvtiOzxm9vo73?usp=sharing)

## Annexure-17: Link to IEE Addendum

<https://drive.google.com/drive/folders/1ZTrPGCGgXb6JOVO9s01w81tFeKq7Xrlj?usp=sharing>

## Annexure-18: Complain Log Book

সভার কার্য বিবরণী বহি RESOLUTION BOOK		সভার কার্য বিবরণী বহি RESOLUTION BOOK				
প্রতিষ্ঠানের নাম		প্রতিষ্ঠানের নাম				
সভা অনুষ্ঠানের স্থান/ঠিকানা		সভা অনুষ্ঠানের স্থান/ঠিকানা				
সময়		সময়				
হইতে		হইতে				
পর্যন্ত		পর্যন্ত				
তাং		তাং				
ক্রমিক নং	উপস্থিত সদস্যগণের নাম	উপাধি	স্বাক্ষর	মন্তব্য		
১	সভায় গৃহীত সিদ্ধান্তবলী	আজিজুল শামস	পূর্ব মেসার্স	সভায়		
২	আজিজুল শামস	শামস	শামস	শামস		
৩	১৭-০৬-২০২২	১৭-০৬-২০২২	১৭-০৬-২০২২	১৭-০৬-২০২২		



## Annexure-19: EHS Training



## Annexure-20: Community Engagement



## **Annexure-21: Photos of Switchyards of Existing Substations**

<https://drive.google.com/drive/folders/1gd64IIY603Y3jj0QRSsXLAtNYtoxyNyP?usp=sharing>

## **Annexure-22: EMP Clause of Packages-7 and 8**

Section 8: Special Conditions of Contract

Page 8-13

### **47. Environmental Management Plan**

The Contractor shall comply with all applicable national, provincial and local environmental laws and regulations.

The Contractor shall (a) establish an operational system for managing environmental impacts, (b) carry out all of the monitoring and mitigation measures set forth in the [Initial Environmental Examination ("IEE")] or [Environmental Management Plan ("EMP")] and (c) allocate the budget required to ensure that such measures are carried out. The Contractor shall submit semi-annual reports on the carrying out of such measures to the Employer.

More particularly, the Contractor shall comply with (i) the measures and requirements set forth in the initial environmental examination and the environmental management plan attached hereto as Appendix [2,3]; and (ii) any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the initial environmental examination and the environmental management plan.

The Contractor shall allocate a budget for compliance with these measures, requirements and actions."

Appendix to SCC will be provided (in PDF form) with the bidding document:

1. Resettlement Plan (RP)
2. Initial Environment Examination (IEE)
3. Environment Management Plan (EMP)
4. Corrective Action Plan (CAP)



## 47. Environmental Management Plan

The Contractor shall comply with all applicable national, provincial and local environmental laws and regulations.

The Contractor shall (a) establish an operational system for managing environmental impacts, (b) carry out all of the monitoring and mitigation measures set forth in the [Initial Environmental Examination ("IEE")] or [Environmental Management Plan ("EMP")] and (c) allocate the budget required to ensure that such measures are carried out. The Contractor shall submit semi-annual reports on the carrying out of such measures to the Employer.

More particularly, the Contractor shall comply with (i) the measures and requirements set forth in the initial environmental examination and the environmental management plan attached

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-5).



Section 8: Special Conditions of Contract

Page 8-13

hereto as Appendix [2,3]; and (ii) any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the initial environmental examination and the environmental management plan.

The Contractor shall allocate a budget for compliance with these measures, requirements and actions."

Appendix to SCC will be provided (in PDF form) with the bidding document:

1. Resettlement Plan (RP)
2. Initial Environment Examination (IEE)
3. Environment Management Plan (EMP)
4. Corrective Action Plan (CAP)

### Annexure-23: Site Clearance from All Solid Waste



## Annexure-24: Safety Signs at Site



## Annexure-25: Letter to Contractor to Follow EMoP



Power Grid Company of Bangladesh Ltd.  
Head Office: Avenue-3, Juhurul Islam City,  
Aftabnagar, Badda, Dhaka-1212.  
Website: www.pgcb.gov.bd  
Dhaka & Western Zone Transmission Grid  
Expansion Project



Record Number: 27.21.0000.453.14.000.21.872 Date: 19/7/2022  
Subject: **Feedback of ADB on Submitted Environmental  
Baseline Data**

Dear Sir,

Your submitted environmental baseline data of Satkhira-Monirampur and Satkhira-Rupsha transmission lines under package-3 and Gopalganj-Shibchar and Purbasadipur-Domar transmission lines under package-4 has been reviewed by ADB. After reviewing, it has been opined by ADB that the following parameters of ground and surface water were not included in the baseline data (copy attached).

Surface water: NH3-N, PO4, TPH and coliforms

Groundwater: Mn, Fe, As, TC, FC, TPH.

Hence, as recommended by ADB, you are requested to collect additional samples and submit the test results for the above mentioned parameters. Also these parameters must be included in the baseline data of the remaining transmission lines.

**A copy of the environmental monitoring plan during pre-construction and construction stage of the project is attached herewith. It is requested to ensure adherence to the EMoP throughout the execution of the project.**

19-07-2022

Md. Abul Kashem  
Project Director (Chief  
Engineer)

Email:

pd.dwztgcp@pgcb.gov.bd

Distribution :

- 1) Project Manager, Larsen & Toubro Ltd.
- 2) Project Manager, Transrail Lighting Ltd.

## Annexure-26: Inclusion of EMP Items in the Price Schedule

Design, Supply, Installation, Testing, Commissioning of 230KV 132V Transmission Lines in Western Zone on turnkey basis (Package-3)

Item	Description	Unit	Quantity	Unit Price:		Total Price:	
				Local Currency [BDT]	Foreign Currency [USD]	Local Currency [BDT]	Foreign Currency [USD]
1	2	3	4	5	6	7 = 4 x 5	8 = 4 x 6
<b>Schedule No. 4A Installation and Other Services</b>							
(c)	Additional Reinforcement	kg	2000	114.24		228,483.39	
(d)	Extra for surface resisting cement per cu.m of concrete	cu.m	100	9,137.46		913,746.29	
(e)	Additional Boring (500mm diameter)	rm	100	2,073.21		207,320.59	
(f)	Additional Boring (600mm diameter)	rm	100	2,591.04		259,103.91	
(g)	Additional Boring (750mm diameter)	rm	100	3,455.34		345,534.31	
(h)	Sand Filling	cu.m	300	2,284.83		685,450.18	
7.9	Environmental and Social Services	lump sum	1	571,114.84		571,114.84	
7.10	STI, STD and HIV/AIDS alleviation program <sup>2</sup>	lump sum	1	114,222.97		114,222.97	
7.11	Costs and Expenses related to test witness <sup>3</sup> (Provisional Sum)	lump sum	1		100,000.00		100,000.00
7.12	Payment for Compensation (For resettlement of affected people, dwelling/commercial structures, trees, crops etc. on the Right of Way)	lump sum	1	46,155,860.00		46,155,860.00	
Total Columns 7 & 8 to be carried forward to Schedule No. 5 - Grand Summary							
8	Total Tax and VAT deductible at source (TDS & VDS) under the schedule 4A (to be quoted in the currency similar as above) <sup>4</sup>					1,232,023,490.67	100,000.00

For Larsen & Toubro Limited

SUBRATA DUTTA GUPTA  
Cluster Operations Head – Bangladesh  
Power Transmission & Distribution IC

## Annexure-26: Pre-Work Briefing

