

Environmental Monitoring Report

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Bangladesh: Dhaka and Western Zone Transmission Grid Expansion Project

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

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Environmental Safeguard Monitoring Report

Dhaka and Western Zone Transmission Grid Expansion Project (ADB Loan-3853, Grant-0675, AIIB Loan-L0272A)



JULY- DECEMBER 2022

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ABBREVIATIONS

ADB	Asian Development Bank
AIS	Air-Insulated Switchgear
AP	Affected Persons
ASL	Above Sea Level
BMD	Bangladesh Meteorological Department
CAP	Corrective Action Plan
CHT	Chattogram Hill Tracts
DoE	Department of Environment
DPP	Development Project Proposal
DPs	Displaced Persons
DSC	Design and Supervision Consultants
DWZTGEP	Dhaka and Western Zone Transmission Grid Expansion Project
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
EMoP	Environmental Monitoring Plan
EMP	Environmental Management Plan
EQS	Environment Quality Standards
ESMS	Environmental and Social Management System
FGD	Focus Group Discussion
GIS	Gas Insulated Switchgear
GoB	Government Of Bangladesh
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
GSS	Grid Substation
HES	Health Environment and Safety
IEC	Important Environmental Component

IEE	Initial Environmental Examination
ISC	Important Social Component
IUCN	International Union for Conservation for Nature
LGI	Local Government Institutions
LGRC	Local Grievance Redress Committee
LILO	Line-In Line-Out
MoEFCC	Ministry of Environment, Forest and Climate Change
NGO	Non-Governmental Organization
PAI	Project's Area of Influence
PAP	Project Affected Persons
PCB	Polychlorinated Biphenyl
PCRs	Physical Cultural Resources
PDB	Power Development Board
PGCB	Power Grid Company of Bangladesh
PMU	Project Management Unit
PPE	Personal Protective Equipment
PSMP	Power System Master Plan
RCC	Reinforced Cement Concrete
RMA	Resource Management Associates (Pvt) Ltd.
RoW	Right of Way
RP	Resettlement Plan
SF6	Sulfur Hexafluoride
SPS	Safeguard Policy Statement
SWGEP	Southwest Transmission Grid Expansion Project
UPI	Union Parishad Institutions

WEIGHTS AND MEASURES

cm	-	centimeter
ha	-	hectare
km	-	kilometer (1,000 meters)
kV	-	kilovolt (1,000 volts)
kW	-	kilowatt (1,000 watts)
m	-	meter
mm	-	millimeter
MVA	-	mega-volt ampere
MW	-	megawatt

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 28/07/2023. 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.

Project Name: Dhaka and Western Zone Transmission Grid Expansion Project	
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	<p>Design service is included in EPC contractor's scope, approval required from PGCB.</p> <p>Transmission lines</p> <ol style="list-style-type: none"> 1. Satkhira Manirampur 2. Satkhira-Rupsha 3. Kushtia-Meherpur 4. Kaliganj-Maheshpur 5. Purba Sadipur-Domar 6. Domar-Hatibandha 7. Niamatpur-Patnitala 8. Gopalganj-Shibchar 9. Bagerhat-Pirojpur-Bhandaria <p>Substations</p> <ol style="list-style-type: none"> 1. Kaliganj 400/230 kV 2. Purbachal 400/230/132 kV 3. Rupsha 230/132/33 kV 4. Meherpur 132/33 kV 5. Maheshpur 132/33 kV 6. Manirampur 132/33 kV 7. Phultola 132/33 kV 8. Bholā 230/33 kV 9. Domar 132/33 kV 10. Shibchar 132/33 kV

	<p>11. Bhanga 132/33 kV</p> <p>12. Hatibandha 132/33 kV</p> <p>13. Pirojpur 132/33 kV</p> <p>14. Jhalokathi 132/33 kV</p>
Contract(s) Awarded	3 for transmission line construction and 4 for substation construction
Bidding Document(s) Include EMP Cleared by ADB	8 bid documents (4 transmission lines & 4 substations) have been cleared by ADB so far.
Contract(s) Awarded Include EMP Cleared by ADB	3 for transmission line construction and 4 for substation construction
National Environment, Health and Safety Clearance(s) Obtained	ECC is valid till 28/07/2023.
Contractor(s) Given Access to Site	2 contractors of transmission lines have been given access to the required sites totally and 2 contractors of substations have been given access to the required sites partially
Construction Progress (%)	<p>21%</p> <p>1. Package-3: Tower foundation works of Satkhira-Manirampur, Satkhira-Rupsha and Kushtia-Meherpur transmission lines are ongoing, overall progress is approximately 19% as of December 2022.</p> <p>2. Package-4: Tower foundation works of Gopalganj-Shibchar, Domar-Hatibandha Purba Sadipur-Domar and Bagerhat-Pirojpur-Bhandaria transmission lines are ongoing, overall progress is approximately 23% as of December 2022.</p> <p>3. Package-7: Contractor has been handed over possession of 5 substation sites; pre-work measurement and site survey ongoing.</p> <p>4. Package-8: Contractor has been handed over possession of 5 substation sites; pre-work measurement and site survey ongoing.</p>
Unanticipated Impacts including Change of Scope or Design	Scope of package-1 has been reduced significantly, the bid document incorporating the revised scope has been approved by ADB.
Number of Site Inspections and Audits Undertaken by Environment Safeguards Staff in Reporting Period	Total eight transmission lines and eight existing substation inspection and audit (Environmental) was carried out by Environment Safeguards Staff in reporting period.

	Kaliganj-Maheshpur 132 kV double circuit transmission line and Kaliganj Substation will be inspected in January 2023.
Corrective Action Required from Previous Reporting Period	No
Outstanding Corrective Action this Reporting Period	No
Non-Compliances Recorded this Reporting Period	Minor issues have been resolved at site.
Corrective Action Required	IEE addendum-3 requires to be cleared by ADB.
Number of Health and Safety Incidents	Minor-3, Major-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	0
Number of Grievances Resolved this Reporting Period	0
Number of Grievances Still Outstanding	0
Number of Grievances referred to Court of Law	0
Number of Grievances referred to the Accountability Mechanism	0

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.

1.1 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–Ghorashal 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. Purba Sadipur-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-Manirampur 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. Niamatpur-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: Bholā 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: Manirampur 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.

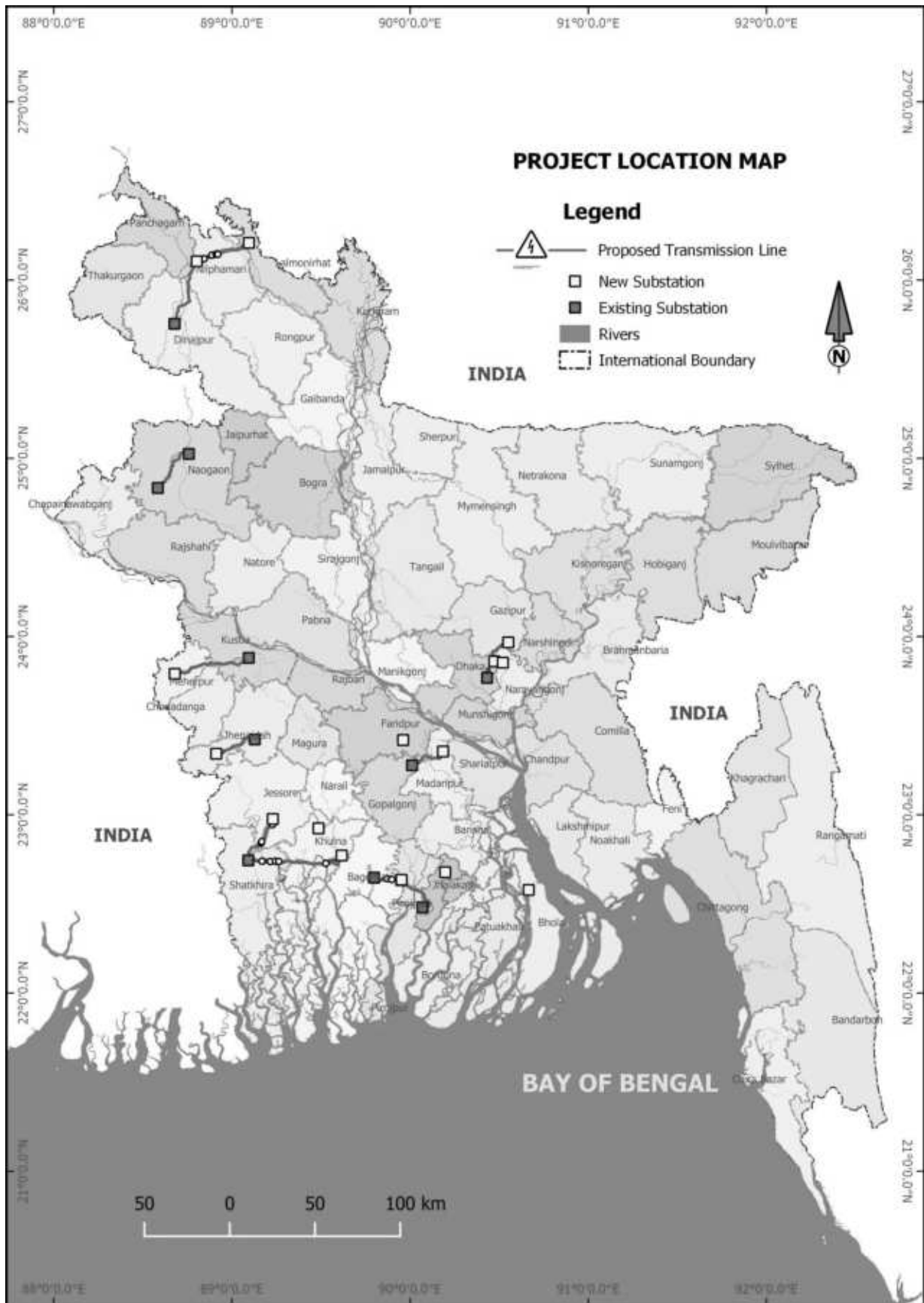
1. 4 nos. 132 kV AIS Bay Extension at Satkhira Substation (Increase in bay extensions from 2nos. originally planned but there is no additional land required)
2. 2 nos. 132 kV AIS Bay Extension at Kaliganj Substation
3. 2 nos. 132 kV AIS Bay Extension at Patnitala Substation
4. 2 nos. 132 kV GIS Bay Extension at Niamatpur 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 Substation¹
8. 2 nos. 132 kV GIS Bay Extension at Purba Sadipur 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:

Division	District	City Corporation/ Municipality/ Sub-District
Dhaka	Dhaka, Faridpur, Madaripur, Gazipur, Narayanganj, Gopalganj	Dhaka North City Corporation, Kaliganj, Rupganj, Bhanga, Shibchar, Madaripur Sadar, Moksedpur
Barishal	Pirojpur, Bhola, Jhalokathi, Patuakhali	Bhola Sadar, Jhalokathi Sadar, Mirzaganj, Pirojpur Sadar, Rajarpur, Bhandaria
Khulna	Bagerhat, Jashore, Jhenaidah, Khulna, Kushtia, Meherpur, Satkhira	Bagerhat Sadar, Fakirhat, Kachua, Rupsha, Batiaghata, Keshabpur, Manirampur, Kaliganj, Maheshpur, Dumuria, Phultola, Kushtia Sadar, Mirpur, Rajoir, Gangni, Meherpur Sadar, Satkhira Sadar, Tala
Rajshahi	Naogaon	Mahadebpur, Niamatpur, Patnitola
Rangpur	Dinajpur, Lalmonirhat, Nilphamari	Birganj, Kaharule, Khanshama, Hatibandha, Dimla, Domar, Nilphamari Shadar
5 (Five)	21 (Twenty-One)	42 (Forty-Two)

¹ It was incorrectly reported in the IEE as a GIS, but it has always been planned as an AIS.



1.2 Project Implementation Status

Environmental Clearance Certificate from Department of Environment has been issued on 28/07/2020 which is valid till 27/07/2023 (see Annexures 1 & 2). The ECC has 28 conditions that are being complied by the PIU and the contractors. Bid documents of each package contains SCC Clause -47 which makes the EMP part of the contract (see Annexure-3). 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-4). Links to approved CESMPs of packages-3 and 4 are available as Annexure-5. CSEMP of package-7 has been submitted by the contractor which has been returned by PGCB for necessary correction/modification.

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

Package	Description	Implementation Progress	Activity Related to Safeguard	Remarks on Performance
Package-1	400 kV and 230 kV LILO at Kaliganj & Purbachal	Submitted bids to be opened on 01/01/2023.		
Package-2	Rampura- Bashundhara 132kV double circuit underground cable line: 9.5 km underground + 1.5 km overhead	Contract signed on 16/10/2022 with JV of TBEA and TBEA Luneng, Chinese Taipei.		
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 circuit line at Rupsha: 0.5 km, LILO of Noapara-Khulna Central double circuit 132kV line at Phultola: 1 km	Contract signed with L&T, India on 09/05/2021. Now tower foundation work of Satkhira-Rupsha and Satkhira-Monirampur transmission lines are ongoing while foundations works of Kaliganj-Maheshpur, Kushtia-Meherpur and other LILO lines are yet to commence.	IEE addendum-1 & 2 comprising of Satkhira-Monirampur and Satkhira-Rupsha transmission lines under this project has been disclosed by ADB. Addendum-3 comprising of Kushtia-Meherpur transmission line is under review by ADB.	Construction activity is in progress with no major issues in terms of compliance to environmental safeguards.

Package	Description	Implementation Progress	Activity Related to Safeguard	Remarks on Performance
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 tower foundation work of Domar-Hatibandha, Domar-Purbasadipur, Gopalganj-Sibchar, Niyamatpur-Patnitola and Bagerhat-Pirojpur-Bhandaria transmission lines are ongoing while foundations works of LILO lines are yet to commence.	IEE addendum-1 & 2 comprising of Gopalganj (N)-Sibchar, Purbasadipur-Domar and Niyamatpur-Patnitola transmission lines under this project has been disclosed by ADB. Addendum-3 comprising of Domar-Hatibandha and Bagerhat-Pirojpur-Bhandaria transmission line is under review by ADB.	Construction activity is in progress with no major issues in terms of compliance to environmental safeguards.
Package-5	400/230 kV Indoor GIS Substation: Kaliganj (Gazipur) with 2x750 MVA 400/230 kV transformer (Future 132 kV Provision)	Contract signed with CET on 03/11/2022		
Package-6	400/230 kV Indoor GIS Substation: Purbachal with 3x750 MVA 400/230 kV transformer & 230/132 kV Indoor GIS Substation: Purbachal-2 with 2x350/450 MVA 230/132 kV transformer.	Contract signed with CET on 03/11/2022		
Package-7	230/132/33 kV Indoor GIS Substation: Rupsha with 3x 250/350 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:	Contract signed with CMEC-CNEEC JV on 27/02/2022. Pre-section measurement and drawing	Contractor has submitted the CSEMP which has been reviewed by	

Package	Description	Implementation Progress	Activity Related to Safeguard	Remarks on Performance
	<p>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.</p>	<p>preparation ongoing.</p>	<p>PGCB and returned for necessary correction/modification.</p>	
<p>Package-8</p>	<p>230/33 kV Indoor GIS Substation: Bhola with 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: Bhangra 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 & Two nos. 132 kV GIS Bay Extension at Bhandaria Substation.</p>	<p>Contract signed with Energypac-CSEPD Consortium on 23/06/2022. Pre-section measurement and drawing preparation ongoing.</p>		

2 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 which is valid till 27/07/2023.

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 has been approved and estimate preparation for the compensation amount is under process by the concerned DC office. 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.

During the construction of transmission lines, some losses to the vegetation and plants are inevitable. The concerned owners are compensated as per rates provided by the local agriculture office. Project office has collected the rates from the local agricultural offices (Annexure-6). Also the transmission lines will cross several water bodies for which permission from Bangladesh Interim Water Transport Authority (BIWTA) has been obtained (Annexure-7).

2.1 Compliance to Environmental Covenants from the ADB Loan Agreement

Particulars	Covenant	Compliance Status	Remarks
Schedule 4, Para. 10	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.	Being complied	The EMP and IEE has been made part of the contract agreement for every contractor and implementation is being monitored by PGCB. Periodic reports are being sent to ADB.
Schedule 4, Para. 11	Land Acquisition and Involuntary Resettlement: 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 with the schedule agreed under the related Works contract and all land	Being complied	Necessary RoW are being made available to the contractors as

	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.		per work schedule following all applicable laws and regulations. There will be 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	Tribes, Minor Races, Ethnic Sects and Communities: 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 borrower shall or shall cause 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 make available or cause PGCB to make available necessary budgetary and human resources to fully implement the EMP and the CAP.	Being complied	Both PGCB and the contractors have human and financial resources to implement the respective responsibilities of EMP and CAP.
Schedule 4, Para. 15	Safeguards Related Provisions in Bidding Documents and Works Contracts:	Being complied	All the provisions are included in

	<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>		<p>bidding and contract documents (Annexure-8 and 9)</p>
<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>Safeguard reports are being submitted regularly. Consultant for external social monitoring has been appointed.</p>

Schedule 4, Para. 17	<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>	Being complied	No prohibited investment is allowed.
Schedule 4, Para. 18	<p>Labor Standards, Health and Safety:</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-8 and 9
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	

2.2 Compliance to Project Administration Manual (PAM)

Particulars	Covenant	Compliance Status	Remarks
Section VII Article-68	Environment: 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	All the requirements are included in the contract documents for each and every contractor and being monitored on site.

Section VII Article-69	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.	Being complied	Impact on climate change is minimized through using high capacity ACCC conductors and narrow base towers.
Section VII Article-70	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.	Complied	This project will not require any resettlement. Proper compensation has been ensured for all the acquired lands.
Section VII Article-72	Indigenous Peoples (category C):- The project does not affect dignity, human rights, livelihood systems or culture and territories of Indigenous Peoples.	Complied	This project will not have any impact on any Tribes, Minor Races, Ethnic Sects and Communities
Section VII Article-73	Prohibited Investment Activities: Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix-5 of ADB's Safeguard Policy Statement (2009).	Complied	No prohibited investment is allowed.
Section VIII Article-74-78	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	Being complied	All the provisions are included in bidding and contract documents (Annexure-8 and 9)

	construction workers on sexually transmitted diseases, including HIV/AIDS and human trafficking.		
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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, led by the Project Director is responsible for overall supervision, monitoring, reporting and enforcing the EMP through the implementing contractors. Setup of the PIU is attached as Annexure-10. 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. The organization structure of the contractors include a HSE expert who looks after the safeguard measures being implemented at the project sites (Annexure-11).

2.3 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-12) 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.

Compliance to ECC Requirements:

SI No	ECC Requirement	Compliance Status	Remarks
1	The activity under this Project shall not result in the loss of containment of any materials that would affect health or will have	Complied	All harmful material are being contained and disposed properly.

	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.	Complied	Proper sanitation has been ensured by the respective contractors.
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.	Complied	No wastage is burnt. All the waste/excess material is collected and recycled/disposed properly.
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 destroyed.	Partially complied	No habitat of any fauna is harmed. However, there are some losses to the fauna during the construction phase for which proper compensation to the owners have been ensured.
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.	Complied	EMP is a part of the contract for every contractor and being followed strictly.
6	To reduce dust, spraying of water over the earthen materials should be carried out from time to time.	Complied	Annexure-15
7	Resettlement plan should be properly implemented and people should be adequately compensated.	Complied	Proper compensation has been ensured.
8	After the construction work, top soil should be properly restored. No wetland should be filled up.	Complied	No wetland is being filled up. Topsoil has been transferred to nearby agricultural lands.
9	Construction material should be properly disposed off after the construction work is over.	Complied	Construction waste being properly collected and disposed.
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.	Complied	The monitoring report is being shared with DoE annually during renewal of the ECC.
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.	Will be complied	Public announcement will be made before electrically charging any facilities.
12	The Environmental Management Plan (EMP) included in the EMP Report shall strictly be implemented and kept functioning on a continuous basis.	Complied	EMP is a part of the contract for every contractor and being followed strictly.

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, firefighting, etc.)	Will be complied	Will be reported in case of any emergency.
14	All pollution incidents shall be reported immediately and simultaneously to the nearby Office of the Department of Environment.	Will be complied	Will be reported in case of any incident.
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.	Complied	Pollution and environmental damage measures have been ensured.
16	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.	Will be complied	Land will be handed over to the landowners after commissioning of transmission lines in a ready to cultivate condition.
17	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.	Complied	Adherence to the relevant standard being ensured.
18	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	Complied	Govt. rules are being followed.
19	No activity of cutting/razing/dressing of hill or hill land is endorsed under this clearance without due permission/clearance of the concerned authority of the Government of Bangladesh.	Complied	The project's geographic locations do not have any hills.

20	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.	Will be complied	Permission will be requested whenever there is any such requirement.
21	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.	Complied	DoE officials are always welcomed to visit sites and offices.

2.4 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.

Table 2-1 EMP for substations

Item	Requirement or Mitigating Measures	Action Taken	Compliance Status	Remarks
Land acquisition/requisition	Prior to commencement of construction activities, landowners to be properly notified and compensated.	All the landowners have been notified and compensated as per legal requirements.	Being Complied	
Topsoil	Prevention of spillage and leakage of liquid at tower sites.	Secondary container used for prevention of spillage and leakage of liquid.	Being Complied	

Item	Requirement or Mitigating Measures	Action Taken	Compliance Status	Remarks
	Piling mud should be removed properly from the site.	Piling mud is safely removed from the construction site and disposed of when it dries in a mud pond.		
Cutting of trees/Clearing of vegetation	Owners to be compensated properly.	Compensation for land include compensation for standing crops and trees.	Being Complied	
Fauna (wildlife)	Owners to be compensated properly.	Compensation for land include compensation for water bodies (if any)	Being Complied	
Construction waste	Collection, separation and storage of all waste need to be ensured.	Will be implemented when the substation construction activity starts.	Will be complied	
Drainage congestion and flooding	Necessary culverts and drainage system to be incorporated in design to avoid waterlogging.			
Noise level	Construction activity to be limited within 9AM to 6PM and noise barriers to be placed if necessary.			
Air quality and dust	Proper covering and water spraying to be ensured in order to avoid dust emission.			
Soil quality	Spillage and leakage to be prevented from construction sites and camps.	Will be implemented when the substation construction activity starts.	Will be complied	
Siting of construction camps	Owners to be compensated properly.	Camps will be within the acquired land; owners already compensated during land	Will be complied	

Item	Requirement or Mitigating Measures	Action Taken	Compliance Status	Remarks
		acquisition. If any additional land is used by the contractor, owners will be properly compensated.		
Traffic congestion/road accident	Follow traffic rules, engage experienced drivers, signalman, ensure proper lighting and safety equipment.	Will be implemented when the substation construction activity starts.	Will be complied	
Pollution due to Wastes	Collection, separation and storage of all waste need to be ensured.			
Community H&S	Safety barriers and warning signs around the designated land to be ensured.			
Occupational H&S	Contractor to prepare Health and Safety plan and appoint a HSE expert.			
Physical cultural resources	Prevention of damage to any cultural/heritage sites	There are no such sites within the immediate vicinity of the substations.	Being Complied	
Employment generation/income	Employ local people, especially PAPs	Will be ensured based on skill and availability.	Will be complied	

Table 2-2 EMP for Transmission Lines

Item	Requirement or Mitigating Measures	Action Taken	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 -13

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	
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 -14
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 -15
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	
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 -14
Community H&S	Safety barriers and warning signs surrounding the tower construction sites	Safety signs are available at all construction sites.	Being complied	Annexure -16
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 -17
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	

3 ENVIRONMENTAL SUPERVISION AND MONITORING RESULTS

Table 3-1 Environmental Supervision

SL	Date	Type and Purpose of the visit	Location (s) visited	EA, IA, Consultant staff participating	Remarks
1.	19.07.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Kushtia to Meherpur	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed 132 kV transmission route from Kushtia to Meherpur
2.	21.07.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Purba Sadipur to Domar	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed Domar- Purba Sadipur 230 kV double circuit transmission line (Initially Charged at 132kV)
3.	31.08.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Bhandaria Substation	Bagerhat- Pirojpur - Bhandaria	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed Bagerhat-Pirojpur- Bhandaria 132 kV double circuit line
4.	27.09.2022	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Domar- Hatibandha	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed Domar-Hatibandha 132 kV double circuit line
5.	23.10.2022	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

Table 3-2 Quantitative Environmental Monitoring

SL No	Activity/Measuring Parameters	Responsibility	Tentative Timeline
1.	Environmental audit of existing substations related to DWZTGEP	EQMS Consulting Ltd	Q1-2023
2.	Baseline Data Collection for P3 Sites	L&T Ltd.	Refer to the link given in Annexure-16
3.	Baseline Data Collection for P4 Sites	Transrail Lighting Ltd.	
4.	Baseline Data Collection for P7 Sites	CMEC-CNEEC JV	Q2-2023
5.	Updating the IEE on the basis of approved route of transmission line	EQMS Consulting Ltd	Addendum-1 & 2 has been disclosed by ADB. Addendum-3 is under ADB's review.

Table 3-3 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		

3.1 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. So far, no case of Covid-19 has been detected in any of the sites.

3.2 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.

Table 3-4 Consultation and Grievance Redress

Date	Venue	Participants	Main Issues Raised
July 2022	Kushtia- Meherpur	Local Community	Movement Disturbances+ Employment Opportunity
		Landowner	Occupancy of additional land
August- September 2022	Domar-Hatibandha	Local Community	Movement Disturbances+ Employment Opportunity + Local Infrastructure Development
		Landowner	Occupancy of additional land
August- September 2022	Bagerhat-Pirojpur-Bhandaria	Local Community	Movement Disturbances+ Employment Opportunity
		Landowner	Occupancy of additional land

Table 3-5 Affected Community

Complaint/s or Affected Persons	Location/s and Date/s of Complaint	Description of Grievance/Complaint	Timeline	Time-bound Corrective Action
Local Community	Mirpur, Kushtia Date: 27-08-2022	<ul style="list-style-type: none"> Left construction materials along the roadside. Dust is not controlled properly and pollutes the air condition of the area. 	Resolved within 10 days the complaint issuing day	Construction materials to be removed within 10 days
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

Local Community	Bagerhat Date: 17-09- 2022	<ul style="list-style-type: none"> • Materials carrying transport are moving speedily in the local road • Noise pollution occurs during the construction work. 	Resolved within 10 days the complaint issuing day	Contractor to resolve the issue within 10 days
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3.3 Training and Awareness Activities

PIU has conducted day long training on EHS for contractors of package-3, 4, 7 and 8 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).

3.4 Status of CAP

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

Table 3-6 Status of CAP

Sl no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
1.	Purba Sadipur substation	<p>The substation needs the yard cleanness and appropriate waste handling and disposal practices.</p> <p>Improvement of waste management facilities at the substations.</p> <ul style="list-style-type: none"> The substation needs the yard cleanness and appropriate waste handling and disposal practices. No proper solid waste management Scrap scattered at sites 	PGCB	<p>The practice of regular cleaning of substation and appropriate waste handling and disposal practices were introduced.</p> <p>A proper solid waste management system has been introduced at the sites.</p> <p>Scrap and other construction debris have been kept in a designated place with proper marks.</p>
		<p>Health and Safety of Staff</p> <p>Staff to use personal protective equipment (PPE) at all times.</p>	PGCB	PPE (footwear, masks, protective clothing and goggles in appropriate areas) has been provided to the staff.
		<p>Unsafe storage of material</p> <p>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.</p> <p>Hazardous Transformer oil stored haphazardly with any bunding to prevent leakage to ground.</p>	PGCB	<p>Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.</p> <p>The leakages have been fixed. Spill kits were made available at the sites.</p>

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
		<p>Health and Safety Equipment H&S equipment such as incomplete first aid box, lesser quantities of fire buckets, fire extinguisher</p>	PGCB	The complete kits, fire safety as well as fire alarms systems have been made available at sites.
		Handling emergencies	PGCB	Construction EHS Plan has been complied.
		Safety training and awareness raising program	PGCB	Safety training and awareness workshop for staff and contractors has been conducted at the sites.
		PCB	PGCB	<p>There is no incident reported on PCB oil leakages in transformers and switchgear.</p> <p>If occurs, the following measures will be taken.</p> <ul style="list-style-type: none"> • Surrounding soil and groundwater to be tested for presence of PCB and any contamination will be removed. • To retrofit proper impermeable bund to 110% capacity. • Prior to final disposal, retired transformers and equipment containing PCB should be stored on a concrete pad with curbs sufficient to contain the liquid contents of these containers should they be spilled or leaked. The storage area should also have a roof to prevent precipitation from collecting in the storage area. Disposal should involve facilities capable of safely transporting and disposing of hazardous waste containing PCB.

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
2.	Kushtia substation	<p>The substation needs the yard cleanness and appropriate waste handling and disposal practices.</p> <p>Improvement of waste management facilities at the substations.</p> <ul style="list-style-type: none"> The substation needs the yard cleanness and appropriate waste handling and disposal practices. No proper solid waste management Scrap scattered at sites 	PGCB	<p>The substation yard was cleaned, and appropriate waste handling and disposal practices maintained.</p> <p>A proper solid waste management system has been introduced at the sites.</p> <p>Scrap and other construction debris have been kept in a designated place with proper marks.</p>
		<p>Health and Safety of Staff</p> <p>Staff to use personal protective equipment (PPE) at all times.</p>	PGCB	PPE (footwear, masks, protective clothing and goggles in appropriate areas) has been provided to the staff.
		<p>Unsafe storage of material</p> <p>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.</p> <p>Hazardous Transformer oil stored haphazardly with any bunding to prevent leakage to ground.</p>	PGCB	<p>Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.</p> <p>The leakages have been fixed. Spill kits were made available at the sites.</p>
		Handling emergencies	PGCB	Construction EHS Plan has been complied.
		Safety training and awareness raising program	PGCB	Safety training and awareness workshop for staff and contractors has been conducted at the sites.

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
		PCB	PGCB	There is no PCB oil in transformers and switchgear in Kushtia 132kV Substation.
3.	Bagerhat substation	<p>The substation needs the yard cleanness and appropriate waste handling and disposal practices.</p> <p>Improvement of waste management facilities at the substations.</p> <ul style="list-style-type: none"> The substation needs the yard cleanness and appropriate waste handling and disposal practices. No proper solid waste management Scrap scattered at sites 	PGCB	<p>The practice of regular cleaning of substation and appropriate waste handling and disposal practices were introduced.</p> <p>A proper solid waste management system has been introduced at the sites.</p> <p>Scrap and other construction debris have been kept in a designated place with proper marks.</p>
		<p>Health and Safety of Staff</p> <p>Staff to use personal protective equipment (PPE) at all times.</p>	PGCB	PPE (footwear, masks, protective clothing and goggles in appropriate areas) has been provided to the staff.
		<p>Unsafe storage of material</p> <p>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.</p> <p>Hazardous Transformer oil stored haphazardly with any bunding to prevent leakage to ground.</p>	PGCB	<p>Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.</p> <p>The leakages have been fixed. Spill kits were made available at the sites.</p>
		Handling emergencies	PGCB	Construction EHS Plan has been complied.

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
		Safety training and awareness raising program	PGCB	Safety training and awareness workshop for staff and contractors has been conducted at the sites.
		PCB	PGCB	There is no PCB oil in transformers and switchgear in Bagerhat 132kV Substation.
4.	Bhandaria substation	<p>The substation needs the yard cleanness and appropriate waste handling and disposal practices.</p> <p>Improvement of waste management facilities at the substations.</p> <ul style="list-style-type: none"> The substation needs the yard cleanness and appropriate waste handling and disposal practices. No proper solid waste management Scrap scattered at sites 	PGCB	<p>The substation yard was cleaned, and appropriate waste handling and disposal practices maintained.</p> <p>A proper solid waste management system has been introduced at the sites.</p> <p>Scrap and other construction debris have been kept in a designated place with proper marks.</p>
		<p>Health and Safety of Staff</p> <p>Staff to use personal protective equipment (PPE) at all times.</p>	PGCB	PPE (footwear, masks, protective clothing and goggles in appropriate areas) has been provided to the staff.
		<p>Unsafe storage of material</p> <p>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.</p> <p>Hazardous Transformer oil stored haphazardly with any bunding to prevent leakage to ground.</p>	PGCB	<p>Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.</p> <p>The leakages have been fixed. Spill kits were made available at the sites.</p>

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
		Handling emergencies	PGCB	Construction EHS Plan has been complied.
		Safety training and awareness raising program	PGCB	Safety training and awareness workshop for staff and contractors has been conducted at the sites.
		PCB	PGCB	There is no PCB oil in transformers and switchgear in Bhandaria 132kV Substation.
5.	Niamatpur substation	<p>The substation needs the yard cleanness and appropriate waste handling and disposal practices.</p> <p>Improvement of waste management facilities at the substations.</p> <ul style="list-style-type: none"> The substation needs the yard cleanness and appropriate waste handling and disposal practices. No proper solid waste management Scrap scattered at sites 	PGCB	<p>The substation yard was cleaned, and appropriate waste handling and disposal practices maintained.</p> <p>A proper solid waste management system has been introduced at the sites.</p> <p>Scrap and other construction debris have been kept in a designated place with proper marks.</p>
		<p>Health and Safety of Staff</p> <p>Staff to use personal protective equipment (PPE) at all times.</p>	PGCB	PPE (footwear, masks, protective clothing and goggles in appropriate areas) has been provided to the staff.
		<p>Unsafe storage of material</p> <p>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.</p>	PGCB	<p>Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.</p> <p>The leakages have been fixed. Spill kits were made available at the sites.</p>

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
		Hazardous Transformer oil stored haphazardly with any bunding to prevent leakage to ground.		
		Handling emergencies	PGCB	Construction EHS Plan has been complied.
		Safety training and awareness raising program	PGCB	Safety training and awareness workshop for staff and contractors has been conducted at the sites.
		PCB	PGCB	<p>There is no incident reported on PCB oil leakages in transformers and switchgear.</p> <p>If occurs, the following measures will be taken.</p> <ul style="list-style-type: none"> • Surrounding soil and groundwater to be tested for presence of PCB and any contamination will be removed. • To retrofit proper impermeable bund to 110% capacity. • Prior to final disposal, retired transformers and equipment containing PCB should be stored on a concrete pad with curbs sufficient to contain the liquid contents of these containers should they spill or leak. The storage area should also have a roof to prevent precipitation from collecting in the storage area. Disposal should involve facilities capable of safely transporting and disposing of hazardous waste containing PCB.
6.	Satkhira substation	The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	The practice of regular cleaning of substation and appropriate waste handling and disposal practices were introduced.

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
		<p>Improvement of waste management facilities at the substations.</p> <ul style="list-style-type: none"> The substation needs the yard cleanness and appropriate waste handling and disposal practices. No proper solid waste management Scrap scattered at sites 		<p>A proper solid waste management system has been introduced at the sites.</p> <p>Scrap and other construction debris have been kept in a designated place with proper marks.</p>
		<p>Health and Safety of Staff</p> <p>Staff to use personal protective equipment (PPE) at all times.</p>	PGCB	PPE (footwear, masks, protective clothing and goggles in appropriate areas) has been provided to the staff.
		<p>Unsafe storage of material</p> <p>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.</p> <p>Hazardous Transformer oil stored haphazardly with any bunding to prevent leakage to ground.</p>	PGCB	<p>Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.</p> <p>The leakages have been fixed. Spill kits were made available at the sites.</p>
		Handling emergencies	PGCB	Construction EHS Plan has been complied.
		Safety training and awareness raising program	PGCB	Safety training and awareness workshop for staff and contractors has been conducted at the sites.
		PCB	PGCB	<p>There is no incident reported on PCB oil leakages in transformers and switchgear.</p> <p>If occurs, the following measures will be taken.</p>

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 21)
				<ul style="list-style-type: none"> • Surrounding soil and groundwater to be tested for presence of PCB and any contamination will be removed. • To retrofit proper impermeable bund to 110% capacity. • Prior to final disposal, retired transformers and equipment containing PCB should be stored on a concrete pad with curbs sufficient to contain the liquid contents of these containers should they spill or leak. The storage area should also have a roof to prevent precipitation from collecting in the storage area. Disposal should involve facilities capable of safely transporting and disposing of hazardous waste containing PCB.

Table 3-7 Status of CAP from the General Recommendations

1. CAP for Package-3

SI	ACTION TO BE TAKEN	PARTY RESPONSIBLE	Compliance Status
Satkhira-Rupsha 230 kV Double Circuit Line			
AP 9/0 and Its Construction Workers' Camp sites			
1	It is recommended that along with the trainings on waste management, extensive monitoring and supervision are continued to make sure that workers are dumping the wastes (e.g., degradable, non-degradable) in right bins.	EPC Contractor	Checked continuously by the contractor's site supervisor and EHS officer.
2	Iron rods and other construction materials always need to be stored at designated place rather storing them on the community road or open ground	EPC Contractor	Construction leftovers are returned to contractor's store.
3	COVID-19 precaution measures (e.g., handwashing facility/ sanitizer, temperature screening) at the worksite premises need to be ensured	EPC Contractor	Hand wash stations, availability of sanitizers, temperature screening, isolation etc. measures has been implemented. No outbreak of Covid-19 has been recorded as of yet.
4	It is recommended that another grievance box is ensured outside the worksite so that community people can drop grievance if they have any	EPC Contractor	Community people have access to the grievance box installed at site.
5	It is recommended that the drain of piling mud is built and maintained well so that the mud cannot overtop and fall to surrounded land.	EPC Contractor	The piling muds are being drained regularly and owners of surrounding lands are compensated if there is any damage to their land.
6	All oil driven engines should be with adequate oil spill arrangement (e.g., tray, spill absorbent kit)	EPC Contractor	Oil spillage capture system has been ensured.
7	It is recommended that set of bins should have message on which one is for degradable and which one is for non-degradable waste.	EPC Contractor	Ensured.
8	It is recommended that temporary resting place for the construction workers are made in way that there is proper ventilation system and that is comfortable to take rest.	EPC Contractor	Temporary shaded resting places with drinking water facility has been ensured.
9	It is recommended that contractor will not store any construction materials alongside or on the road and they will store all the construction materials at designated and demarcated place at the worksite	EPC Contractor	Ensured.

10	It is recommended that contractor ensures adequate demarcation and safety signage at all the required spots of the construction workers' camp area	EPC Contractor	Ensured
11	It is recommended that a security gate will be ensured with camp area	EPC Contractor	Ensured
12	It is recommended that the accommodation are organized and no plastic bags, engine oil etc. are stored at the sleeping place, a ceiling with roof and beds for the workers are ensured	EPC Contractor	Workers residing places have been cleared of all leftovers and monitored continuously and standard residing places have been ensured.
13	It is recommended contractor will replace accommodation made of tarpaulin with standard accommodation and ensure health and safety (H&S) facilities with the accommodation place	EPC Contractor	Standard residing place has been ensured.
14	It is recommended that safety aspect of the storeroom with the construction camp is ensured by the contractor.	EPC Contractor	Ensured.

Satkhira-Monirampur 132 kV Double Circuit Line

AP 8/0 Site

1	It is recommended that no construction materials/ equipment are kept on the road and they are stored at designated and demarcated place	EPC Contractor	Ensured.
2	It is recommended that first aid box at all worksites is ensured with all the necessary items	EPC Contractor	Ensured
3	COVID-19 precaution measures (e.g., handwashing facility/sanitizer, temperature screening) at the worksite premises need to be ensured	EPC Contractor	Ensured.
4	It is recommended that all the oil driven machineries at all worksites are ensured with adequate oil spill management system	EPC Contractor	Ensured.
5	It is recommended that the records on accident/ injury being recorded in the registers at site level will be reflected in Semi-annual Environmental Monitoring Report (EMR)	EPC Contractor/ Consultants/ PGCB	Log books are available at site.
6	It is recommended that data/ information on the grievances those being recorded at the stie level registers will be reflected in Sem-annual EMR and Social Monitoring Report (SMR)	EPC Contractor/ Consultants/ PGCB	Log books are available at site.
7	It is recommended that messages on which bin is for degradable and nondegradable is in place with the bins at the worksite.	EPC Contractor	Ensured.

Dumuria Store Area

1	It is recommended that EPC Contractor ensures adequate numbers of safety signage covering different safety aspects	EPC Contractor	Ensured.
2	Emergency procedures (e.g., name and of person responsible for particular issue, emergency required contact numbers like fire service, police station, hospital) at the site need to be visibly placed	EPC Contractor	Sign board with emergency contact nos. have been installed.
3	It is recommended that messages on which bin is for degradable and nondegradable is in place with the bins at the worksite	EPC Contractor	Ensured.
4	It is recommended that empty barrels are stored at designated and demarcated place at the store area	EPC Contractor	Ensured.
5	It is recommended that the water of reservoirs is changed on a regular basis.	EPC Contractor	Ensured.

2. CAP for Package-4

Purbasadipur-Domar 230 kV Double Circuit Line			
Suspension tower 6/5 at Birganj of Dinajpur and its workers' camp sites			
1	Numbers of safety signage around the worksite premises need to be increased	EPC Contractor	Adequate safety signs have been placed at site.
2	It is recommended that EPC contractor ensures construction machineries that is in good condition and spill management system (e.g., tray under the machinery, presence of oil absorbent kit) with them	EPC Contractor	Ensured
3	It is recommended that EPC Contractor ensures that the farmland is re-landscaped before leaving the construction site		Minimum impact after completion of foundation works has been ensured
4	It is recommended that plastic bags are disposed in proper (e.g., recycle, handingover to the hawkers) way rather keeping them at worksite or dumping them in any open spaces	EPC Contractor	Proper disposal of wastages have been ensured.
5	It is recommended to maintain a waste management register at every worksite that will cover information on volume of waste disposed by type, means/ method of disposal etc.	EPC Contractor	The contractor has been requested to maintain a register.
6	It is recommended that the emergency contact numbers are fixed visibly at the worksite premises	EPC Contractor	The contractor has been instructed to install safety signs.
7	It is recommended that data and information of the site level grievances are reflected in Semi-Annual EMR/SMR	EPC Contractor	Minor site level grievances are registered in site log books and resolved locally.
8	It is recommended that door with the entrance of construction workers' camp is ensured	EPC Contractor	Ensured
9	It is recommended that beds for all the workers are ensured in the construction workers' camp.	EPC Contractor	Ensured

Sonarai Construction Workers' Camp			
1	A grievance box outside the construction workers' camp and a grievance register for the construction workers camp is recommended to ensure	EPC Contractor	Ensured
2	The emergency contact numbers are suggested to place at visible place with the construction workers' camp.	EPC Contractor	The contractor has been requested to install a signboard with emergency contact nos.

Store area at Sonarai			
1	The fencing around the store areas needs to be improved	EPC Contractor	Being improved gradually
2	The access road towards the store area needs to be improved	EPC Contractor	Being improved gradually
3	Stacked materials at the store area need to be demarcated with message on the item	EPC Contractor	Ensured
4	A proper drainage system around the store areas needs to be ensured to mitigate any water logging at store premises	EPC Contractor	Proper drainage has been ensured.
5	It is recommended that all the construction materials at the construction site are stored in an organized way	EPC Contractor	Ensured
6	It is recommended that water (e.g., arsenic, faecal coliform) of the tube well is tested.	EPC Contractor	The contractor has ensured availability of pure drinking water at site and camp.

3. CAP for Common Issues

1	Audit recommends EPC Contractors to open group insurance covering all the construction workers	Both EPC Contractors	Ensured (Annexure-22)
2	It is recommended that PGCB applies for ECC renewal considering that it obtains the ECC renewal before it expires every year	PGCB	ECC is being renewed annually
3	It is recommended that if any changes happen in near future in project design/alignment, PGCB will carry out IEE addendum before starting any works	PGCB/EPC Contractor	Ensured
4	It is recommended that EPC Contractors of Package-7 and Package-8 prepare CESMP and get approval from PGCB before commencement of construction activities	Both EPC Contractors; PGCB	CSEMP approval is a contractual prerequisite for starting site activities which is being strictly followed.
5	It is recommended that all the EPC Contractors ensure adequate numbers of EHS staff considering that all the construction sites are covered well	Both EPC Contractors	Organogram of all EPC contractors ensure inclusion of EHS staff.
6	It is recommended that PGCB will provide the status on implementation of CAP for substation audit in its EMRs	PGCB; Consultants	Acknowledged.

7	It is recommended that PIU continue conducting EHS training for all the EPC Contractors before commencement of construction activities	PGCB	Training already done for contractors of packages 3, 4, 7 and 8.
8	This is recommended to carry out awareness measures on the Grievance Redress Mechanism (GRM) of the project at beginning stage/ before construction works of all relevant packages and evidence of awareness measures is also recommended to be kept include in the EMR report.	EPC Contractor; PGCB	Acknowledged.
9	It is suggested that DWZTGEP develops a good practice for piling mud management to supplement the EMP and that should be adopted by all the contractors on DWZTGEP using piling mud (it can be used for other projects in future). Furthermore, the contractors should have their own SOP for piling mud under their CESMP	PGCB; all the EPC Contractors	The contractors have been requested to develop their own SOP.

4 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

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:

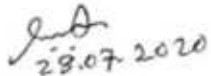
1. The activity under this Project shall not result in the loss of containment of any materials that would affect health or will have damaging impact on the environment or natural resources.
2. Proper and adequate sanitation facilities shall be ensured in labor camps throughout the proposed Transmission 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.


29.07.2020
(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 (8th 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.doc.gov.bd

Memo No: 22.02.0000.018.72.055.20. 132

Date: 14/08/2022

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 04/07/2022.

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, 2023. 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

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, Dhaka Regional/Rajshahi/Khulna/Barishal/Rangpur Divisional Office, Department of Environment.
- 3) Assistant Director, Office of the Director General, Department of Environment, Head Office, Dhaka.

Annexure-3: 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-4: 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-5: Link to Approved CESMPs

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

Annexure-6: Rate of Crops Collected from Agriculture Offices

https://drive.google.com/drive/folders/1V49CNRxW2XRu_XbxRuHtYvFPSMUOiuwT?usp=share_link

Annexure-7: Navigational Clearance from BIWTA

https://drive.google.com/drive/folders/10RVE4woW-0QahmNMEURNXlaSFYPt04wy?usp=share_link

Annexure-8: 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 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 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 a place of accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made to meet all necessary welfare and hygiene requirements and 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

Section 7 - General Conditions of Contract

SCC.

22.2.9 Records of Contractor's Personnel

The Contractor shall keep accurate records of the Contractor personnel, including the number of each class of Contractor 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 the 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 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.

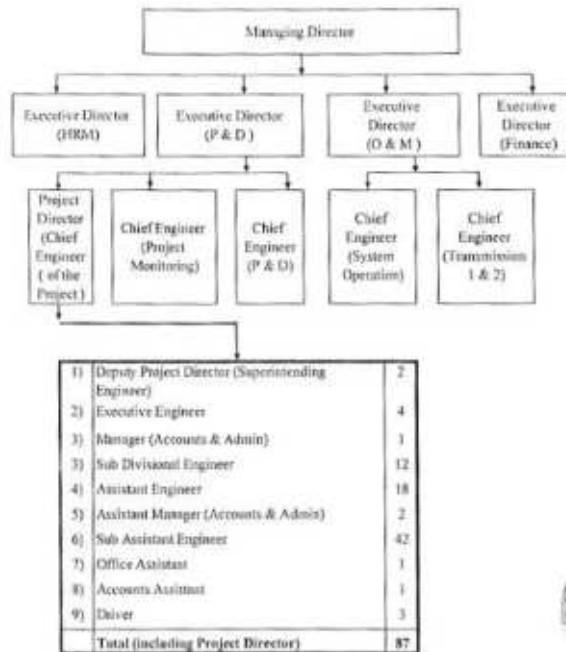
22.2.16 Prohibition of Harmful Child Labor

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-10: PIU/ESU/Consultant's 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 led by GM Finance will assist the Project Director (PD) in establishing ERP in PGCB during the implementation phase of the project. (Appendix-XXIII Page: 248)

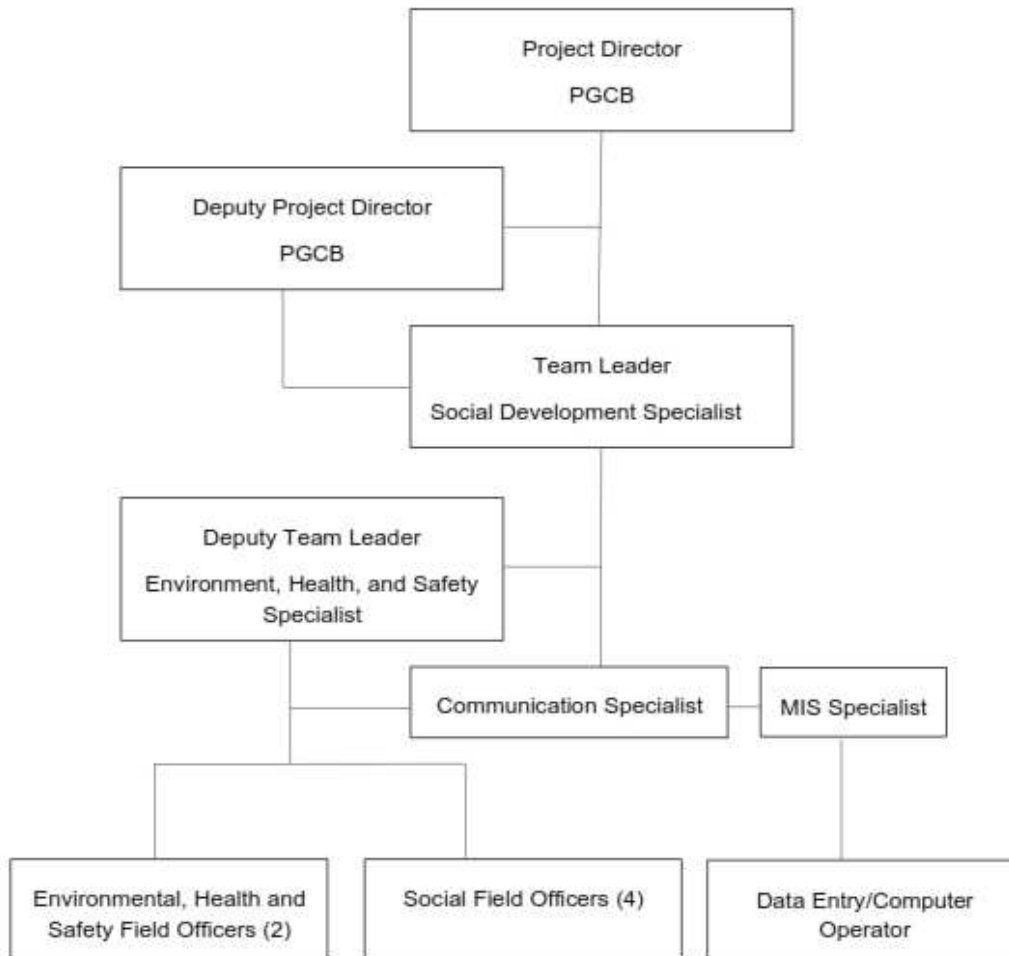
Md. FERDUS REHMAN
Sub-Divisional Engineer
Project Planning, PGCB

Md. FERDUS REHMAN
Sub-Divisional Engineer
Project Planning, PGCB

Md. FERDUS REHMAN
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-11: Contractor's Organogram

https://drive.google.com/drive/folders/1xWJI8dBjS4wdE2uta_hhRI7j60YB53J?usp=share_link

Annexure-12: GRC



Ref. No.: 27.21.0000.453.05.001.21.122

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-13: Compensation Paid by the Contractor to the Local Community

https://drive.google.com/drive/folders/1VAqPnvtan4HD50Qjf-liEOJNTICD9vh7?usp=share_link

Annexure-14: Waste Collection and Separation



Annexure-15: Covering and Spray of Water



Annexure-16: Placement of Barriers and Safety Signs



Annexure-17: Ensuring Personal Safety



Annexure-15: PIU Set-Up

Annexure-18: Link to Baseline Data

https://drive.google.com/drive/folders/116Pv1_8bc5_ZwPFahPxxvtiOzxm9vo73?usp=sharing

Annexure-19: EHS Training



TRAINING WORKSHOP ON ENVIRONMENTAL & SOCIAL SAFEGUARD MONITORING

Venue: PGCB Head Office

Attendance Sheet

Date: 01 December 2022

Sl	Name	Organization	Designation	Cell No.	Signature
1.	Mr. Masudul Islam	DWZT GEP, PGCB	Superintendent Engg.	01713850495	
2.	Mr. Mohibul Karim KEN	DWZT GEP, PGCB	Executive Engg.	01709647106	
3.	Mr. Shohamur Rahman	CNEEC	Project Co-ordinator	11671117817	
4.	Hanin Ahmed	CNEEC	Assistant Engg.	01731029415	
5.	SK Ashik Rahman	DWZT GEP, PGCB	Sub-Assistant Engg.	01854266869	
6.	Mr. Faridul Alam	DWZT GEP, PGCB	Sub-Assistant Engg.	01713391895	
7.	Mr. Mubarak Hossain	DWZT GEP, PGCB, DMPC	SAE	01715090929	
8.	Sayemuzzaman	Energy pac	Project manager	01708453330	
9.	Abu Tanvir Khan	U	Sr. Engineer	01777741146	
10.	Al Amin	DWZT GEP	SAE	01745327601	
11.	MUHAMMAD NAZMUL HUDDA	DWZT GEP	Asstt. Engineer	01714136125	

EQMS

Sl	Name	Organization	Designation	Cell No.	Signature
12.	Juno Alam	EEL	Executive	01704120545	
13.	M.L. Nasir ^{withy} _{Abdullah}	DWTGEP PCCB	AE	01767-458797	
14.	Md. Salim Ullah	DWTGEP PCCB	AE	01969-458795	
15.	Mosabbir Hossain	EQMS	Consultant	01712566902	
16.	Tareque Ahmed Chanyon	PCCB	AM.PSU	01709643586	
17.	Hemayet Kabir	PCCB	SAE	01744793168	
18.	S.K. SAHAJUDIN AHAMMAD	EQMS	Sp. Consultant	01711-141484	
19.	SADMAN K MANSUR	EQMS	Sr. Consultant	01711373678	
20.					

61

EQMS

Annexure-20: Community Engagement

Public Consultation – 132kV Bagerhat-Pirojpur-Bhandaria Transmission Line



Public Consultation – 132kV Kushtia-Meherpur Transmission Line



Public Consultation – Purba Sadipur - Domar





Annexure-21: Photos of Switchyards of Existing Substations

<https://drive.google.com/drive/folders/1gd64IY603Y3jj0QRSsXLAtnYtoxyNyP?usp=sharing>

Annexure-22: Group Insurance for the Workers

THE SCHEDULE

Policy No: SBICD/KUL/WC/P-0036/120022(PUB)

The Insurer: **Sadhara Bina Corporation**

The Insured: **M/S. M/S. Transrel Lighting Ltd**

Address: Ho-410 3rd Floor Road No-7, Dohz, Bandhara, Post office-Cantonment, Police Station-Cantonment, Dhaka-1205, Bangladesh

Occupation: **Workmen's Compensation Insurance**

Law (i): The Workmen's Compensation Act 1923 and subsequent amendments of the said act prior to the date of issue of the policy. The Fatal Accidents Act 1855, and at common law and Labour Code 2016. Subject to WC Enfr. No. 1 and 6 attached hereto.

Period of Insurance: (a) From **04-Dec-2022 to 03-Dec-2023** (both dates inclusive)
 (b) Any subsequent period for which the insured shall pay and the Company shall agree to accept a renewal premium

Premium Computation:

Net Premium:	Tk.	369,588.00
VAT @19%:	Tk.	58,438.00
Stamp Duty:	Tk.	11,700.00
Total:	Tk.	439,724.00

Subject to adjustment in the terms of Condition 6 The estimated amount of wages salaries and other earnings on which Premium is based.

Estimated number of employees	Occupation of employees	Estimated total salaries wages and other money earnings	Estimated total savings	Premium Rate	Place or places of employment
01	EMPLOYEES	16,551,700	16,551,700	2.50%	DHAKA
Total Sum Insured Tk. 16,551,700					

Subject to the conditions of average printed overleaf of this policy.

DESIGN, SUPPLY, INSTALLATION TESTING & COMMISSIONING OF 220KV & 132KV TRANSMISSION LINES IN WESTERN ZONE ON TRUNKY BASIS (Package-I)

PGCB/ADB/055-02/NTL/PQDW/23-4, DATED-30.06.2021

Date of signature of Proposal and Declaration: **04-Dec-2022**

Signed at DHAKA, on 04-Dec-2022

Checked by: MR No: 0826, Date: 04-Dec-2022

For and on behalf of **Sadhara Bina Corporation**

PARVEESH MOMINUD
 Deputy Manager
 Sadhara Bina Corporation
 1st Marine Underwriting
 Local Office
 Dhaka Zone, Dhaka.

SCHEDULE

Policy No: SBICD/KUL/WC/P-0036/120022(PUB)

THE INSURER: SADHARA BINA CORPORATION

Insured's Name: **M/S. Power Grid Company of Bangladesh Limited (PGCL) A/C. Larsen & Toubro Limited, 8 T House, N.M. Moir, Ballian / Estate, Mumbai-400001, India**

Location: **220kv & 132kv Transmission Line in Western Zone (ADB Package-I) T1, Project Site, Bangladesh.**

Business: **Design, Supply, Installation, Testing and Commissioning of 220kv & 132kv Transmission Line in Western Zone on Trunkly Basis (Package-I) (Contract No. PGCB/ADB/055-02/NTL/PQDW/23-4, Dated: 30th May 2021).**

Law (i) **Workmen's Compensation Act 1923 and subsequent of the said Act prior to the date of issue of this policy, The Fatal Accidents Act 1855 and at common Law. Warranted that the declaration of Actual/Salaries/wages and other money earning to made the corporation in accordance with condition No. 5 of this policy. All are accompanied by the statement from the Insured's Auditors Certifying the accuracy of the said declaration, Subject to the Enforcement No. 1 of WC Tariff attached here to.**

Period of Insurance: (a) From **18.08.2021** To **17.08.2022**
 (b) Any subsequent period for which the insured shall pay and the Corporation shall agree to accept a renewal premium.

Premium: **Tk. 66,590.00+ VAT Tk. 9,999.00 + Stamp Duty Tk. 1,340.00= Total Premium Tk. 77,929.00 (Take- Seventy seven thousand nine hundred sixteen Take only)**

Subject to adjustment. In the terms of Condition 6 The estimated amount of wages salaries and other earnings on which premium is based.

Estimated number of employees	Occupation of employees	Estimated total salaries wages and other money earnings.	Value of food fuel quarters and other consideration in addition to money earnings.	Estimated total savings	Place or places of employment
UN NAMED LABOUR, TOTAL NO-200.					

Sum Insured: **3,45,54,300.00**
 (In word: Three crore sixty nine lac ninety four thousand two hundred only)

Sum Insured: **3,45,54,300.00**
 (In word: Three crore sixty nine lac ninety four thousand two hundred only)

Premium Paid Vider M/W No- **A 1138611, Date: 18-08-2021**

Date of signature of Proposal and Declaration

Signed at Dhaka on 18th August, 2021

Sadhara Bina Corporation
 Non-Marine TW Dept.
 Local Office
 24-ED **MOIR BAIDIA, Dhaka**
INSURANCE OFFICE

Anwarul Karim
 Senior Officer
 Public Charge Department
SADHARA BINA CORPORATION
 Dhaka Zone, Dhaka.