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Prepared by Power Grid Company Limited (PGCB), Government of Bangladesh for the Asian Development Bank (ADB).

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SEMI ANNUAL ENVIRONMENTAL SAFEGUARD MONITORING REPORT: DHAKA AND WESTERN ZONE TRANSMISSION GRID EXPANSION PROJECT



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ENVIRONMENTAL AND SOCIAL SAFEGUARD MONITORING REPORT: DHAKA AND WESTERN ZONE TRANSMISSION GRID EXPANSION PROJECT PACKAGE-3 AND PACKAGE-4

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TABLE OF CONTENTS

Table of Contents	iii
List of Tables	iv
Abbreviations	v
EXECUTIVE SUMMARY	vi
1 Introduction	1-1
1.1 Scope of the Project:	1-2
1.2 Project Implementation Status	1-6
2 Compliance to National Regulations	2-13
2.1 Compliance to Environmental Covenants from the ADB Loan Agreement	2-15
2.2 Compliance to Project Administration Manual (PAM)	2-20
2.3 Grievance Redress Mechanism	2-21
2.4 Compliance to Environmental Management Plan	2-22
3 Environmental Supervision and Monitoring Results	3-28
3.1 Labor Management	3-29
3.2 Waste Management	3-29
3.3 Environmental Health and Safety	3-30
3.4 Meaningful Consultation and Grievance Redress	3-31
3.5 Training and Awareness Activities	3-32
3.6 Status of CAP	3-32
4 Conclusion	4-42
Annexure	43
Annexure-1: Environmental Clearance Certificate	43
Annexure-2: Renewal of Environmental Clearance Certificate	44
Annexure-3: SCC-47	45
Annexure-4: SCC-9.8 (c)	45
Annexure-5: Link to Approved CESMPs	45
Annexure-6: SCC 22.2.7	46
Annexure-7: GCC 22.2	47
Annexure-8: GRC	51
Annexure-9: Compensation Paid by the Contractor to the Local Community	51
Annexure-10: Waste Collection and Separation	52
Annexure-11: Covering and Spray of Water	52
Annexure-12: Traffic Control	52
Annexure-13: Ensuring Personal Safety and Emergency Contact Information	53
Annexure-14: PIU Set-Up	55
Annexure-15: Link to Baseline Data	55
Annexure-16: Link to IEE Addendum	55
Annexure-17: Complain Logbook and Leaflets	56
Annexure-18: EHS Training	57
Annexure-19: Community Engagement	57
Annexure-20: Photos of Switchyards of Existing Substations	57
Annexure-21: EMP Clause of Packages-7 and 8	58

Annexure-22: Waste Inventory and Site Clearance from All Solid Waste	60
Annexure-23: Safety Signs at Site	75
Annexure-24: Status of CAP for Transmission Line (Package-3).....	75
Annexure-25: Pre-Work Briefing	82
Annexure 26: Clearance from BIWTA for River Crossing.....	82
Annexure 27: Crops Rate from Agricultural Office	82
Annexure 28: Environmental Monitoring Checklist	83
Annexure 29: Health and safety Checklist	89
Annexure 30: Environmental Management Implementation Schedule (July -December 2023).....	93

LIST OF TABLES

Table 1-1: At a glance of component wise project scope and present status	1-6
Table 1-2: Progress on implementation of environmental management activities	1-12
Table 2-1: Compliance to ECC Requirements	2-13
Table 2-2: Compliance to Environmental Covenants	2-16
Table 2-3: Safeguard personnel in DWZTGEP	2-20
Table 2-4: Details of compensatory tree plantation program as of June 2023	2-23
Table 2-5: EMP for substations	2-24
Table 2-6: EMP for Transmission Lines	2-25
Table 3-1: Environmental Supervision	3-28
Table 3-2: Budget for EMP Implementation	3-29
Table 3-3: Waste Management practice	3-29
Table 3-4: Trainings/Drills/ Inspections	3-30
Table 3-5: Types of Material/ Waste	3-30
Table 3-6: Health and Safety	3-30
Table 3-7: Consultation meetings held during Jan to Jun 2023.....	3-31
Table 3-8: Affected Community	3-32
Table 3-9: Status of CAP of the Existing Substations.....	3-33
Table 3-10: Status of CAP for Transmission Lines (Package-3)	3-35
Table 3-11: Status of CAP for Transmission Lines (Package-4)	3-38
Table 3-12: Status of CAP for General Issues.....	3-40

ABBREVIATIONS

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

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 the 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-one 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 renewed on 28/7/2022 that valid till 27/07/2023. According to the Environment Conservation Rules 2023 transmission lines (more than 25 km) is categorized as 'RED Category' project¹. The project also needs to comply with Asian Development Bank (ADB)'s safeguard requirements. IEE document has been prepared to fulfill environmental assessment requirements under ADB's Safeguard Policy Statement (SPS) 2009. IEE is updated and disclosed whenever 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 daytime 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 fields (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.

¹ Schedule 1, Environment Conservation Rules 2023

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 details including any environmental and social safeguard issue.

Table 1: Project Information

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>Detailed design approved for following transmission line subprojects:</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 		
Contract(s) Awarded	3 for transmission line construction (packages 2, 3 and 4) and 4 for substation construction (packages 5, 6, 7 and 8) in total.		
Bidding Document(s) Cleared by ADB	Include	EMP	8 bid documents (4 transmission lines & 4 substations) have been cleared by ADB so far.
Contract(s) Awarded Cleared by ADB	Include	EMP	YES, 3 for transmission line construction and 4 for substation construction

National Environment, Health and Safety Clearance(s) Obtained	YES, ECC is valid till 28/07/2023, further extension has been applied
Contractor(s) Given Access to Site	YES, 2 for transmission line construction and 2 for substation construction
Construction Progress (%)	<p>Construction progress for following subprojects that have started on site:</p> <ol style="list-style-type: none"> 1. Package-3: Tower foundation and erection works of Satkhira-Manirampur and Satkhira-Rupsha transmission lines and tower foundation work of Kushtia-Meherpur transmission lines are ongoing, overall progress is approximately 32% as of June 2023. 2. Package-4: Tower foundation and erection works of Gopalganj-Shibchar and Purba Sadipur-Domar transmission lines and tower foundation works at Niamatpur-Patnitala, Domar-Hatibandha and Bagerhat-Pirojpur-Bhandaria transmission lines are ongoing, overall progress is approximately 35% as of June, 2023. 3. Package-7: Land development at Rupsha, Phultola, Manirampur and Meherpur substations are ongoing, overall progress is approximately 5% as of June 2023. 4. Package-8: Land development at Bhola, Bhanga and Shibchar substations are ongoing, overall progress is approximately 2% as of June 2023.
Unanticipated Impacts including Change of Scope or Design	<p>Scope of package-1 has been reduced significantly, the draft bid document incorporating the revised scope has been cleared by ADB.</p> <p>Changes in alignment of routes for 2 transmission line contracts awarded, Addendum 1 to IEE has covered the following subprojects:</p> <ol style="list-style-type: none"> 1. Satkhira-Manirampur 2. Gopalganj-Shibchar <p>Addendum 2 to IEE is has covered the following subprojects:</p> <ol style="list-style-type: none"> 1. Satkhira-Rupsha 2. Purba Sadipur-Domar 3. Niamatpur-Patnitala <p>Addendum 3 to IEE is has covered the following subprojects (it's yet to be disclosed by ADB):</p> <ol style="list-style-type: none"> 1. Kushtia-Meherpur 2. Domar-Hatibandha 3. Bagerhat-Pirojpur-Bhandaria

Number of Site Inspections and Audits Undertaken by Environment Safeguards Staff in Reporting Period	7
Corrective Action Required from Previous Reporting Period	No
Outstanding Corrective Action this Reporting Period	No
Non-Compliances Recorded this Reporting Period	No major non-compliance was recorded in this reporting period
Corrective Action Required	YES
Number of Health and Safety Incidents	4 (minor)
GRM Functional	YES, GRM functional at construction sites of packages- 3, 4, 7 and 8. 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	4 (all minor)
Number of Grievances Resolved this Reporting Period	4 (all resolved)
Number of Grievances Still Outstanding	0
Number of Grievances referred to Court of Law	0
Number of Grievances referred to the Accountability Mechanism	0

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 lifeline 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 to 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 the 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 made 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 Kaliakair-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.

1. Satkhira-Manirampur 132 kV double circuit line: 33 km
2. Kaliganj-Maheshpur 132 kV double circuit line: 28 km
3. Kushtia-Meherpur 132 kV double circuit line: 48 km
4. Niamatpur-Patnitola 132 kV double circuit line: 32.5 km
5. Domar-Hatibandha 132 kV double circuit line: 35 km with 850 m river crossing line.
6. Bagerhat-Pirojpur-Bhandaria 132 kV double circuit line: 49.5 km with 1.3 km river crossing line.
7. LILO of Goalpara-Bagerhat 132 kV double circuit line at Rupsha: 3.5 km
8. LILO of Gopalganj-Gallamari 132 kV double circuit line at Rupsha: 0.5 km
9. LILO of Noapara-Khulna Central double circuit 132kV line at Phultola: 1 km

10. LILO of Madaripur- Faridpur 132 kV double circuit line at Bhanga: 0.5 km

11. 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.

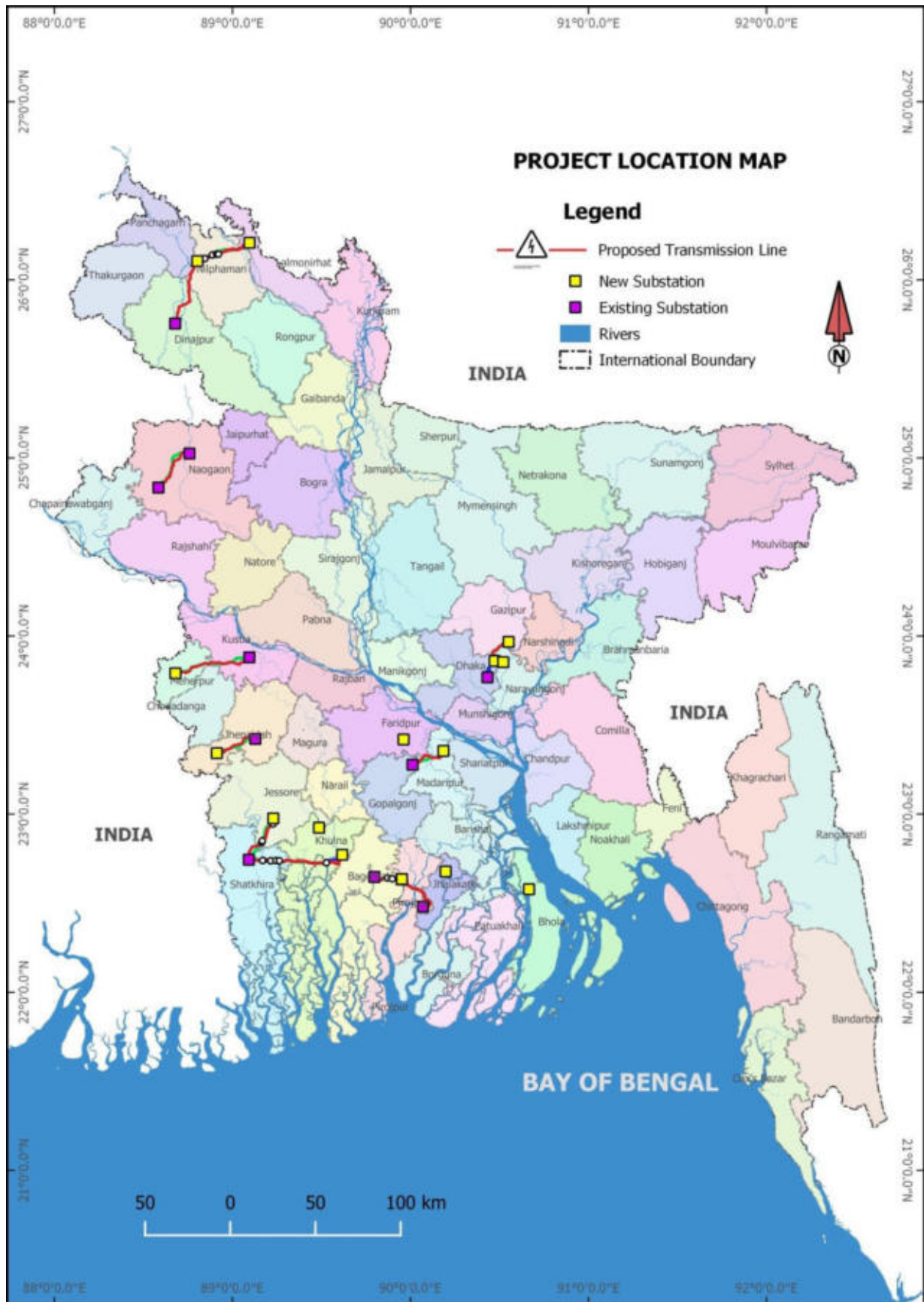
1. 4 nos. 132 kV AIS Bay Extension at Satkhira Substation (Increase in bay extensions from 2nos. originally planned but there is no additional land required)
2. 2 nos. 132 kV AIS Bay Extension at Kaliganj Substation
3. 2 nos. 132 kV AIS Bay Extension at Patnitala Substation
4. 2 nos. 132 kV GIS Bay Extension 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 Substation²
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)

² 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. Application for further renewal of the ECC has been submitted. Bid documents of each package contain SCC Clause -47 which makes the EMP part of the contract (see Annexure-4). Also, as per SCC Clause 9.8 c) of the bid documents of each package, the eligible contractor will not be allowed to start any physical work before submission and subsequent approval of CESMP (see Annexure-5). Links to approved CESMPs of packages-3, 4, 5, 6 and 7 are available as Annexure-6. Also progress status on implementation of environmental management activities shown in

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

Package	Description	Progress	Construction Progress	Expected Completion Date	Remarks on Performance
Package-1	400 kV and 230 kV LILO at Kaliganj & Purbachal	Financial evaluation completed, FBER sent for ADB's concurrence on 07/07/2023	Construction Activities has not started yet	-	-
Package-2	Rampura- Bashundhara 132kV double circuit underground cable line: 9.5 km underground + 1.5 km overhead	Contract signed with JV of TBEA and TBEA Luneng on 16/10/2022.	Preliminary route survey completed; reviewing and approval ongoing. About 5% work has completed till August 2023.	25/06/2025	-
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-Manirampur 132 kV double circuit line: 33 km, Kaliganj-Maheshpur 132 kV double circuit line: 28 km, Kushtia-Meherpur 132 kV	Contract signed with L&T, India on 09/05/2021. Now piling work and material procurement is ongoing. IEE addendum-1 (draft) submission date: 18/04/2022	<ul style="list-style-type: none"> In Satkhira-Manirampur line, piling, piling cap and erection work have completed for 71, 59 and 25 towers respectively out of 101 approved tower locations as of June 30, 2023. In Satkhira-Rupsha line, piling, piling cap and erection work have been completed for 101, 64 and 43 towers respectively out of 153 approved tower locations as of June 30, 2023. 	08/06/2024	Contractor started on site prior to clearance of IEE addendum. However, necessary environmental baseline data

Package	Description	Progress	Construction Progress	Expected Completion Date	Remarks on Performance
	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	IEE addendum-1 (final) submission date: 23/08/2022 IEE addendum-2 (draft) submission date: 04/08/2022 IEE addendum-2 (final) submission date: 13/10/2022 IEE addendum-3 (draft) submission date: 10/10/2022 IEE addendum-3 (final) submission date: 30/03/2023 Construction activity started: March 2022.	<ul style="list-style-type: none"> In Kushtia- Meherpur line, piling and piling cap work have been completed for 101 and 10 towers respectively out of 143 approved tower locations as of June 30, 2023. In Kaliganj- Maheshpur line, piling work have been completed for 12 towers out of 76 approved tower locations as of June 30, 2023. About 35% work has completed till August 2023 		was recorded before commencement of construction activities. Baseline Data for Kaliganj- Maheshpur line has been collected before commencing the physical works. However, data compilation is still going on and the contractor is yet to submit it formally.
Package-4	Purba Sadipur-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-	Contract signed with Transrail Lighting, India on 30/06/2021. Now piling work and material procurement is ongoing.	<ul style="list-style-type: none"> In Gopalganj-Shibchar line, piling, piling cap and erection work have been completed for 54, 36 and 34 towers respectively out of 55 approved tower locations as of June 30, 2023. In Purba Sadipur-Domar line piling and piling cap work have been 	28/08/2024	Contractor started on site prior to clearance of IEE addendum. However,

Package	Description	Progress	Construction Progress	Expected Completion Date	Remarks on Performance
	Borhanuddin double circuit 230 kV Line at Bhola substation : 1 km, Niamatpur- 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	<p>IEE addendum-1 (draft) submission date: 18/04/2022</p> <p>IEE addendum-1 (final) submission date: 23/08/2022</p> <p>IEE addendum-2 (draft) submission date: 04/08/2022</p> <p>IEE addendum-2 (final) submission date: 13/10/2022</p> <p>IEE addendum-3 (draft) submission date: 10/10/2022</p> <p>IEE addendum-3 (final) submission date: 30/03/2023</p> <p>Construction activity started: March 2022</p>	<p>completed for 85 and 62 towers respectively out of 89 approved tower locations.as of June 30, 2023.</p> <ul style="list-style-type: none"> In Domar - Hatibandha line, piling, piling cap and erection work have been completed for 54, 36 and 34 towers respectively out of 55 approved tower locations as of June 30, 2023. In the Niamatpur-Patnitola line, piling and piling cap work have completed for 50 and 2 towers respectively out of 89 approved towers locations.as of June 30, 2023. About 42% work has completed till August 2023 		<p>necessary environmental baseline data was recorded before the commencement of construction activities.</p> <p>Baseline Data for all the TL under package-4 has been conducted and the report has been added to annexure-15.</p>
Package-5	400/230 kV Indoor GIS Substation: Kaliganj (Gazipur) with 2×750 MVA 400/230 kV transformer (Future 132 kV Provision)	Contract signed with China Electric Power Equipment and	DC Office, Gazipur is yet to hand over the possession of the acquired land. Preliminary drawing-design ongoing. Construction Activities has not started yet	14/06/2025	CESMP has been approved.

Package	Description	Progress	Construction Progress	Expected Completion Date	Remarks on Performance
		Technology (CET) Co. Ltd on 03/1/2022.			
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 China Electric Power Equipment and Technology (CET) Co. Ltd on 03/1/2022.	DC Office, Gazipur is yet to handover the possession of the acquired land. Preliminary drawing-design ongoing. Construction Activities has not started yet	14/06/2025	CESMP has been approved.
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: Manirampur 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	Contract signed with CMEC-CNEEC JV on 27/02/2022.	Land development at Phultola, Manirampur, Meherpur and Rupsha is ongoing. DC Office, Jhenaidah is yet to handover the possession of the acquired land for Maheshpur substation. Substation layouts submitted by the contractor and being reviewed PGCB. About 4% work has completed till August 2023	18/01/2025	Approval of CESMP and baseline environmental data collection completed.

Package	Description	Progress	Construction Progress	Expected Completion Date	Remarks on Performance
	Extension at Bagerhat Substation & Two nos. 132 kV AIS Bay Extension at Kushtia Substation.				
Package-8	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: Bhanga with 3x80/120 MVA 132/33 kV transformer, 132/33 kV Indoor GIS Substation: Jhalokathi with 2x80/120 MVA 132/33 kV transformer, 132/33	Contract signed with Energypac-CSEPD Consortium on 23/06/2022.	Land development is ongoing at Bhola, Bhanga and Shibchar. DC Offices, Nilphamari and Jhalokathi are yet to handover the possession of the acquired land for Domar and Jhalokathi substations. About 2% work has completed till August 2023	28/02/2025	CESMP submitted by the contractor and being reviewed by PGCB. Baseline Data has been collected before commencing the physical work. However, data compilation is still going on and the contractor is

Package	Description	Progress	Construction Progress	Expected Completion Date	Remarks on Performance
	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 Niamatpur Substation, Two nos. 132 kV AIS Bay Extension at Gopalganj Substation, Two nos. 132 kV GIS Bay Extension at Purba Sadipur Substation & Two nos. 132 kV GIS Bay Extension at Bhandaria Substation.				yet to submit it formally.
Package-10	Procurement of Drones	Tender floated on 14/05/2023 and scheduled to be opened on 16/07/2023.	-	-	
S-2	Consultancy for Drones Legislation implementation	Contract signed on 08/10/2021	-	-	
S-3	Consultancy for External Social Monitoring.	Contract signed on 15/03/2022	-	-	

Table 1-2: Progress on implementation of environmental management activities

Activity	DWZTGEP Packages							
	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8
Monitoring and Reporting								
Monthly Report	N/A	√	√	√	√	√	√	√
Quarterly Report	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Semi-annual Report	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Environmental Quality Monitoring								
Air Quality	N/A	X	X	X	N/A	X	√	√
Noise Level	N/A	X	X	X	N/A	X	√	√
Surface Water Quality	N/A	X	X	X	N/A	X	√	√
Groundwater Quality	N/A	X	X	X	N/A	X	√	√
Soil Quality	N/A	X	X	X	N/A	X	√	√

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 and is valid till 27/07/2023.** Application for further renewal of the ECC has been submitted.

Land acquisition for substations is done in accordance with the Acquisition and Requisition of Immovable Property Act, 2017 according to which the DC of the respective district determines the compensation amount for lands to be acquired as well as trees, crops, vegetation etc. situated in that land. Project office deposits the money to the DC who is authorized by law to distribute the compensation amount among the affected people. Under the DWZTGE Project, 79.6 acres of land in 15 places has been acquired and compensation amount for all of the acquired sites as determined by the DC has been deposited by the project office. In all cases, all the concerned people have been notified properly as per the requirements of the law and the project office has deposited the compensation amount as determined by the DC.

During the construction of transmission lines, 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. Also, the transmission lines will cross several water bodies for which permission from Bangladesh Interim Water Transport Authority (BIWTA) has been obtained.

Table 2-1: 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 damaging impact on the environment or natural resources.	Complied	All harmful material is being contained and disposed properly.
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 destructed.	Partially complied	No habitat of any fauna is harmed. However, there are some losses to the flora during the construction phase for which proper compensation to the owners have been ensured.

SI No	ECC Requirement	Compliance Status	Remarks
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	Water is being sprayed on stored construction material to avoid dust generation.
7	Resettlement plan should be properly implemented, and people should be adequately compensated.	Complied	Proper compensation has been ensured.
8	After the construction work, topsoil 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 of 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 line 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. <ol style="list-style-type: none"> Nature of incident (fire, accident, collision, etc.) Personnel affected (injured, missing, fatalities, etc.) Emergency support available and its location (standby transport, medical facilities, etc.) Weather conditions Current operations (abandoning the site, firefighting, etc.) 	Will be complied	Will be reported in case of any emergency.

SI No	ECC Requirement	Compliance Status	Remarks
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 line and other construction. The project authority shall hand-over and leave the land to the actual landowner 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 and amendment 2023. In case of non-coverage of ECR, 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.

2.1 Compliance to Environmental Covenants from the ADB Loan Agreement

Environment: PGCB is complying with (a) all applicable laws and regulations of ADB relating to environment, health, and safety; (b) the Environmental Safeguards; (c) all measures, and requirements

set forth in the IEE, EMP and CAP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.

Land Acquisition and Involuntary Resettlement: PGCB is complying with (a) all applicable laws and regulations of the Borrower relating to land acquisition and involuntary resettlement; (b) the Involuntary Resettlement Safeguards; and (c) all measures, and requirements set forth in the RP, and any corrective or preventative actions set forth in the Safeguards Monitoring Report. Under this project, lands that are only used for cultivation in the dry season are being acquired. Therefore, there is no resettlement under this project.

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

Safeguards Related Provisions in Bidding Documents and Works Contracts: Bid documents of each package contains SCC Clause-47 which makes the EMP part of the contract (Annexure-4). Also, as per SCC Clause 9.8 c) of the bid documents of each and every package, the eligible contractor will not be allowed to start any physical work before submission and subsequent approval of CESMP (Annexure-5). Links to approved CESMPs of packages 3, 4, 5, 6 and 7 are available in Annexure.

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

Table 2-2: Compliance to Environmental Covenants

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

Schedule #, Para. #	Covenant	Compliance Status	Remarks
	<p>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.</p>		<p>There will be no resettlement under this project and the requirements of RP and safeguard reports are being followed properly.</p>
<p>Schedule 4, Para. 12</p>	<p>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:</p> <p>(a) compensation and other entitlements have been provided to affected people in accordance with the RP; and</p> <p>(b) a comprehensive income and livelihood restoration program has been established in accordance with the RP.</p>	<p>Being complied</p>	<p>This project will not require any resettlement.</p>
<p>Schedule 4, Para. 13</p>	<p><u>Tribes, Minor Races, Ethnic Sects and Communities</u>: The borrower shall or shall cause PGCB to ensure that the Project does not have any Tribes, Minor Races, Ethnic Sects and Communities Safeguards impacts. If the Project does have any such impacts, the <u>borrower shall or shall cause 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.</u></p>	<p>Being complied</p>	<p>This project will not have any impact on any Tribes, Minor Races, Ethnic Sects and Communities</p>
<p>Schedule 4, Para. 14</p>	<p>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.</p>	<p>Being complied</p>	<p>Both PGCB and the contractors have human and financial resources to implement the respective responsibilities of EMP and CAP.</p>
<p>Schedule 4, Para. 15</p>	<p><u>Safeguards Related Provisions in Bidding Documents and Works Contracts</u>: The borrower shall or shall cause PGCB to ensure that all bidding documents and</p>	<p>Being complied</p>	<p>All the provisions are included in bidding and contract documents.</p>

Schedule #, Para. #	Covenant	Compliance Status	Remarks
	<p>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>		
Schedule 4, Para. 16	<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</p>	Being complied	

Schedule #, Para. #	Covenant	Compliance Status	Remarks
	<p>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>Schedule 4, Para. 17</p>	<p>Prohibited List of Investments</p> <p>The Borrower shall and shall cause PGCB to ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.</p>	<p>Being complied</p>	
<p>Schedule 4, Para. 18</p>	<p><u>Labor Standards, Health, and Safety:</u></p> <p>The Borrower shall and shall cause PGCB to ensure that the core labor standards and the Borrower's applicable laws and regulations are complied with during project implementation. The Borrower shall cause PGCB to include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things:</p> <p>(a) comply with the Borrower's applicable labor law and regulations and incorporate applicable workplace occupational safety norms.</p> <p>(b) do not use child labor.</p> <p>(c) do not discriminate against 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</p>	<p>Being complied</p>	<p>Appendix-7 and 8</p>

Schedule #, Para. #	Covenant	Compliance Status	Remarks
	of the local communities surrounding the Project area, particularly women.		
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	

Table 2-3: Safeguard personnel in DWZTGE

Project Implementing Bodies	Name	Designation	Email Address	Contact Number	Roles
1. PGCB	Md. Abul Kashem	Project Director	Pd.dwztgep@pgcb.gov.bd	01709997858	Primary Contact Person
	Rezwan Ahmed Khan		Rezwan07.pgcb@gmail.com	01708465492	Alternate Officer
2. Consultant	Abdul Halim	Team leader	abdul.halim@eqms.com.bd	01719708440	
	Sadman Khaled Monsur	Deputy Team Leader	sadman.monsur@eqms.com.bd	01711373678	
	Mehedi Hasan	Coordinator	hasan.mehedi@eqms.com.bd	01719216910	
	Sk Abid Md Saad	Environmental Officer	abid.saad@eqms.com.bd	01884636764	
3. Contractors	S Ganesh Kumar	EHS Officer (P-3)	ganeshs@Intecc.com	01762920185	Primary Contact Person
	Deepak Yadav	EHS Officer (P-4)	deepak.yadav@transraillighting.com	01316709382	Primary Contact Person
	Ge Wenbo	EHS Officer (P-7)	gewenbo@cneec.com.cn	01922360325	Primary Contact Person
	Md. Moniruzzaman	EHS Officer (P-8)	monirbdenergypac@gmail.com	01708453320	Primary Contact Person

2.2 Compliance to Project Administration Manual (PAM)

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

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

Involuntary resettlement (category A): The substations have been carefully designed to be constructed in the lands that are used for cultivation only in the dry season. Therefore, there is no resettlement under this project. The overhead transmission lines have temporary impacts for crops and permanent

impacts for trees and land under four tower legs. Underground lines will follow the right of way of existing roads without having resettlement impacts.

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

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

Institutional Setup of PGCB for Implementation of EMP:

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

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

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

Contractors of packages 3, 4, 7 and 8 have set up signboards/banners in every construction site which lets the people know about the ongoing activities. Complain logbooks 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 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.

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 are 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 2-4: Details of compensatory tree planation program as of June 2023

Package	Tree plantation plan (TPP) prepared (Yes/No)	No. of trees planned to cut	Trees planned to replant as per TPP	No. of trees removed (as of June 23)	Trees planted (as of June 23)	Types of species planted	Plantation completion status	Survival status	Remarks
Package- 1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Package-2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Package-3	NA	4952	NA	NA	NA	NA	NA	NA	NA
Package-4	NA	21386	NA	NA	NA	NA	NA	NA	NA
Package-5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Package-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Package-7	NA	NA	NA	NA	NA	NA	NA	NA	NA
Package-8	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-5: EMP for substations

Item	Requirement or Mitigating Measures	Corrective Action	Compliance Status
Land acquisition/requisition	The landowner should be paid before the land acquisition	Before land acquisition, any kind of site development activities should be prohibited	Complied
Topsoil	Chemical spills should be avoided	The secondary container should be used properly	Will be complied once substation construction starts
Cutting of trees/Clearing of vegetation	No major trees were found on the site	Green belt and garden will be developed in operation phase	Will be complied with after the completion of the construction phase
Fauna (Wildlife)	Not required	Not required	Not required
Construction waste	Waste should be disposed in proper segregation manner	Waste should be disposed in a segregation manner and removed by the proper authority	Will be complied once substation construction starts
Drainage congestion and flooding	No major issues regarding drainage congestion and flooding were not found	Surface height should be more than local and regional flood level	Substation FGL will be 500mm higher than the HFL.
Noise level	Advance machineries should be used	Proper maintenance of the machineries	Will be complied once substation construction starts
Air quality and dust	Spraying water during construction phase	Vehicular movement should not exceed more than 20 km per hour	Will be complied once substation construction starts
Soil quality	Chemical and oil spillage should be avoided	Secondary container should be used under all chemical and oil drum	Will be complied once substation construction starts
Siting of construction camps	Safe drinking water, food, first aid and fire safety equipment should be available	Proper sanitation should be maintained	Will be complied once substation construction starts
Traffic congestion/road accident	Congestion can be avoided by proper distribution of traffic scheduling	Proper lighting, signal flag and safety tapping should be used in excess road and site	Being Complied

Item	Requirement or Mitigating Measures	Corrective Action	Compliance Status
Pollution due to Wastes	All types of waste should be stored in segregated manner (Waste inventories are depicted in (Annexure 22))	All types of stored waste should be removed regularly	Will be complied once substation construction starts
Community H&S	Regular monitoring of excess way	Excessive Traffic movement at a time should be avoided	Being Complied
Occupational H&S	All types of PPE should be available for workers	Using of PPE should be monitored strictly in project site	Being Complied
Physical cultural resources	Not required	Not required	Not required
Employment generation/income	Privilege should be given to the local community while recruiting	Provide proper training to the recruited manpower. Local vehicles are being hired for movement of man, machine and material.	Being Complied

Table 2-6: EMP for Transmission Lines

Item	Requirement or Mitigating Measures	Corrective Action	Compliance Status	Remarks
Tree felling/ Clearing of vegetation	Owners to be properly compensated	The compensation to local people being handed over by the contractor which will be reimbursed by PGCB	Being complied	Annexure -10
Requisition of Land	Landowners must be notified and properly compensated.	No land is being acquired for transmission lines. 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	The contractor ensures generation of minimum construction debris. Whatever wastage generated, is	Being complied	Annexure -11

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

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

3 ENVIRONMENTAL SUPERVISION AND MONITORING RESULTS

Table 3-1: Environmental Supervision

SN	Date	Type and Purpose of the visit	Location (s) visited	EA, IA, Consultant staff participating	Remarks
1.	27.02.2023-01.03.2023	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Satkhira-Manirampur	EQMS experts, Contractor EHS staff and PGCB representative	Inspection was done for the proposed 132kV transmission route from Satkhira to Manirampur
2.	27.02.2023-01.03.2023	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Satkhira-Rupsha	EQMS experts, Contractor EHS staff and PGCB representative	The inspection was done for the proposed 230kV transmission route from Satkhira to Rupsha
3.	01.01.2023	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	The inspection was done for the proposed 230kV transmission route from Gopalganj (N) to Shibchar
4.	08.03.2023-09.03.2023	Physical visit/survey; Environmental Inspection and Social Survey of the route; EHS inspection at Substation	Purba Sadipur-Domar	EQMS experts, Contractor EHS staff and PGCB representative	The inspection was done for the proposed 230kV transmission route from Purba Sadipur to Domar
5.	08.03.2023-09.03.2023	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	The inspection was done for the proposed 132kV transmission route from Purba Sadipur-Hatibandha
6.	14.03.2023-19.03.2023	Physical visit/survey; Environmental Inspection and Social Survey, FGD	Kaliganj-Maheshpur	EQMS experts, Contractor EHS staff and PGCB representative	The inspection was done for the proposed 132kV transmission route

SN	Date	Type and Purpose of the visit	Location (s) visited	EA, Consultant participating	IA, staff participating	Remarks
		of the route; EHS inspection at Substation				from Kaliganj-Maheshpur

Table 3-2: 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

For the construction of the project, all the workmen are engaged by contractor and the necessary amenities is provided as per applicable rules and regulations-

The contractor has maintained and followed the health and safety guidelines of WHO during the construction phase. In addition, the Contractor have close contact with the nearest hospitals and community clinic for any emergency.

3.2 Waste Management

Waste Management for the substations, store and construction sites are depicted in following Table 3-3.

Table 3-3: Waste Management practice

Location	Key wastes	Collection Method	Disposal Options
Substations, store and construction sites	<ul style="list-style-type: none"> Paper, Polythene bags, Plastics and wood Food waste, 	<ul style="list-style-type: none"> Segregated Dustbins 	<ul style="list-style-type: none"> Authorized Third Party Waste Collector. Municipal Authority
Substations, store and construction sites	<ul style="list-style-type: none"> Waste oil, spent oil, grease, paint/thinner, diesel, lubricants, chemicals, Natural fiber ropes 	<ul style="list-style-type: none"> Closed Container with Warning label for hazardous waste and Rest all in Dustbin 	<ul style="list-style-type: none"> Authorized Collector for Hazardous Waste; Municipal Authority
Substations and construction sites	<ul style="list-style-type: none"> E-waste (Light, Transformer, Switchgear, etc.), 	<ul style="list-style-type: none"> Store and store yard Will be segregated 	<ul style="list-style-type: none"> Authorized Third Party Waste Collector. Municipal Authority

Location	Key wastes	Collection Method	Disposal Options
	Metal waste, and metal wire	and stored on an impervious surface in a quarantine area. These will be disposed of as per the local legal requirements.	
Substations, store and construction sites	<ul style="list-style-type: none"> Medical waste like cotton, bandages, soiled bandages, etc. 	<ul style="list-style-type: none"> Black Colour polythene inside a close lid plastic container 	<ul style="list-style-type: none"> To be sent to Authorized Hospital in a closed, labeled polythene bag for further disposal.

3.3 Environmental Health and Safety

Table 3-4: Trainings/Drills/ Inspections

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

Table 3-5: Types of Material/ Waste

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

Table 3-6: Health and Safety

Incident Types	Number and Position of Person/s Involved	Location/s and Date/s of Incident	Detailed Description of Incident	Time-bound Corrective Action
Fatality	None			
Non-fatal Injury (Lost Time)				

Incident Types	Number and Position of Person/s Involved	Location/s and Date/s of Incident	Detailed Description of Incident	Time-bound Corrective Action
Non-fatal Injury (Minor)	01	Domar-Hatibandha TL 09/03/2023	Minor bruise in the leg palm	Washed with antiseptic liquid and adhesive bandage applied from the first aid box
	01	Purba Sadipur-Domar TL 08/03/2023	Minor bruise in the left-hand palm	Washed with antiseptic liquid and adhesive bandage applied from the first aid box
Near-miss	None			
Illness	01	Satkhira-Manirampur TL 15/05/2023	Viral flu and fever	Recovered with proper medication and two days' rest
	01	Satkhira-Rupsha TL 08/04/2023	Flu and fever	Recovered with proper medication and one day rest
Community Health and Safety	NA	Package 3 & 4	Some land and are partially damaged due to transport of equipment	Road Has been fixed and compensation will be handed to the landowner
Emergency Preparedness	NA	Package 3 & 4	No incident occurred during reporting period	Fire extinguisher should be available at site.
Other Incidents	None			

3.4 Meaningful Consultation and Grievance Redress

The PMU keeps 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 3-7: Consultation meetings held during Jan to Jun 2023

Package	Consultation Date	Location	Issue discussed	No. of Participants
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Package 4	08-03-2023	Purba Sadipur to Domar 230 kV Transmission Line	Movement Disturbances, Dust pollution	5
	09-03-2023		Occupancy of additional land	6
	08-03-2023	Domar to Hatibandha 132 kV Transmission Line	Occupancy of additional land Transport	5

Table 3-8: 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	Vill: Keshabpur Date: 28.02.2023	Left construction materials along the roadside.	Resolved within the complaint issuing day	Construction materials to be removed within the same day
Landowner		Contractor occupied additional land for their construction activities	Resolved within the complaint issuing day	Contractor to move out of the occupied additional land within the next day
Landowner	Vill: Dimla Date: 09-03-2023	Materials carrying transport are moving speedily in the local road	Resolved within the complaint issuing day	Instructed the driver for slow movement in the local road

3.5 Training and Awareness Activities

PIU has conducted day-long training on EHS for contractors of package-3, 4, 7 and 8 as well as its own staff through the experts from EQMS Consulting Ltd (Annexure-18). The training was fruitful in creating awareness among the participants on the importance of EHS activities, determining shortfalls and ensuring proper corrective actions. Similar training program for the other contractors will be arranged in future. Community level awareness raising program through FGD has also been conducted at project sites (Annexure-19) in order to inform the common mass about the project activities and outcomes as well as complain registering procedure (if any).

3.6 Status of CAP

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

Table 3-9: Status of CAP of the Existing Substations

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 20)
1.	Purba Sadipur 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.
		Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.
2.	Kushtia substation	The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	The substation yard was cleaned, and appropriate waste handling and disposal practices maintained.
		Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Hazardous and non-hazardous material rearrange and retrofitting proper impermeable bund work going on.
3.	Bagerhat substation	The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	Practice of regular cleaning of substation and appropriate waste handling and disposal practices were introduced.
		Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Hazardous and non-hazardous material rearrangement and retrofitting proper impermeable bund work is yet to start.
4.	Bhandaria	The substation needs the yard cleanness and	PGCB	The substation yard was cleaned, and appropriate

SI no	Name of the Substation	Issues mentioned for improvement during the audit	Responsibility	Present status (Annexure 20)
	substation	appropriate waste handling and disposal practices.		waste handling and disposal practices maintained.
		Handlin of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Some of the hazardous and non-hazardous material rearranged and work for shifting the heavy materials and retrofitting proper impermeable bund is yet to start.
5.	Niamatpur substation	The substation needs the yard cleanness and appropriate waste handling and disposal practices.	PGCB	The substation yard was cleaned, and appropriate waste handling and disposal practices maintained.
		Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Some of the hazardous and non-hazardous material rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.
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.
		Handling of hazardous and non-hazardous material needs to be improved especially in storage arrangement and prevention of spillage through retrofitting proper impermeable bund to 110% capacity.	PGCB	Some of the hazardous and non-hazardous materials were rearranged and work going on for shifting the heavy materials and retrofitting proper impermeable bund.

Table 3-10: Status of CAP for Transmission Lines (Package-3)

Package	Action to be taken	Party Responsible	Timeline	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	September 2023	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	August 2023	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	September 2023	Hand wash stations, availability of sanitizers, temperature screening, isolation etc. measures have been implemented. No outbreak of Covid-19 has been recorded 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	October 2023	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	August 2023	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	June 2023	Oil spillage capture system has been ensured (Annexure-24)

Package	Action to be taken	Party Responsible	Timeline	Compliance status
7.	It is recommended that the set of bins should have a message on which one is for degradable. and which one is for non-degradable waste	EPC Contractor	June 2023	Ensured (Annexure-24)
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	June 2023	Temporary shaded resting places with drinking water facility has been ensured (Annexure-24).
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	June 2023	Ensured (Annexure-24)
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	June 2023	Ensured (Annexure-24)
11.	It is recommended that a security gate will be ensured with camp area	EPC Contractor	June 2023	Ensured
12.	It is recommended that the accommodation is 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	September 2023	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	September 2023	Standard residing place has been ensured (Annexure-24).
14.	It is recommended that safety. aspect of the storeroom with the construction camp is ensured by the contractor.	EPC Contractor	June 2023	Ensured.
Satkhira-Manirampur 132 kV Double Circuit Line				
AP 8/0 Site				

Package	Action to be taken	Party Responsible	Timeline	Compliance status
1	It is recommended that no construction materials/ equipment is kept on the road, and they are stored at designated and demarcated place	EPC Contractor	June 2023	Ensured.
2	It is recommended that first aid box at all worksites is ensured with all the necessary items	EPC Contractor	June 2023	Ensured (Annexure-24)
3	COVID-19 precaution measures (e.g., handwashing facility/ sanitizer, temperature screening) at the worksite premises need to be ensured	EPC Contractor	June 2023	Ensured.
4	It is recommended that all the oil driven machineries at all worksites are ensured with adequate oil spill management system	EPC Contractor	June 2023	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	August 2023	Logbooks 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	August 2023	Logbooks 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	June 2023	Ensured.
Dumuria Store Area				
1	It is recommended that EPC Contractor ensures adequate numbers of safety signage covering different safety aspects	EPC Contractor	June 2023	Ensured.
2	Emergency procedures (e.g., name and of the person responsible for a particular issue, emergency required contact numbers like fire service, police station, hospital) at the site need to be visibly placed	EPC Contractor	June 2023	Sign board with emergency contact nos. have been installed (Annexure-24).

Package	Action to be taken	Party Responsible	Timeline	Compliance status
3	It is recommended that messages on which bin is for degradable and nondegradable are in place with the bins at the worksite	EPC Contractor	June 2023	Ensured.
4	It is recommended that empty barrels are stored at the designated and demarcated places in the store area	EPC Contractor	June 2023	Ensured.
5	It is recommended that the water of reservoirs is changed on a regular basis.	EPC Contractor	June 2023	Ensured.

Table 3-11: Status of CAP for Transmission Lines (Package-4)

SN	Action To Be Taken	Party Responsible	Timeline	Compliance Status
Purba Sadipur-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	June 2023	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	June 2023	Ensured (Annexure-24).
3	It is recommended that EPC Contractor ensures that the farmland is re-landscaped before leaving the construction site	EPC Contractor	June 2023	Minimum impact after completion of foundation works has been ensured (Annexure-24).

SN	Action To Be Taken	Party Responsible	Timeline	Compliance Status
4	It is recommended that plastic bags are disposed in proper (e.g., recycle, handing over to the hawkers) way rather keeping them at worksite or dumping them in any open spaces	EPC Contractor	August 2023	Proper disposal of wastages has 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	August 2023	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	August 2023	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	June 2023	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	June 2023	Ensured
9	It is recommended that beds for all the workers are ensured in the construction workers' camp.	EPC Contractor	June 2023	Ensured (Annexure-24).
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	June 2023	Ensured

SN	Action To Be Taken	Party Responsible	Timeline	Compliance Status
2	The emergency contact numbers are suggested to place at visible place with the construction workers' camp.	EPC Contractor	June 2023	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	June 2023	Ensured
4	A proper drainage system around the store areas needs to be ensured to mitigate any water logging at store premises	EPC Contractor	June 2023	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	June 2023	Ensured (Annexure-24)
6	It is recommended that water (e.g., arsenic, faecal coliform) of the tube well is tested.	EPC Contractor	June 2023	The contractor has ensured availability of pure drinking water at the site and camp. (Annexure-24)

Table 3-12: Status of CAP for General Issues

SN	Action To Be Taken	Party Responsible	Timeline	Compliance Status
1	Audit recommends EPC Contractor to open group insurance covering all the construction workers	Both EPC Contractors	June 2023	Ensured (Annexure-24)

SN	Action To Be Taken	Party Responsible	Timeline	Compliance Status
2	It is recommended that PGCB applies for ECC renewal considering that it obtains the ECC renewal before it expires every year	PGCB	June 2023	Ensured
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	June 2023	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	June 2023	Acknowledged.
7	It is recommended that PIU continue conducting EHS training for all the EPC Contractors before the commencement of construction activities	PGCB	October 2023	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	June 2023	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	December 2023	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 to environmental and social safeguards throughout the project implementation period. It ensures adherence to EMP and other applicable requirements and is active in enforcing proper corrective measures whenever any gap is identified.

ANNEXURE

Annexure-1: Environmental Clearance Certificate

শেখ হাসিনার বাংলাদেশ
পরিচ্ছন্ন পরিবেশ



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

Memo No: 22.02.0000.018.72.055.20.132

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-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
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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.

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(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: 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 behavior 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-7: 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

SCC.

22.2.9 Records of Contractor's Personnel

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

22.2.10 Supply of Foodstuff

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

22.2.11 Supply of Water

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

22.2.12 Measures against Insect and Pest Nuisance

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

22.2.13 Alcoholic Liquor or Drugs

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

22.2.14 Arms and Ammunition

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

22.2.15 Prohibition of All Forms of Forced or Compulsory Labor

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

22.2.16 Prohibition of Harmful Child Labor

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

immediately advise the Project Manager.

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

22.2.6 Facilities for Staff and Labor

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

22.2.7 Health and Safety

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

22.2.8 Funeral Arrangements

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

Annexure-8: GRC



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



Ref. No.: 27.21.0000.453.06.001.21.122 Date: 04/03/2021

Office Order

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

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

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



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

Copy to:

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

Annexure-9: Compensation Paid by the Contractor to the Local Community

Compensation Paid by the Contractor to the Local Community will be described in SMR report, June 2023.

Annexure-10: Waste Collection and Separation



Annexure-11: Covering and Spray of Water



Annexure-12: Traffic Control





Annexure-14: PIU Set-Up



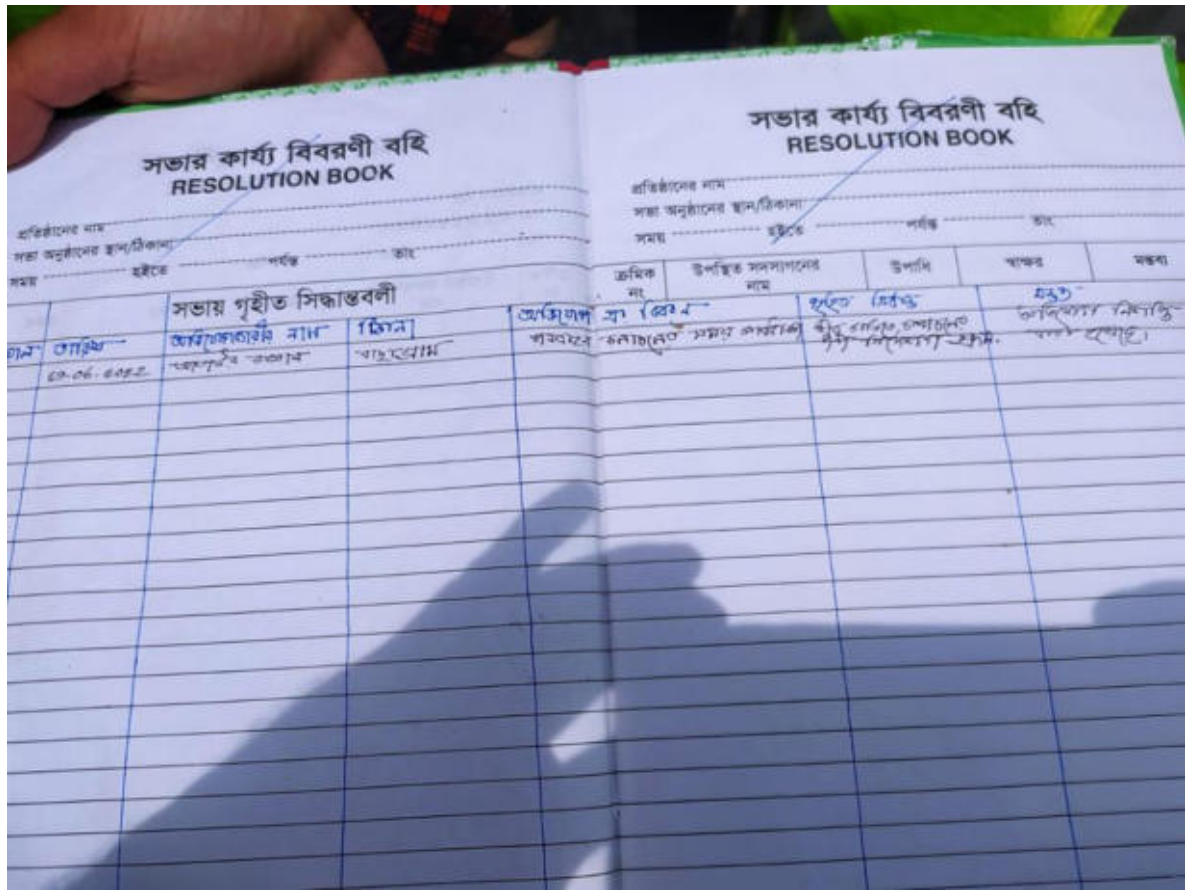
Annexure-15: Link to Baseline Date

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

Annexure-16: Link to IEE Addendum


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

Annexure-17: Complain Logbook and Leaflets




অভিযোগ প্রতিকার ব্যবস্থা

ক্ষোভ যুক্তি সংগত কিংবা বাস্তব সম্মত হোক বা না হোক তার প্রতিকার চাওয়ার একটি কার্যকর প্ল্যাটফর্ম




পাওয়ার গ্রিড কোম্পানী অব বাংলাদেশ লিঃ


অভিযোগ প্রতিকার ব্যবস্থা সংক্রান্ত তথ্য




(www.pgcb.gov.bd) এ প্রকাশিত অভিযোগ প্রতিকার কমিটি সংক্রান্ত তথ্য পাওয়া যাবে



এছাড়া (ইমেইলঃ info@pgcb.org.bd, ফোনঃ +৮৮০২৫৫০৪৬৭৩১-৩৫, ফ্যাক্সঃ +৮৮০২৫৫০৪৬৭২২) এর মাধ্যমে অভিযোগ দাখিল করা যাবে



প্রজেক্ট সাইট/অফিসে নির্ধারিত ফর্ম এর মাধ্যমে অভিযোগ গ্রহন ও প্রাপ্তি স্বীকার প্রদানের ব্যবস্থা রয়েছে



পাওয়ার গ্রিড কোম্পানী অব বাংলাদেশ লিঃ

Annexure-18: EHS Training



Annexure-19: Community Engagement



Annexure-20: Photos of Switchyards of Existing Substations

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

Annexure-21: EMP Clause of Packages-7 and 8

47. Environmental Management Plan

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

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

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

Design, Supply, Installation, Testing and Commissioning of 230/33 KV GIS Substation at Bhola and 132/33 KV GIS Substations at Damar, Halbandha, Shichar, Bhanga, Jhatikathi, Pirgpor on Tumkey Bas (Package-6).



Section 8: Special Conditions of Contract

Page 8-13

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

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

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

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

47. Environmental Management Plan

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

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

More particularly, the Contractor shall comply with (i) the measures and requirements set forth in the initial environmental examination and the environmental management plan attached hereto as Appendix [2.3]; and (ii) any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the initial environmental examination and the environmental management plan.

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

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

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



Annexure-22: Waste Inventory and Site Clearance from All Solid Waste

TRANSRAIL LIGHTING LIMITED							
MONTHLY WASTE GENERATION REPORT							
G-479							
Jan-23							
Sr No	Waste Generation Type	Unit	Generation for the month(Quart)	Reused	Recycled	Disposed	Remarks(Dispose by T/Flow)
1. Non-Hazardous Waste							
a.	General waste	Kg					
	i Hand Gloves	Nos.	60			60	
	ii PPE Rope.	Kg	NA				
	iii Safety Helmet	Nos.	21			21	
	iv Safety Shoes	Nos.	5			5	
	v Carton boxes	Kg	10	10			
b.	Metal waste	Kg					
	i Conductor Bits	Kg	NA				
	ii Steel	Kg	NA				
	iii Other Metals	Kg	0				
c.	Wood waste	Kg	NA				
d.	Food waste	Kg	NA				
e.	Paper waste	Kg	3	3			
f.	Mixed construction waste	m ³	0				
g.	Packing Material (like -Conductor Drum/insulator/other)	Kg	NA				
i.	Other non-hazardous waste " _____ "						

2. Hazardous Waste							
i	Paints residues	kg	NA				
ii	Adhesives and sealants (silicon gel)	ltr	NA				
iii	Lubricants (Used Oil)	ltr	NA				
iv	Solvents (Thinner, Spirit, Acetone)	ltr	NA				
v	Batteries	Nos.	NA				
vi	Battery acid	ltr	NA				
vii	Oil Filters	kg	NA				
viii	Oily/Sludge water	ltr	NA				
ix	Plastic Waste	kg	NA				
x	Cement Bags	Nos.	6,735	6,735			
xi	Used blasting adhesive " _____ "	ton	NA				
xii	Used paint tins	kg	5	5			
xiii	Printing cartridges	Nos.	8				
xiv	Fluorescent Bulbs	Nos.	0				
xv	Used absorbents (Oily rags/ Oily cotton)	Kg	NA				
xvi	E-Waste (Desktop, CPU, Printer, Mouse, Cables etc)	Kg	NA				
xvii	Medical waste	Kg	NA				
xviii	Other hazardous waste " Applicable for Plant "						
	i Used Acid	MT	NA				
	ii Zinc Dross	MT	NA				
	iii Zinc Ash	MT	NA				
	iv ETP Sludge	MT	NA				

3. Sewage Waste							
b.	Treated Sewage waste water	Ltr.	NA				
c.	Sewage sludge	Ltr.	NA				

Note: 1. This data should be reached on or before 7th of every month at HO - HSE Dept.
(if not applicable, then mark-NA)

2. Data to be maintained by Plant/Project store person with the help of Safety/ respective HOD & monitoring by Project/Plant HSE Person.



TRANSRAIL LIGHTING LIMITED							
MONTHLY WASTE GENERATION REPORT							
G-479							
Jan-23							
Sr No	Waste Generation Type	Unit	Generation for the month(Quant)	Reused	Recycled	Disposed	Remarks(Dispose by T/Plow)
1. Non - Hazardous Waste							
a.	General waste	Kg					
	i Hand Gloves	Nos.	60			60	
	ii PPE Rope,	Kg	NA				
	iii Safety Helmet	Nos.	21			21	
	iv Safety Shoes	Nos.	5			5	
	v Cartoon boxes	Kg	10	10			
b.	Metal waste	Kg					
	i Conductor Bits	Kg	NA				
	ii Steel	Kg	NA				
	iii Other Metals	Kg	0				
c.	Wood waste	Kg	NA				
d.	Food waste	Kg	NA				
e.	Paper waste	Kg	3	3			
f.	Mixed construction waste	m ³	0				
g.	Packing Material (Like -Conductor Drum/insulator/other)	Kg	NA				
i.	Other non-hazardous waste " _____ "						

2. Hazardous Waste							
i.	Paints residues	kg	NA				
ii.	Adhesives and sealants (silicon gel)	ltr	NA				
iii.	Lubricants (Used Oil)	ltr	NA				
iv.	Solvents (Thinner, Spirit, Acetone)	ltr	NA				
v.	Batteries	Nos.	NA				
vi.	Battery acid	ltr	NA				
vii.	Oil Filters	kg	NA				
viii.	Oily/Bilge water	ltr	NA				
ix.	Plastic Waste	kg	NA				
x.	Cement Bags	Nos.	6,735	6,735			
xi.	Used blasting adhesive " _____ "	ton	NA				
xii.	Used paint tins	kg	5	5			
xiii.	Printing cartridges	Nos.	8				
xiv.	Fluorescent Bulbs	Nos.	0				
xv.	Used absorbents (Oily rug/ Oily cotton)	Kg	NA				
xvi.	E-Waste (Desktop, CPU, Printer, Mouse, Cables etc)	Kg	NA				
xvii.	Medical waste	Kg	NA				
xviii.	Other hazardous waste " Applicable for Plant "						
	i Used Acid	MT	NA				
	ii Zinc Dross	MT	NA				
	iii Zinc Ash	MT	NA				
	iv ETP Sludge	MT	NA				

3. Sewage Waste							
b.	Treated Sewage waste water	Ltr.	NA				
c.	Sewage sludge	Ltr.	NA				

Note: 1. This data should be reached on or before 7th of every month at HO - HSE Dept.
(If not applicable, then mark-NA)
2. Data to be maintained by Plant/Project store person with the help of Safety/ respective HOD & monitoring by Project/Plant HSE Person.



TRANSRAIL		TRANSRAIL LIGHTING LIMITED					
		MONTHLY WASTE GENERATION REPORT - PROJECT					
Project Name:-					Format No.: Transrail/ConsL/HSE/WMS/023		
Month: FEB 2023					Rev. No: 01 Date: 13.09.2019		
Sr. No.	Waste Generation Type	Unit	Generation for the Month(Qty.)	Reused	Recycled	Disposed	Remarks (Dispose by TP/own)
1. Non - Hazardous Waste							
a. General Waste							
i	Hand Gloves	Pairs	50	50			
ii	PP Ropes	Kg	0				
iii	Safety Helmet	Nos.	20			20	Disposed in municipality
iv	Safety Shoes	Pairs	10			10	Disposed in municipality
v	Carton Boxes	Kg	0				
vi	Safety Harness	Nos.	0				
b. Metal Waste							
i	Conductor Bits	Kg	0				
ii	Steel	Kg	0				
iii	Other Metals " _____ "	Kg	0				
c	Wood Waste	Kg	0				
d	Food Waste	Kg	0				
e	Paper Waste	Kg	3	3			
f	Mixed Construction Waste	Kg	0				
g	Packing Material (Like -Conductor Drum/Insulator/Other)	Kg					
h	Other Non-Hazardous Waste " _____ "	Kg					
2. Hazardous Waste							
i	Paints Residues	Kg	0				
ii	Adhesives and Sealants (Silicon Gel)	Ltr.	NA				
iii	Lubricants (Used Oil)	Ltr.	NA				
iv	Solvents (Thinner, Spirit, Acetone)	Ltr.	NA				
v	Batteries	Nos.	NA				
vi	Oil Filters	Kg	NA				
vii	Plastic Waste	Kg	5			5	
viii	Cement Bags	Nos.	300	300			
ix	Used Blasting Adhesive " _____ "	ton	NA				
x	Used Paint Tins	Kg	0				
xi	Printing Cartridges	Nos.	2	2			
xii	Used absorbents (Oily rags/ Oily cotton)	Kg	0				
xiii	E-Waste (Desktop, CPU, Printer, Mouse, Cables, Fluorescent Bllbs etc.)	Kg	0				
xiv	Medical waste	Kg	0				
3. Sewage Waste & Waste water							
a	Treated Sewage Waste Water	Ltr.					
b	Sewage Sludge	Ltr.					
c	Waste Water (Civil Project)	Ltr.					
Note: 1. This data should be reached on or before 7th of every month at HQ - HSE Dept. (If not applicable, then mark-NA) 2. Data to be maintained by Plant/Project store person with the help of Safety/ respective HOD & monitoring by Project/Plant HSE Person.							



TRANSRAIL		TRANSRAIL LIGHTING LIMITED					
		MONTHLY WASTE GENERATION REPORT - PROJECT					
Project Name:-				Format No.: Transrail/ConsL/HSE/WMS/023			
Month: _____ March _____ 2023				Rev. No: 01 Date: 13.09.2019			
Sr. No.	Waste Generation Type	Unit	Generation for the Month(Qty.)	Reused	Recycled	Disposed	Remarks (Dispose by T/Own)
1. Non - Hazardous Waste							
a. General Waste							
i	Hand Gloves	Pairs	120	120			
ii	PP Ropes	Kg	0				
iii	Safety Helmet	Nos.	60			60	Disposed in municipality
iv	Safety Shoes	Pairs	55			55	Disposed in municipality
v	Cartoon Boxes	Kg	0				
vi	Safety Harness	Nos.	0				
b. Metal Waste							
i	Conductor Bits	Kg	0				
ii	Steel	Kg	0				
iii	Other Metals * _____ *	Kg	0				
c	Wood Waste	Kg	0				
d	Food Waste	Kg	0				
e	Paper Waste	Kg	3	3			
f	Mixed Construction Waste	Kg	0				
g	Packing Material (Like -Conductor Drum/Insulator/Other)	Kg					
h	Other Non-Hazardous Waste * _____ *	Kg					
2. Hazardous Waste							
i	Paints Residues	Kg	0				
ii	Adhesives and Sealants (Silicon Gel)	Ltr.	NA				
iii	Lubricants (Used Oil)	Ltr.	NA				
iv	Solvents (Thinner, Spirit, Acetone)	Ltr.	NA				
v	Batteries	Nos.	NA				
vi	Oil Filters	Kg	NA				
vii	Plastic Waste	Kg	5			5	
viii	Cement Bags	Nos.	600	600			
ix	Used Blasting Adhesive * ___ *	ton	NA				
x	Used Paint Tins	Kg	2	2			
xi	Printing Cartridges	Nos.	4	4			
xii	Used absorbents (Oily rags/ Oily cotton)	Kg	0				
xiii	E-Waste (Desktop, CPU, Printer, Mouse, Cables, Fluorescent Blbs etc.)	Kg	0				
xiv	Medical waste	Kg	0				
3. Sewage Waste & Waste water							
a	Treated Sewage Waste Water	Ltr.					
b	Sewage Sludge	Ltr.					
c	Waste Water (Civil Project)	Ltr.					

Note: 1. This data should be reached on or before 7th of every month at HO - HSE Dept. (If not applicable, then mark-NA)
2. Data to be maintained by Plant/Project store person with the help of Safety/ respective HOD & monitoring by Project/Plant HSE Person.



TRANSRAIL		TRANSRAIL LIGHTING LIMITED					
MONTHLY WASTE GENERATION REPORT - PROJECT							
Project Name:-				Format No.: Transrail/Const./HSE/WMS/023			
Month: April 2023				Rev. No: 01 Date: 13.09.2019			
Sr. No.	Waste Generation Type	Unit	Generation for the Month(Qty.)	Reused	Recycled	Disposed	Remarks (Dispose by T/Plow)
1. Non - Hazardous Waste							
a. General Waste							
i	Hand Gloves	Pairs	200	200			
ii	PP Ropes	Kg	0				
iii	Safety Helmet	Nos.	30			30	Disposed in municipality
iv	Safety Shoes	Pairs	10			10	Disposed in municipality
v	Cartoon Boxes	Kg	0				
vi	Safety Harness	Nos.	0				
b. Metal Waste							
i	Conductor Bits	Kg	0				
ii	Steel	Kg	0				
iii	Other Metals " _____ "	Kg	0				
c	Wood Waste	Kg	0				
d	Food Waste	Kg	0				
e	Paper Waste	Kg	3	3			
f	Mixed Construction Waste	Kg	0				
g	Packing Material (Like -Conductor Drum/Insulator/Other)	Kg					
h	Other Non-Hazardous Waste " _____ "	Kg					
2. Hazardous Waste							
i	Paints Residues	Kg	0				
ii	Adhesives and Sealants (Silicon Gel)	Ltr.	NA				
iii	Lubricants (Used Oil)	Ltr.	NA				
iv	Solvents (Thinner, Spirit, Acetone)	Ltr.	NA				
v	Batteries	Nos.	NA				
vi	Oil Filters	Kg	NA				
vii	Plastic Waste	Kg	5		5		
viii	Cement Bags	Nos.	800	800			
ix	Used Blasting Adhesive " _____ "	ton	NA				
x	Used Paint Tins	Kg	2	2			
xi	Printing Cartridges	Nos.	4	4			
xii	Used absorbents (Oily rags/ Oily cotton)	Kg	0				
xiii	E-Waste (Desktop, CPU, Printer, Mouse, Cables, Fluorescent Bilbs etc.)	Kg	0				
xiv	Medical waste	Kg	0				
3. Sewage Waste & Waste water							
a	Treated Sewage Waste Water	Ltr.					
b	Sewage Sludge	Ltr.					
c	Waste Water (Civil Project)	Ltr.					

Note: 1. This data should be reached on or before 7th of every month at HO - HSE Dept. (if not applicable, then mark-NA)
2. Data to be maintained by Plant/Project store person with the help of Safety/ respective HOD & monitoring by Project/Plant HSE Person.



TRANSRAIL LIGHTING LIMITED								
MONTHLY WASTE GENERATION REPORT								
G-479								
May-23								
Sr No	Waste Generation Type		Unit	Generation for the month(Quant)	Reused	Recycled	Disposed	Remarks(Dispose by T/own)
1. Non - Hazardous Waste								
a	General waste		Kg					
	i	Hand Gloves	Nos.	60	60			Clean machine
	ii	PPE Rope,	Kg	NA				
	iii	Safety Helmet	Nos.	21			21	
	iv	Safety Shoes	Nos.	5			5	
	v	Carloon boxes	Kg	10	10			
b	Metal waste		Kg					
	i	Conductor Bits	Kg	NA				
	ii	Steel	Kg	NA				
	iii	Other Metals	Kg	0				
c	Wood waste		Kg	NA				
d	Food waste		Kg	NA				
e	Paper waste		Kg	3	3			
f	Mixed construction waste		m ³	0				

g	Packing Material (Like -Conductor Drum/insulator/ot)		Kg	NA				
i	Other non-hazardous waste " _____ "							
2. Hazardous Waste								
i	Paints residues		kg	NA				
ii	Adhesives and sealants (silicon gel)		ltr	NA				
iii	Lubricants (Used Oil)		ltr	NA				
iv	Solvents (Thinner, Spirit, Acetone)		ltr	NA				
v	Batteries		Nos.	NA				
vi	Battery acid		ltr	NA				
vii	Oil Filters		kg	NA				
viii	Oily/Bilge water		ltr	NA				
ix	Plastic Waste		kg	NA				
x	Cement Bags		Nos.	6,735		6,735		
xi	Used blasting adhesive " _____ "		ton	NA				
xii	Used paint tins		kg	5	5			
xiii	Printing cartridges		Nos.	8	8			
xiv	Fluorescent Bulbs		Nos.	0				
xv	Used absorbents (Oily rugs/ Oily cotton)		Kg	NA				
xvi	E-Waste (Desktop, CPU, Printer, Mouse, Cables etc)		Kg	NA				
xvii	Medical waste		Kg	NA				
xviii Other hazardous waste " Applicable for Plant "								
	i	Used Acid	MT	NA				

	ii	Zinc Dross	MT	NA				
	iii	Zinc Ash	MT	NA				
	iv	ETP Sludge	MT	NA				
3. Sewage Waste								
b	Treated Sewage waste water		Ltr.	NA				
c	Sewage sludge		Ltr.	NA				
<p>Note: 1. This data should be reached on or before 7th of every month at HO - HSE Dept. (If not applicable, then mark-NA)</p> <p>2. Data to be maintained by Plant/Project store person with the help of Safety/ respective HOD & monitoring by Project/Plant HSE Person.</p>								



TRANSRAIL LIGHTING LIMITED								
MONTHLY WASTE GENERATION REPORT								
G-479								
Jun-23								
Sr No	Waste Generation Type		Unit	Generation for the month(Quant)	Reused	Recycled	Disposed	Remarks(Dispose by TP/own)
1. Non - Hazardous Waste								
a.	General waste		Kg					
	i	Hand Gloves	Nos.	40	40			
	ii	PPE Rope,	Kg	NA				
	iii	Safety Helmet	Nos.	21				
	iv	Safety Shoes	Nos.	5			5	
	v	Cartoon boxes	Kg	10	10			
b.	Metal waste		Kg					
	i	Conductor Bits	Kg	NA				
	ii	Steel	Kg	NA				
	iii	Other Metals	Kg	0				
c.	Wood waste		Kg	NA				
d.	Food waste		Kg	NA				
e.	Paper waste		Kg	3	3			
f.	Mixed construction waste		m ³	0				
g.	Packing Material (Like -Conductor Drum/Insulator/other)		Kg	NA				
i.	Other non-hazardous waste " _____ "							

2. Hazardous Waste						
i	Paints residues	kg	NA			
ii	Adhesives and sealants (silicon gel)	ltr	NA			
iii	Lubricants (Used Oil)	ltr	NA			
iv	Solvents (Thinner, Spirit, Acetone)	ltr	NA			
v	Batteries	Nos.	NA			
vi	Battery acid	ltr	NA			
vii	Oil Filters	kg	NA			
viii	Oily/Bilge water	ltr	NA			
ix	Plastic Waste	kg	NA			
x	Cement Bags	Nos.	1,830	1,830		
xi	Used blasting adhesive " _____ "	ton	NA			
xii	Used paint tins	kg	5	5		
xiii	Printing cartridges	Nos.	8	8		
xiv	Fluorescent Bulbs	Nos.	0			
xv	Used absorbents (Oily rags/ Oily cotton)	Kg	NA			
xvi	E-Waste (Desktop, CPU, Printer, Mouse, Cables etc)	Kg	NA			
xvii	Medical waste	Kg	NA			
xviii	Other hazardous waste " Applicable for Plant "					
	i	Used Acid	MT	NA		
	ii	Zinc Dross	MT	NA		
	iii	Zinc Ash	MT	NA		
	iv	ETP Sludge	MT	NA		

3. Sewage Waste						
b	Treated Sewage waste water	Ltr.	NA			
c	Sewage sludge	Ltr.	NA			

Note: 1. This data should be reached on or before 7th of every month at HO - HSE Dept.
(If not applicable, then mark-NA)

2. Data to be maintained by Plant/Project store person with the help of Safety/ respective HOD & monitoring by Project/Plant HSE Person.

A circular blue stamp from Bangladesh Lightening & Power Corporation Ltd. is visible, with a handwritten signature in black ink over it.

TRANSRAIL		TRANSRAIL LIGHTING LIMITED					
		MONTHLY WASTE GENERATION REPORT - PROJECT					
Project Name:-						Format No.: Transrail/Const./HSE/WMS/023	
Month: July 2023						Rev. No: 01 Date: 13.09.2019	
Sr. No.	Waste Generation Type	Unit	Generation for the Month(Qty.)	Reused	Recycled	Disposed	Remarks (Dispose by T/Plow)
1. Non - Hazardous Waste							
a. General Waste							
i	Hand Gloves	Pairs	50	50			
ii	PP Ropes	Kg	0				
iii	Safety Helmet	Nos.	15			15	disposed municipal
iv	Safety Shoes	Pairs	10			10	disposed municipal
v	Cartoon Boxes	Kg	0				
vi	Safety Harness	Nos.	0				
b. Metal Waste							
i	Conductor Bits	Kg	0				
ii	Steel	TON	30		30		
iii	Other Metals " _____ "	Kg	0				
c. Wood Waste							
d. Food Waste							
e. Paper Waste							
f. Mixed Construction Waste							
g. Packing Material (Like -Conductor Drum/insulator/Other)							
h. Other Non-Hazardous Waste " _____ "							
2. Hazardous Waste							
i. Paints Residues							
ii. Adhesives and Sealants (Silicon Gel)							
iii. Lubricants (Used Oil)							
iv. Solvents (Thinner, Spirit, Acetone)							
v. Batteries							
vi. Oil Filters							
vii. Plastic Waste							
viii. Cement Bags							
ix. Used Blasting Adhesive " _____ "							
x. Used Paint Tins							
xi. Printing Cartridges							
xii. Used absorbents (Oily rags/ Oily cotton)							
xiii. E-Waste (Desktop, CPU, Printer, Mouse, Cables, Fluorescent Bits etc.)							
xiv. Medical waste							
3. Sewage Waste & Waste water							
a. Treated Sewage Waste Water							
b. Sewage Sludge							
c. Waste Water (Civil Project)							
Note: 1. This data should be reached on or before 7th of every month at HO - HSE Dept. (If not applicable, then mark-NA)							
2. Data to be maintained by Plant/Project store person with the help of Safety/ respective HDD & monitoring by Project/Plant HSE Person.							



**L&T CONSTRUCTION
POWER TRANSMISSION & DISTRIBUTION IC**

MONTHLY WASTE GENERATION REPORT

Project Name: - 230,132 KV ADB-3 Project		Document No: - WMS/001					
Month: - Jan-23		Date: - 10/02/23					
Sl. No	Waste Generation Type	Unit	Generation for the month	Reused	Recycled	Disposed	Remarks (disposed by TP/Own)
1 Non-Hazardous Waste							
A General Waste							
	i. Hand Gloves	Pair	20	15		05	OWN(Handover to Local Municipal)
	ii. PP rope	Kg	0				
	iii. Safety Helmet	Nos	40	40			
	iv. Safety Shoes	Pair	0				
	v. Cartoon Box	Kg	08			08	Third Party(Through Scrap Disposal)
	vi. Safety Harness	Nos	0				
B Materials Waste							
	I. Conductor Bits	Kg	0				
	II. Steel	Ton	38	33		5	Third Party(Through Scrap Disposal)
	III. Other Metals.....	Kg	0				
C	Wood Waste	Kg	30	0		30	Own/Handover to Local Municipal
D	Food Waste	Kg	0				
E	Paper Waste	Kg	3	3			
F	Packing Materials	Kg	0				
G	Other Non-Hazardous materials	Kg	0				
2. Hazardous Waste							
A	Paints	Ltr	0				
B	Lubricants oil	Ltr	0				
C	Plastic waste	Kg	0				
D	Cement bags	Nos	3000	3000			
E	Printing cartridges	Nos	0				
F	E-Waste (Desktop,CPU,Printer&Mouse,etc.)	Nos	0	0			
G	Medical Waste	Kg	0				
3. Sewage Waste &Wastewater							
A	Treated sewage waste water	Ltr					
B	Sewage Sludge	Ltr					
C	Waste water	Ltr					
D	Bentonite Slurry	Cu.M	100			100	OWN(Handover to Local Municipal)

**L&T CONSTRUCTION
POWER TRANSMISSION & DISTRIBUTION IC**

MONTHLY WASTE GENERATION REPORT

Project Name: - 230,132 KV ADB-3 Project		Document No: - WMS/002					
Month: - Feb-23		Date: - 08/03/23					
Sl. No	Waste Generation Type	Unit	Generation for the month	Reused	Recycled	Disposed	Remarks (disposed by TP/Own)
1 Non-Hazardous Waste							
A General Waste							
	vii. Hand Gloves	Pair	20	20			
	viii. PP rope	Kg	0				
	ix. Safety Helmet	Nos	30	30			
	x. Safety Shoes	Pair	0				
	xi. Cartoon Box	Kg	05			05	Third Party(Through Scrap Disposal)
	xii. Safety Harness	Nos	0				
B Materials Waste							
	IV. Conductor Bits	Kg	0				
	V. Steel	Ton	25	20		5	Third Party(Through Scrap Disposal)
	VI. Other Metals.....	Kg	0				
C	Wood Waste	Kg	50	0		50	Own/Handover to Local Municipal
D	Food Waste	Kg	0				
E	Paper Waste	Kg	3	3			
F	Packing Materials	Kg	0				
G	Other Non-Hazardous materials	Kg	0				
2. Hazardous Waste							
A	Paints	Ltr	0				
B	Lubricants oil	Ltr	0				
C	Plastic waste	Kg	0				
D	Cement bags	Nos	3000	3000			Handover to Local Municipal
E	Printing cartridges	Nos	0				
F	E-Waste (Desktop,CPU,Printer&Mouse,etc.)	Nos	0	0			
G	Medical Waste	Kg	0				
3. Sewage Waste &Wastewater							
A	Treated sewage waste water	Ltr					
B	Sewage Sludge	Ltr					
C	Waste water	Ltr					
D	Bentonite Slurry	Cu.M	120			120	OWN(Handover to Local Municipal)

Page 2

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**L&T CONSTRUCTION
POWER TRANSMISSION & DISTRIBUTION IC**

MONTHLY WASTE GENERATION REPORT

Project Name: - 230,132 KV ADB-3 Project		Document No: - WMS/003					
Month: - Mar-23		Date: - 10/04/23					
Sl. No	Waste Generation Type	Unit	Generation for the month	Reused	Recycled	Disposed	Remarks (disposed by TP/Own)
1 Non-Hazardous Waste							
A General Waste							
xiii.	Hand Gloves	Pair	50	30		20	OWN(Handover to Local Municipal)
xiv.	PP rope	Kg	0				
xv.	Safety Helmet	Nos	40	40			
xvi.	Safety Shoes	Pair	0				
xvii.	Cartoon Box	Kg	10			10	Third Party(Through Scrap Disposal)
xviii.	Safety Harness	Nos	0				
B Materials Waste							
VII.	Conductor Bits	Kg	0				
VIII.	Steel	Ton	20	15		5	Third Party(Through Scrap Disposal)
IX.	Other Metals.....	Kg	0				
C	Wood Waste	Kg	20	0		50	Own/Handover to Local Municipal
D	Food Waste	Kg	0				
E	Paper Waste	Kg	5	5			
F	Packing Materials	Kg	0				
G	Other Non-Hazardous materials	Kg	0				
2. Hazardous Waste							
A	Paints	Ltr	0				
B	Lubricants oil	Ltr	0				
C	Plastic waste	Kg	0				
D	Cement bags	Nos	4000	4000			
E	Printing cartridges	Nos	0				
F	E-Waste (Desktop,CPU,Printer&Mouse,etc.)	Nos	0	0			
G	Medical Waste	Kg	0				
3. Sewage Waste &Wastewater							
A	Treated sewage waste water	Ltr					
B	Sewage Sludge	Ltr					
C	Waste water	Ltr					
D	Bentonite Slurry	Cu.M	160			160	OWN(Handover to Local Municipal)

**L&T CONSTRUCTION
POWER TRANSMISSION & DISTRIBUTION IC**

MONTHLY WASTE GENERATION REPORT

Project Name: - 230,132 KV ADB-3 Project		Document No: - WMS/004					
Month: - Apr-23		Date: - 08/05/23					
Sl. No	Waste Generation Type	Unit	Generation for the month	Reused	Recycled	Disposed	Remarks (disposed by TP/Own)
1 Non-Hazardous Waste							
A General Waste							
xix.	Hand Gloves	Pair	28	20		08	OWN(Handover to Local Municipal)
xx.	PP rope	Kg	0				
xxi.	Safety Helmet	Nos	30	30			
xxii.	Safety Shoes	Pair	0				
xxiii.	Cartoon Box	Kg	8			8	Third Party(Through Scrap Disposal)
xxiv.	Safety Harness	Nos	0				
B Materials Waste							
X.	Conductor Bits	Kg	0				
XI.	Steel	Ton	15	11		04	Third Party(Through Scrap Disposal)
XII.	Other Metals.....	Kg	0				
C	Wood Waste	Kg	25	0		25	Own/Handover to Local Municipal
D	Food Waste	Kg	0				
E	Paper Waste	Kg	5	5			
F	Packing Materials	Kg	0				
G	Other Non-Hazardous materials	Kg	0				
2. Hazardous Waste							
A	Paints	Ltr	0				
B	Lubricants oil	Ltr	0				
C	Plastic waste	Kg	0				
D	Cement bags	Nos	3000	3000			
E	Printing cartridges	Nos	0				
F	E-Waste (Desktop,CPU,Printer&Mouse,etc.)	Nos	1	1			
G	Medical Waste	Kg	0				
3. Sewage Waste &Wastewater							
A	Treated sewage waste water	Ltr					
B	Sewage Sludge	Ltr					
C	Waste water	Ltr					
D	Bentonite Slurry	Cu.M	150			150	OWN(Handover to Local Municipal)

Page 4

Sensitivity: LNT Construction Internal Use

**L&T CONSTRUCTION
POWER TRANSMISSION & DISTRIBUTION IC**

MONTHLY WASTE GENERATION REPORT

Project Name: - 230.132 KV ADB-3 Project		Document No: - WMS/005					
Month: - May-23		Date: - 10/08/23					
Sl. No	Waste Generation Type	Unit	Generation for the month	Reused	Recycled	Disposed	Remarks (disposed by TP/Own)
1 Non-Hazardous Waste							
A General Waste							
	xxv. Hand Gloves	Pair	22	10		12	OWN(Handover to Local Municipal)
	xxvi. PP rope	Kg	0				
	xxvii. Safety Helmet	Nos	30	30			
	xxviii. Safety Shoes	Pair	0				
	xxix. Cartoon Box	Kg	10			10	Third Party(Through Scrap Disposal)
	xxx. Safety Harness	Nos	0				
B Materials Waste							
	XIII. Conductor Bits	Kg	0				
	XIV. Steel	Ton	25	21		04	Third Party(Through Scrap Disposal)
	XV. Other Metals.....	Kg	0				
	C Wood Waste	Kg	50	0		50	Own/Handover to Local Municipal
	D Food Waste	Kg	0				
	E Paper Waste	Kg	5	5			
	F Packing Materials	Kg	0				
	G Other Non-Hazardous materials	Kg	0				
2. Hazardous Waste							
	A Paints	Ltr	0				
	B Lubricants oil	Ltr	0				
	C Plastic waste	Kg	0				
	D Cement bags	Nos	4000	4000			
	E Printing cartridges	Nos	0				
	F E-Waste (Desktop,CPU,Printer&Mouse,etc.)	Nos	1	1			
	G Medical Waste	Kg	0				
3. Sewage Waste &Wastewater							
	A Treated sewage waste water	Ltr					
	B Sewage Sludge	Ltr					
	C Waste water	Ltr					
	D Bentonite Slurry	Cu.M	300			300	OWN(Handover to Local Municipal)

**L&T CONSTRUCTION
POWER TRANSMISSION & DISTRIBUTION IC**

MONTHLY WASTE GENERATION REPORT

Project Name: - 230,132 KV ADB-3 Project		Document No: - WMS/006					
Month: - Jun-23		Date: - 10/08/23					
Sl. No	Waste Generation Type	Unit	Generation for the month	Reused	Recycled	Disposed	Remarks (disposed by TP/Own)
1 Non-Hazardous Waste							
A General Waste							
xxxI.	Hand Gloves	Pair	15	10		05	OWN(Handover to Local Municipal)
xxxii.	PP rope	Kg	0				
xxxiii.	Safety Helmet	Nos	30	30			
xxxiv.	Safety Shoes	Pair	0				
xxxv.	Cartoon Box	Kg	10			10	Third Party(Through Scrap Disposal)
xxxvi.	Safety Harness	Nos	0				
B Materials Waste							
XVI.	Conductor Bits	Kg	0				
XVII.	Steel	Ton	21	16		5	Third Party(Through Scrap Disposal)
XVIII.	Other Metals.....	Kg	0				
C	Wood Waste	Kg	50	0		50	Own/Handover to Local Municipal
D	Food Waste	Kg	0				
E	Paper Waste	Kg	5	5			
F	Packing Materials	Kg	0				
G	Other Non-Hazardous materials	Kg	0				
2. Hazardous Waste							
A	Paints	Ltr	0				
B	Lubricants oil	Ltr	0				
C	Plastic waste	Kg	0				
D	Cement bags	Nos	4000	4000			
E	Printing cartridges	Nos	0				
F	E-Waste (Desktop,CPU,Printer&Mouse,etc.)	Nos	1	1			
G	Medical Waste	Kg	0				
3. Sewage Waste &Wastewater							
A	Treated sewage waste water	Ltr					
B	Sewage Sludge	Ltr					
C	Waste water	Ltr					
D	Bentonite Slurry	Cu.M	100			100	OWN(Handover to Local Municipal)

Page 6

Sensitivity: LNT Construction Internal Use



Annexure-23: Safety Signs at Site



Annexure-24: Status of CAP for Transmission Line (Package-3)



Oil Spillage Prevention



Temporary Resting Place at Site



Materials stored at the designated area



Wastebins at Site



Briefing on Safety Signs



Workers' Residence



First Aid Box at site



Emergency Contact numbers displayed at site



Machinery in Good and Covered Condition



No Debris kept at the site



Inside Workers Accommodation at Birganj camp sites



Stored materials are kept properly at site



Arrangement for Pure Drinking Water



Arrangement for Pure Drinking Water



Group Insurance



Ceremonial Handover of Compensation Money to the Concerned Landowners of Pirojpur Substation



Acquired Land for Hatibandha Substation



Acquired Land for Meherpur Substation



Possession Handover of the Acquired Land for Manirampur Substation by the DC Office



Pile Integrity Test at Domar-Hatibandha 132kV Transmission Line



Piling Work at Satkhira-Rupsha 230 kV Transmission Line



Erected Tower of Satkhira-Manirampur 132 kV Transmission Line



Erected Tower of Gopalganj-Sibchar 230 kV Transmission Line



ADB Mission 2023 at Satkhira- Rupsha



Erected Tower of Purba Sadipur-Domar 230 kV Transmission Line



Pre-Section Measurement of Manirampur Substation



ADB Mission 2023 at Satkhira- Rupsha



Training on HSE at Sites



Community Engagement Program at the Acquired Land of Kaliganj 400/230 kV Substation

Celebrating World Environment Day at a Local School



Crops Cultivation after Completion of Tower Foundation



Handing Over Crops Compensation to the Owners

Annexure-25: Pre-Work Briefing



Annexure 26: Clearance from BIWTA for River Crossing

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

Annexure 27: Crops Rate from Agricultural Office

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

Annexure 28: Environmental Monitoring Checklist

Environmental Monitoring and Audit Checklist for Substation

*OFFICIAL USE ONLY

Environmental Audit Checklist for Substations

Guidelines Considered			Satkhira	Purba Sadipur	Niamatpur
Transformers with PCB			No	No	No
Switchgear with PCB			No	No	No
Safe disposal of PCB oil			NA	NA	NA
Prevention of PCB fires			NA	NA	NA
PCB Labelling			NA	NA	NA
PCB oil leakage			NA	NA	NA
Retrofitting			NA	NA	NA
PCB oil Storage			NA	NA	NA
Gas insulated switchgear			NA	Yes	NA
Gas insulated t/f			No	No	No
Presence of SF ₆ in switchgear			Yes	Yes	Yes
SF ₆ retrieval arrangements			-	-	-
Presence of other hazardous gases			NA	NA	NA
Containment, Dikes, and Berms (e.g. for transformers)			yes	yes	yes
Storage facility			yes	yes	yes
Drainage			yes	yes	yes
Oil leakage			NA	NA	NA
Need for extra gravel			No	No	No
Monitoring of workplace air quality			NA	NA	NA
Good ventilation (ensure)			Yes	Yes	Yes
Maintenance of air quality			NA	NA	NA
Providence of respiratory equipment			Yes	Yes	Yes
Enforcement of the application of personal protective equipment whenever exposure levels of fumes, solvents and other materials exceed threshold limit			Yes	Yes	Yes
Noise control equipment			NA	NA	NA
IFC/ EHS Noise levels					
Ambient Noise (dB)	Day	Night	Yes	Yes	Yes
Residential	55	45			
Industrial	70	70			
Maintenance of equipment			Yes	Yes	Yes
Use of protective gear when noise level exceeds 85 dB			NA	NA	NA
Safe working area (absence of radiation, magnetic fields)			Yes	Yes	Yes
Monitor regularly for radiation and field levels and equipment integrity (earthing, protective shields, lockouts etc.			Yes	Yes	Yes
Strict procedure for de-energizing before working on electrical equipment			Yes	Yes	Yes
Training of personnel for safety procedures			Yes	Yes	Yes
Physical factors in the workplace signage			Yes	Yes	Yes
Lighting (including security lights)			Yes	Yes	Yes
Fire detection mechanism/equipment			Yes	Yes	Yes
Firefighting equipment			Yes	Yes	Yes
Cleanness (inside and outside substation)			Yes	Yes	Yes
First Aid Kit			Yes	Yes	Yes
Features that pose safety risks (missing or broken slabs, dogged holes, etc.)			No	No	No

*OFFICIAL USE ONLY

Fence or enclosure of the site (Restriction of unauthorized people)	Yes	Yes	Yes
Safe and clean drinking water	Yes	Yes	Yes
Toilets	Yes	Yes	Yes
TV/Radio/internet	Yes	Yes	Yes
Guard kiosk	Yes	Yes	Yes
Eye and face	-	-	-
Head	-	-	-
Hearing	-	-	-
Hand	-	-	-
Respiratory	-	-	-
Leg and body	-	-	-
Noise	-	-	-
Vibration	-	-	-
Illumination	NA	NA	NA
Reflections	NA	NA	NA
Temperature	NA	NA	NA
Hazardous materials	NA	NA	NA
Biological agents	NA	NA	NA
Ionization radiation	NA	NA	NA
Training (Learning materials, equipment and tools)	Yes	Yes	Yes
Training on operational hazardous and how to control the hazards	Yes	Yes	Yes
Training on health risks, hygiene, and exposure prevention	Yes	Yes	Yes
Training on accidents and accident prevention, protective equipment and clothing	Yes	Yes	Yes
OHSMS organization policy	Yes	Yes	Yes
Emergency prevention, preparedness and response	Yes	Yes	Yes
Investigation of work related injuries, ill health, disease and accidents	Yes	Yes	Yes
Safety inspection, testing and calibration	Yes	Yes	Yes
Storage	NA	NA	NA
Labelling	NA	NA	NA
Handling	NA	NA	NA
Handling	NA	NA	NA
Disposal	NA	NA	NA
Availability of space for expansion	Yes	Yes	Yes

OHSMS- Occupational Health & Safety Management System

- NA Not Applicable
- ✓ Yes/OK
- X No
- ✓T Yes, on transformers
- ✓CB Yes, on oil Circuit Breakers
- ✓AC Yes, with air conditioners
- ✓NI It is there, but Need Improvements
- NI Need Improvements
- S/S Substation
- NT Need Training
- NR Need some Repair
- NM Need Maintenance
- ✓Cem Yes, it is contaminated

Environmental Monitoring Checklist for Transmission line

Environmental Monitoring Checklist DWZTGEP

Inspection Items	Implemented?		N/A	Location: Route: Package:
	Yes	No*		
1. Air Pollution Control				
1.1. Are the construction sites watered to minimize dust generated?				
1.2. Are stockpiles of dusty materials (size with more than 20 bags cement) covered or watered?				
1.3. Cement debagging process undertaken in sheltered areas				
1.4. Are all vehicles carrying dusty loads covered/watered over prior to leaving the site?				
1.5. Are dusty roads paved and/or sprayed with water?				
1.6. Are dust controlled during percussive drilling or rock breaking?				
1.7. Are equipment well maintained? (any black smoke observed, please indicate the plant/equipment and location)				
1.8. Is dark smoke controlled from plant?				
1.9. Are there enclosures around the main dust-generating activities? (e.g. grout mixing)				
1.10. Hoarding (not <2.4m) provided along boundaries and properly maintained (any damage / opening observed, please indicate the location).				
1.11. Are speed control measures applied? (e.g. speed limit sign)				
1.12. Others (please specify)				
2. Water Pollution Control				
2.1. Are there any wastewater discharged to the storm drains? Is the wastewater being treated?				
2.2. Are measures provided to properly direct effluent to silt removal facilities? (e.g. provide earth bunds / U-channels)				

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Inspection Items	Implemented?		N/A	Location: Route: Package:
	Yes	No*		
2.3. Are sedimentation traps and tanks free of silt and sediment?				
2.4. Are all manholes on-site covered and sealed?				
2.5. Are sandbags/earth bund adopted to prevent washing away of sand/silt and wastewater to drains, catchpit, public road and agricultural land?				
2.6. Are vehicles and plants cleaned before leaving the site?				
2.7. Are wheel washing facilities well maintained to prevent overflow, and flooding sediment?				
2.8. Is sand and silt settled out in the wheel washing bay and removed?				
2.9. Is the public road/area around the site entrance and site hoarding kept clean and free of muddy water?				
2.10. Is domestic water directed to septic tanks or chemical toilets?				
2.11. Others (please specify)				
3. Noise Control				
3.1. Do generators operate with doors closed?				
3.2. Is equipment turned off or throttled down?				
3.3. Do air compressors and hand-held breakers have valid noise emission labels (NEL)?				
3.4. Any noise mitigation measures adopted (e.g., use noise barrier / enclosure)?				
3.5. Are silenced equipments utilized?				
3.6. Others (please specify)				
4. Waste Management				
4.1. Is the site kept clean and tidy? (e.g. litter free, good housekeeping)				
4.2. Are separate chutes used for inert and non-inert wastes?				
4.3. Are separated labelled containers / areas provided for facilitating recycling and waste segregation?				

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Inspection Items	Implemented?		N/A	Location: Route: Package:
	Yes	No*		
4.4. Are construction wastes / recyclable wastes and general refuse removed off site regularly?				
4.5. Are construction wastes collected and disposed of properly by licensed collectors?				
4.6. Are chemical wastes, if any, collected and disposed of properly by licensed collectors?				
4.7. Does chemical waste producer license covers all major chemical wastes produced on site?				
4.8. Are chemical wastes properly stored and labelled?				
4.9. Are oil drums and plants/equipment provided with drip trays?				
4.10. Are drip trays free of oil and water?				
4.11. Is there any oil spillage? Clean-up the contaminated soil immediately?				
4.12. Is litter, foam or other objectionable matters in nearby water drain/sewer cleaned?				
4.13. Are asbestos wastes handled by registered professionals?				
4.14. Others (please specify)				
5. Storage of Chemicals and Dangerous Goods				
5.1. Are chemicals stored and labelled properly?				
5.2. Are proper measures to control oil spillage during maintenance or to control other chemicals spillage? (e.g. provide drip trays)				
5.3. Are spill kits / sand / saw dust used for absorbing chemical spillage readily accessible?				
5.4. Others (please specify)				
6. Protection of Flora, Fauna and Historical Heritage				
6.1. Are disturbance to terrestrial flora minimized (e.g. plants to be preserved)?				
6.2. Are disturbance to terrestrial fauna minimized (if rare species identified)?				

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Inspection Items	Implemented?		N/A	Location: Route: Package:
	Yes	No*		
6.3. Any historical heritage exists on site? If yes, ensure appropriate measures taken to preserve it				
6.4. Others (please specify)				
7. Emergency Preparedness and Response				
7.1. Are fire extinguishers / fighting facilities properly maintained and not expired? Escape not blocked / obstructed?				
7.2. Are accidents and incidents reported and reviewed, and corrective & preventive actions identified and recorded?				
7.3. Others (please specify)				

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Annexure 29: Health and safety Checklist

HSE MONITORING CHECKLIST						
Project		Site Location				
Route and Package						
Inspection Date		Inspection Time				
Inspected by		Approved by				
Environmental Health & Safety						
SL NO	SAFETY MONITORING ITEM	IMPLEMENTED			EVIDENCE	REMARKS
		YES	NO	N/A		
1.	Are necessary safety signage maintained properly?					
2.	Are TBT conducts on daily basis?					
3.	Are drinking water test maintained properly?					
4.	Are grievance register maintain properly?					
5.	Do noise and vibrations generated by the facility operations and vehicle traffic for waste collection and transportation comply with the country's standards?					
6.	Are the construction sites watered to minimize dust generated?					
7.	Is everyone entering the workplace informed, and their understanding checked, of the content of the TMP (e.g. via a site induction)? This includes: a) Their obligations b) Pedestrian walk areas c) Restricted areas and lifting/loading zones d) Specific hazards e) Speed limits f) Signage					
8.	Are accidents and incidents reported and reviewed, and corrective & preventive actions identified and recorded?					
9.	Are all necessary checklist (Toilet, Fire, First Aid, and					

	PPE) maintain and checked regularly?					
10.	Are diesel-powered Generator and equipment's shut off while not in use to reduce emission?					
SL NO	SAFETY MONITORING ITEM	IMPLEMENTED			EVIDENCE	REMARKS
		YES	NO	N/A		
1.	Are there (on-site) any designate waste storage area?					
2.	Waste segregation done properly?					
3.	Are construction wastes collected and disposed of properly by licensed collectors?					
4.	Are they (EPC) disposing waste in designate disposing area?					
5.	Are hazardous and dangerous wastes properly segregated from other wastes, stabilized, treated, and disposed of in accordance with the country' s standards?					
6.	Are chemical wastes, if any, collected and disposed of properly by licensed collectors?					
7.	Is the site kept clean and tidy?					
SL NO	SAFETY MONITORING ITEM	IMPLEMENTED			EVIDENCE	REMARKS
		YES	NO	N/A		
1.	Is the desired flow of pedestrian and vehicle movements being regular?					
2.	Is the expected frequency of interaction between vehicles and pedestrians?					
3.	Are the short term, mobile work or complex traffic situations managed properly?					
4.	Roles and responsibilities of people in relation to traffic management maintained properly?					

5.	<p>Does the TMP include a sketch or illustration of the worksite? This should show the location of:</p> <ul style="list-style-type: none"> a) Traffic routes b) Pedestrian walkways c) Barriers and signage d) Loading/unloading bays e) Car parks f) The sketch should also include contact details to notify when arriving at the site. 					
6.	<p>Is traffic management included in the following components of the work health and safety management system?</p> <ul style="list-style-type: none"> a) Hazard identification b) Risk management register c) Site inspections/audits d) Contractor management (e.g. codes of conduct and quality standards) e) Procurement of new equipment (e.g. safety devices on mobile plant) 					
7.	<p>Are there signage and road markings in place to help manage vehicle and pedestrian traffic according to the TMP? For example:</p> <ul style="list-style-type: none"> a) Speed limits b) Driver directions (e.g. stop, give way, no entry, caution) c) Pedestrian crossings and walkways d) Parking and delivery areas e) Drop-off and set down points 					

8.	Are engineering design measures in place to minimize risk? For example: Speed limiters a) Presence sensing devices b) Interlocking gates to restrict access to areas during traffic movement c) Traffic signal lights (portable or permanent) d) Speed bumps e) Convex mirrors to avoid blind spots f) Warning lights and reversing alarms					
9.	Is signage: a) Adequately distributed across the work area and leading up to the site b) In good condition (e.g. not visibly damaged, not faded and easy to read from a distance) c) Subject to regular inspection and maintenance					
SL NO	SAFETY MONITORING ITEM	IMPLEMENTED			EVIDENCE	REMARKS
		YES	NO	N/A		
1	High-visibility clothing protected and worn					
2	Protective trousers provided and worn when risk of leg cuts, e.g. collecting bags or when bags are removed from other containers					
3	Gloves provided and worn when directly picking up refuse					
4	Hearing protection provided and worn when required					
SL NO	SAFETY MONITORING ITEM	IMPLEMENTED			EVIDENCE	REMARKS
		YES	NO	N/A		
1	Are fire extinguishers / fighting facilities properly maintained and not expired? Escape not blocked / obstructed?					
2	Is fire drill training for workers available?					

Annexure 30: Environmental Management Implementation Schedule (July -December 2023)

Environmental Issues/Parameters	Monitoring Parameters	Standards/Guidelines	Means of Monitoring	Frequency	Location
Requirement of land	Ensure that PAPs get compensation as per RP	As per RP	Inspection	As per RP	RoW of the package 3 and 4
Trimming of trees clearing vegetation	Checking whether proper compensation as mentioned in RP is received by PAPs.	DoE/FD	Inspection	Regular during tree felling and site clearing operations	RoW of the package 3 and 4
Ambient Air Quality Parameters	SPM, PM10, PM2.5, SOx, NOx, CO & Pb- 24hr monitoring	DoE standards	Monitoring report analysis	Before construction	At representative tower construction sites
Noise Pollution	Ambient noise level	DoE standards	Monitoring report analysis	Regularly during construction	At adjacent subproject cultural sites and construction camps
Pollution due to Wastes	Checking storage, transportation, handling, and disposal of wastes.	DoE guidelines	Inspection	Regular	Construction sites and camps of Package 3 and 4
Surface Water Quality	pH, BOD5, COD, NH3-N, PO4, TPH and coliforms	DoE Standards	Monitoring report analysis	At all river crossings and within 500m of waterbodies	River Crossing Sites near towers
Groundwater /Drinking Water Quality	pH, Mn, Fe, As, TC, FC, TPH	DoE Standards	Monitoring report analysis	Quarterly at all tube wells within 500m	At representative tower construction sites
Traffic congestion/ Road Accident	Checking road crossing points, roads adjacent to towers.	BRTA	Inspection	Regular	At road/railway. crossing points and roads adjacent to towers
Occupational health and safety	Use of PPE, general health, water supply and sanitation.	DoE/IFC guidelines	Inspection	Regular	At construction sites and camps
Community health and safety	Awareness of local people.	DoE/IFC guidelines	Inspection	Regular	At tower construction sites and crossing of roads