

Semi-annual Environmental Monitoring Report

Project No. 42378-017
Semestral Report (Jan-Jun 2021)
July 2021

**BANGLADESH: Power System Expansion and Efficiency Improvement Investment Program-
Tranche 3
Output-2: Transmission System expanded and upgraded**

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

This semi-annual environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

Semi-annual Environmental Monitoring Report

Loan No : 3350-BAN

Semi-annual Report

Reporting Period : January 2021 to June 2021

Reporting Date : July 10, 2021

Loan No 3350-BAN: Power System Expansion and Efficiency Improvement Investment Program-
Tranche 3 (400/230/132 kV Grid Network Development Project)

Prepared by: (400/230/132 kV Grid Network Development Project), Power Grid Company of Bangladesh Ltd. (PGCB) for the Asian Development Bank for People's Republic of Bangladesh.



This report has been submitted to ADB by 400/230/132 kV Grid Network Development Project, Power Grid Company of Bangladesh Ltd (PGCB) and is made publicly available in accordance with ADB's Public Communications Policy (2011).

It does not necessarily reflect the views of ADB. This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.



POWER GRID COMPANY of BANGLADESH (PGCB) LIMITED
MINISTRY OF POWER, ENERGY & MINERAL RESOURCES
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

th



8th Environmental Monitoring Report

June, 2021

Table of Contents

1.0 Brief Introduction To The Project	1
1.1 Background	1
1.2 Objectives.....	1
1.2.1 Main Objective.....	1
1.2.2 Specific Objectives	1
1.3 Project locations	2
2.0 Physical Status Of The Project	8
2.1 Objectives of the Project.....	8
2.2 Scope of Work of the Project	8
2.3 Financial And Physical Progress of Project:	9
3.0 Environmental Status	12
3.1 Performance of EMP Implementation	12
3.2 Grievance Redress Mechanism (GRM)	13
3.3 Status of Implementation of the GRM.....	13
3.4 Training Status.....	13
3.5 EMP Implementation Performance	15
4.0 Environmental Compliance	18
4.1 Brief summary of status of compliance with Environmental Conservation Rules 1997:	18
4.2 Compliance to Environmental Covenants from the ADB Loan Agreement:	20
5.0 Performance Indicator	22
5.1 Implementation of Environmental Safeguards Policies	22
5.2 Public Consultation and Complaints:	22
5.3 Overall Performance in Relation to Environmental Compliance	22
5.4 Covid-19 Plan	24
6.0 Conclusions And Recommendations:	26
A. Annexure.....	27

❖ **Abbreviations and Acronyms**

- ✓ ***ADB***-Asian Development Bank
- ✓ ***WHO***-World Health Organization
- ✓ ***GoB***-Government of Bangladesh
- ✓ ***DoE***-Department of Environment
- ✓ ***CEGIS***-Center for Environmental and Geographic Information Services
- ✓ ***PGCB***-Power Grid Company of Bangladesh Ltd .
- ✓ ***MPEMR***-Ministry of Power, Energy and Mineral Resources
- ✓ ***GNDP***-Grid Network Development Project
- ✓ ***BECA***-Bangladesh Environment Conservation Act
- ✓ ***BECR***-Bangladesh Environmental Conservation Rule
- ✓ ***HSACL***-Health & Safety Hazard Check List
- ✓ ***ECR***-Environmental Conservation Rule
- ✓ ***PAP***-Project Affected Persons
- ✓ ***EOHS***-Environmental and Occupational Health & Safety
- ✓ ***IEE***-Initial Environment Examination
- ✓ ***EIA***-Environmental Impact Assessment
- ✓ ***ECA***-Environment Conservation Act
- ✓ ***EMP***-Environmental Management Plan
- ✓ ***EPC***-Engineering, Procurement and Construction
- ✓ ***TL***-Transmission Line

Executive Summary

This report is conducted based on ADB safeguard's policy, the laws and policies of Bangladesh Govt. and Loan covenants between ADB and GoB. At this stage, 8th monitoring has been completed on four locations (Kachua, Kalurghat, Madunaghat and Comilla South) where sub stations are being started for rehabilitation and augmentation. The project includes construction of 4 nos. (New 2 nos. and up gradation 2 nos.) Grid substations and construction of approximately 72 km Transmission lines. "400/230/132 kV Grid Network Development Project", Power Grid Company of Bangladesh Ltd (PGCB) aims to improve provision of sustainable and reliable power supply both in Dhaka & Chittagong city and also enhance the transmission network efficiency in the two cities by Asian Development Bank (ADB) financed projects.

Based on the prepared checklist and policy standard of ADB, Bangladesh Govt. and loan covenant between ADB and Bangladesh Govt., the monitoring team observed the physical (Air quality, waste management, Noise and soil quality), Ecosystem and Biodiversity and social environmental status of the construction site qualitative and quantitative approaches.

The labors, site manager, Health and safety manager, and relevant stakeholders were consulted and different environmental and social issues like occupational health and safety and working condition status (i.e. labor shed, toilet facilities, source of drinking water, wash room, kitchen etc) and gender status, and equal opportunity for those labors were explored during this stage of the environmental monitoring.

Based on the selected parameters of air quality, the results of the air quality were checked to be satisfactory at the project site, whereas no external source of air pollution was observed that can deteriorate air quality in the project areas. During field visit, it was found that water is being sprayed every day to control fugitive dusts and other particles when earth materials become suspended.

Waste management system at Kachua, Kalurghat, Madunaghat and Comilla (South) was relatively good. All the sites were neat and clean in terms of prevalent solid wastes. Besides, considering the overall situation been observed, there were no significant impacts on the existing vegetation and wildlife.

The working environment is good inside the sub-station; all labors use safety equipments provided by the EPC (Engineering, Procurement, and Construction) contractor. The monitoring team suggested for complying all things using safety equipment for avoiding any accidental cases during the construction activities. Special action has been also taken for COVID-19.

1.0 Brief Introduction To The Project

1.1 Background

1.1.1 The People's Republic of Bangladesh has scaled up its priority to strengthen the electricity production, transmission, and distribution for overall growth and development of the country. In this respect, Bangladesh Govt. has set their goal in providing access to affordable and reliable electricity for all by 2021.

1.1.2 To meet up this increasing demand, Power Grid Company of Bangladesh Ltd (PGCB) has taken initiatives to expand its infrastructure in the transmission system with the construction of the new line, substations, and renovation of existing substations. This project has already obtained the site and environmental clearance certificate from DoE and started the construction works.

1.1.3 The project should be implemented in compliance with all the applicable Environmental and Social Rules and Regulations under the Environmental Conservation Rule (ECR) 1997 of Bangladesh, Environmental and Social Management Plan and Monitoring plan described in the EIA report as well as the requirement of Project financier- Asian Development Bank (ADB).

1.1.4 A checklist has been prepared to monitor all indicators regarding national laws and policies as well as the ADB loan covenants. The EPC Contractor started construction for substations & Transmission Line locations and monitoring result identified through monthly field visit regarding the indicators fixed in the checklist.

1.1.5 Under Power System Expansion and Efficiency Improvement Investment Program -Tranche 3 of ADB, 400/230/132 kV GND Project of Power Grid Company of Bangladesh (PGCB) is executing this project. A loan agreement was signed between ADB and GoB in this regard on December 22, 2015.

1.1.6 The project includes construction of 4 nos. (New 2 nos. and up gradation 2 nos.) Grid substations and construction of approximately 72 km Transmission lines to improve transmission network of Dhaka & Chittagong and improve the power supply reliability.

1.2 Objectives

1.2.1 Main Objective

The main objective of the environmental monitoring is to observe how EMP is compiled in relation with national and international standard in pre-construction, construction and operation phase of the project.

1.2.2 Specific Objectives

The specific objectives of the environmental monitoring are to:

- i. Analyze the water and air quality in pre and construction phase of the project
- ii. Analyze noise in three stages of the project
- iii. Explore land characteristics in the project sites
- iv. Analyze the waste management system of concerned authority or EPC Contractor
- v. Monitor working condition and occupational health safety during project lifetime
- vi. The environmental compliance monitoring would include: Analysis of Environmental and Social Safeguarding Laws and Policies of Bangladesh, description of Environmental and Social Management, and Monitoring Plan described in the EIA in line with ADB's requirements.

1.3 Project locations

The final list of the proposed sub-stations area mentioned in the following table.

Table 1.3.1: Proposed Substations/ Transmission Lines

Sl. No.	Name of the substations/ Transmission Lines	Address	Remarks
01	Kachua 132/33 kV, 2x50/75 MVA AIS Grid Sub-station.	Kachua, Chandpur.	
02	Kalurghat 132/33 kV, 2x50/75 MVA GIS Grid Sub-station.	Kalurghat, Chittagong.	
03	Up gradation of Madunaghat 132/33 kV AIS substation to GIS substation at.	Madunaghat, Chittagong.	
04	Up gradation of 132/33 kV AIS substation to GIS substation at Cumilla(S).	Cumilla South	
05	Madunaghat-Kalurghat 132 kV Double Circuit Underground Transmission Line	Madunaghat-Kalurghat	7 km
06	Re-conductoring of Existing Cumilla(South)-Chandpur 132 kV Double Circuit Overhead Transmission Line	Cumilla(South)-Chandpur	65 km

SITE LOCATION OF THE PROJECT:

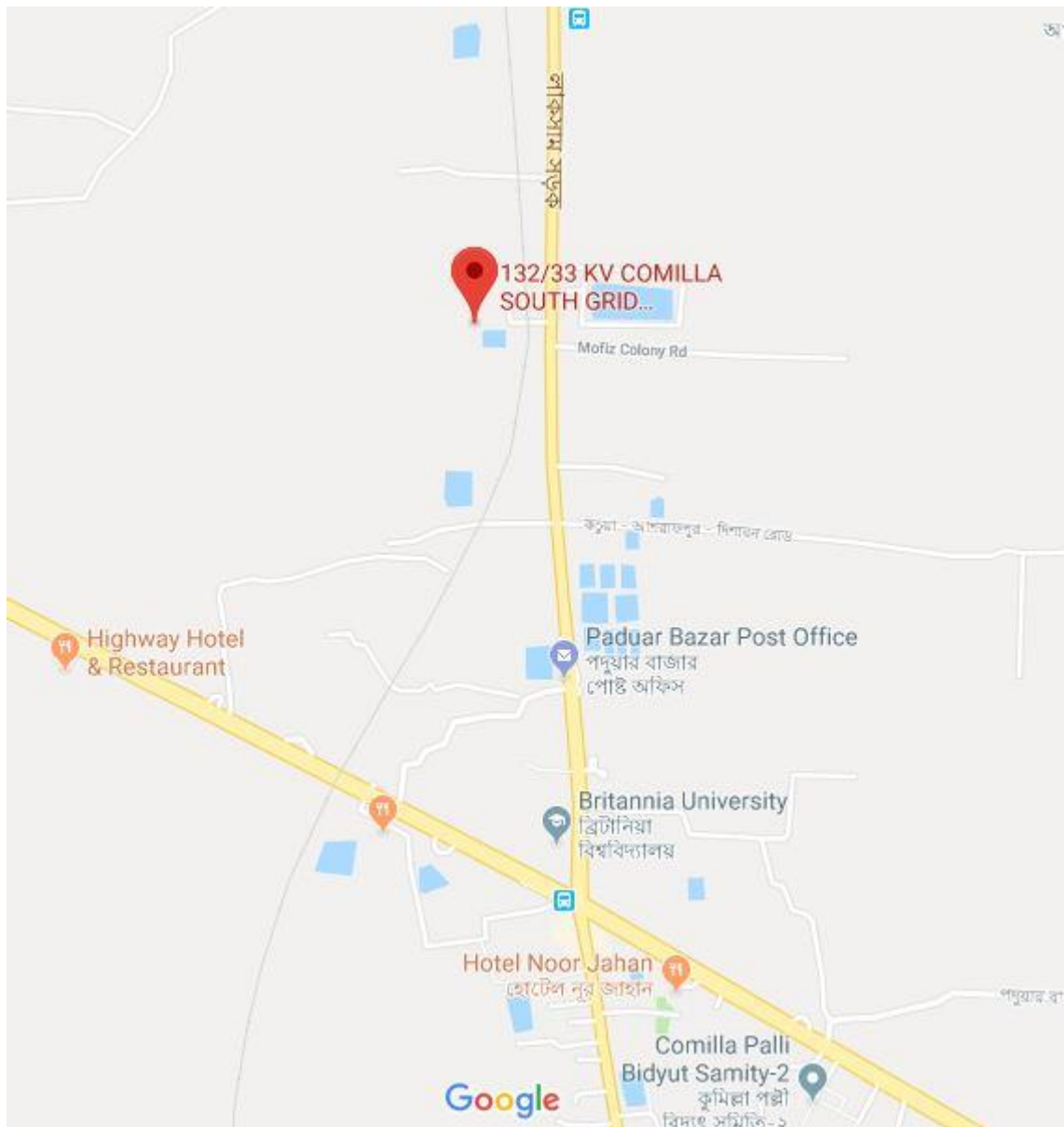


Fig-1: Site Location of 132/33 kV GIS Grid Substation at Comilla (South).



Fig-2: Site Location of 132/33 kV AIS Grid Substation at Kachua, Chandpur.



Fig-3: Site Location of 132/33 kV GIS Grid Substation at Kalurghat, Chittagong.

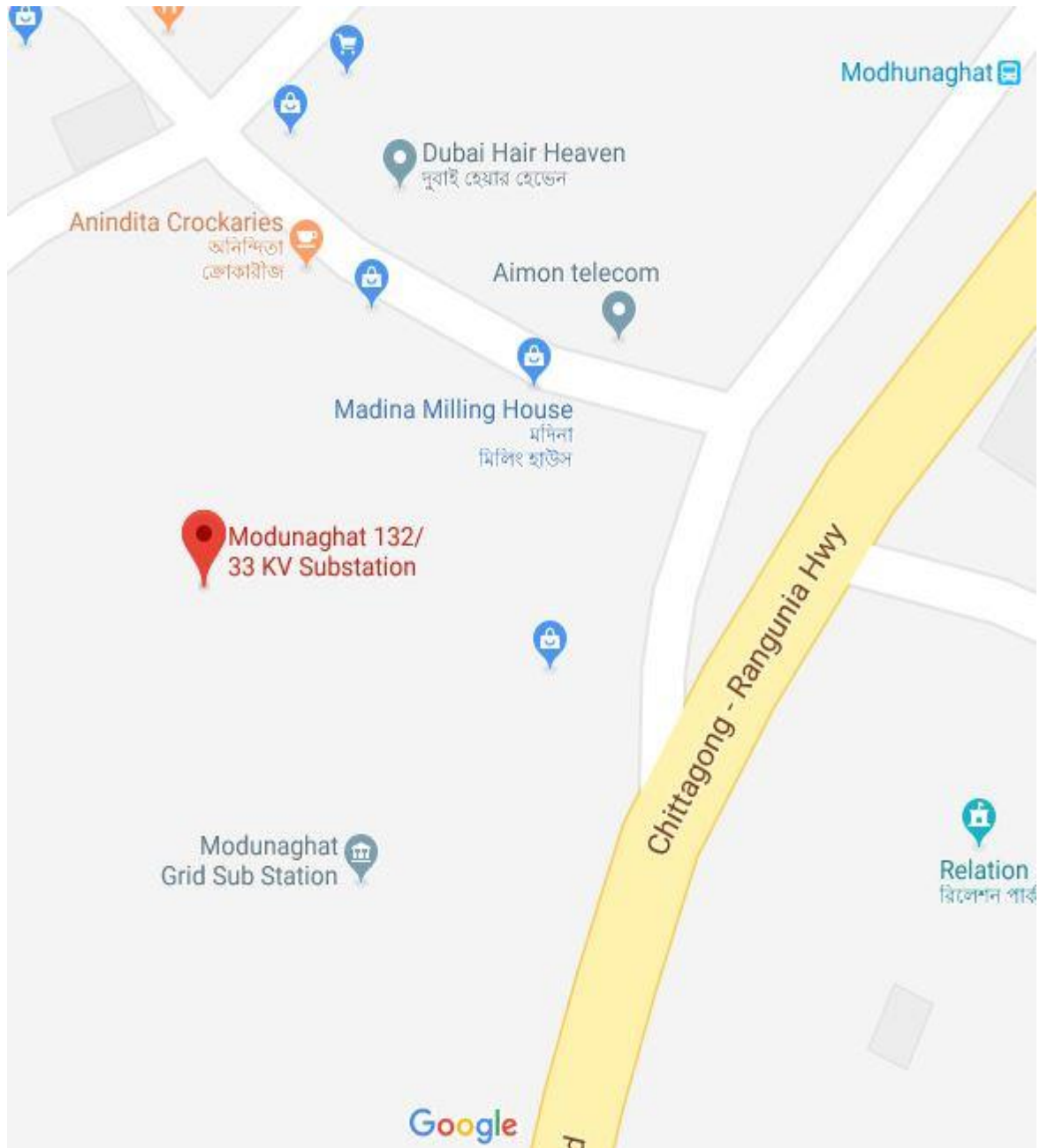


Fig-4: Site Location of 132/33 kV GIS Grid Substation at Madunaghat, Chittagong.

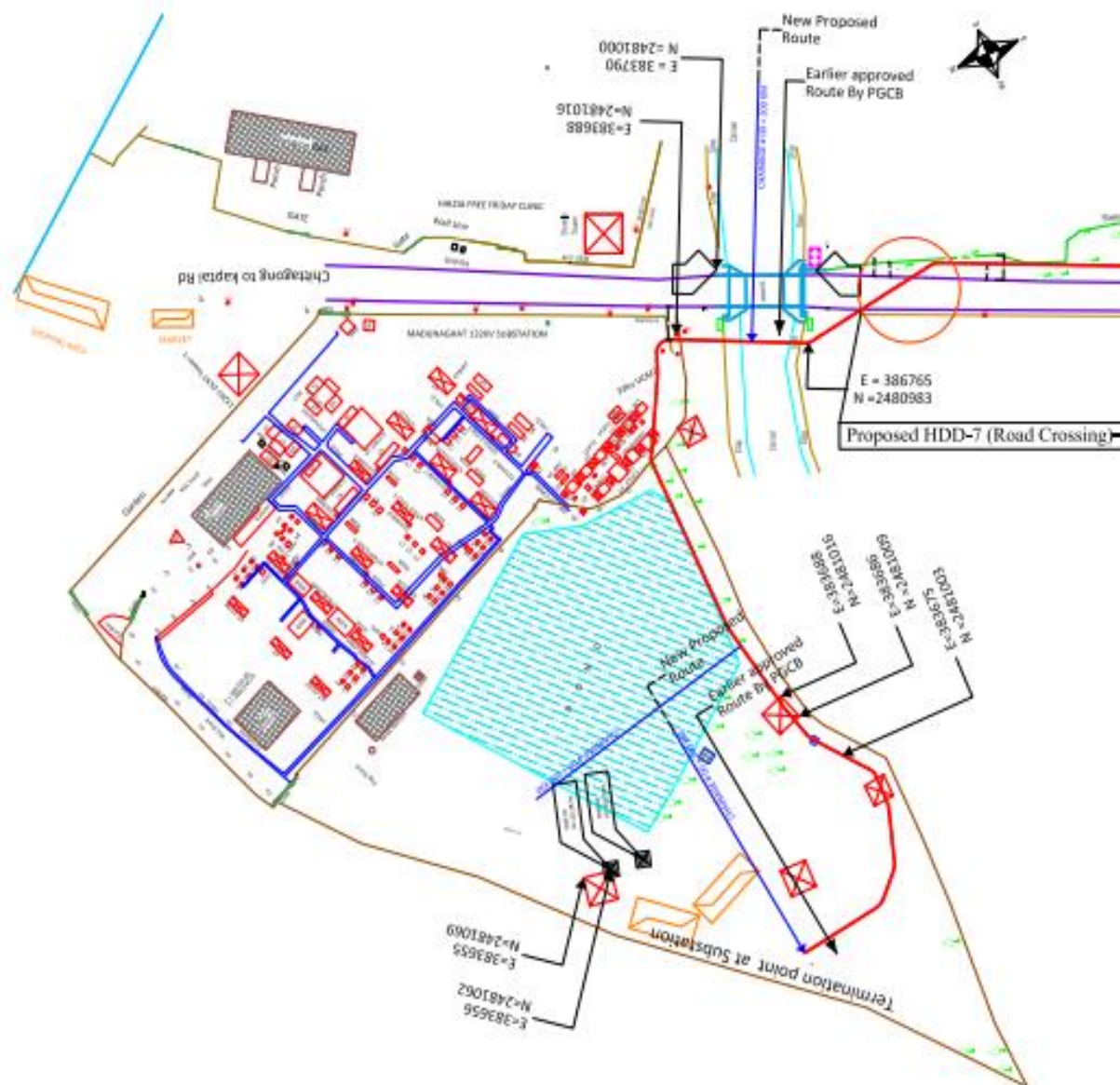


Fig-5: Madunaghat-Kalurghat 132 kV Double Circuit Underground Transmission Line

2.0 Physical Status Of The Project

PGCB is the implementing agency of “400/230/132 kV Grid Network Development Project” under the Ministry of Power, Energy and Mineral Resources (MPEMR).

2.1 Objectives of the Project

- To increase the power supply reliability of Cumilla, Chandpur (Kachua) and Chittagong (Kalurghat & Madunaghat) area.
- To meet the growing demand of Cumilla, Chandpur (Kachua) and Chittagong (Kalurghat & Madunaghat) area.
- To strengthen the power evacuation arrangement & increase power supply stability, reliability &
- Transmission capability in Cumilla, Chandpur (Kachua) and Chittagong (Kalurghat & Madunaghat) area.

2.2 Scope of Work of the Project

- **Lot-1 (Sub-station):**
 - a) New 132/33 kV, 2x50/75 MVA AIS Grid Sub-station at Kachua.
 - b) New 132/33 kV, 2x50/75 MVA GIS Grid Sub-station at Kalurghat.
 - c) Up gradation of 132/33 kV AIS substation to GIS substation at Madunaghat.
 - d) Up gradation of 132/33 kV AIS substation to GIS substation at Comilla(S).
- **Lot-2 (Transmission Lines):**
 - a) Madunaghat-Kalurghat 132 kV Double Circuit Underground Transmission Line:7 km
 - b) Re-conductoring of Existing Comilla(South)-Chandpur 132 kV Double Circuit Overhead Transmission Line: 65 km

The details of the said project are given in Table-2.1.

Project Title	:	400/230/132 kV Grid Network Development Project (Power System Expansion and Efficiency Improvement Investment Program- Tranche 3, Loan No: 3350-BAN)
Ministry/Division	:	Ministry of Power, Energy and Mineral Resources/Power
Executing Agency	:	Power Grid Company of Bangladesh Limited (PGCB)
Location of the Project	:	District: Cumilla, Chandpur & Chittagong. Upazilla : Cumilla Sadar, Hajiganj, Hathajari, Chandgaon.
Table 2.1: Proposed Substations/ Transmission Lines		

2.3 Financial And Physical Progress of Project:

Financial Progress Status

Lot#	Contract Price			Cumulative Disbursement			% Progress
	US\$	BDT	Equivalent mUS\$	US\$	BDT	Equivalent mUS\$	
Lot-1 (Substation)	22,484,274.14	383,112,847.00	27.00	20,231,560.42	300,706,542.71	23.78	88.07%
Lot-2 (Transmission Line)	12,302,867.72	32,171,049.33	12.68	10,868,110.02	22,610,763.25	11.13	87.78%

N.B.: 1US\$= 84.80 BDT

Physical Progress Status

Lot-1 (Substation):

1) 132/33 kV AIS Substation at Kachua:

Line Bays	All line bays of the Substation (132 kV Cumilla-1, 132 kV Cumilla-2, 132 kV Chandpur-1 & 132 kV Chandpur-2) including 132 kV Main Bus-1 & 132 kV Main Bus-2 have been successfully energized on 12/01/2021.
Bay Equipment	132 kV Transformer-1, 132 kV Transformer-2, 132 kV Bus Coupler Bay and 33 kV Bus along with the associated Bay Equipment have been successfully energized on 17/01/2021

2) Upgradation of 132/33 kV Cumilla (South) AIS Substation to GIS Substation:

Pre-commissioning	Pre-commissioning & Testing have been completed;
High Voltage (HV) Testing of GIS	High Voltage (HV) Testing of GIS has been completed;
Power cable laying	Power cable laying is completed- 100%.
Civil Foundation	Civil Foundation (including Super Structure) of GIS Building has been completed;
	Civil Foundation (including Super Structure) of Ansar barrack has been completed;

Gantry	Gantry foundation is completed- 100%.
Foundation	Equipment foundation is completed- 100%.
Cable trench	Cable trench work is completed- 95%.
Internal Road	Construction of Internal Road is completed and Sentry post has been completed.

3) 132/33 kV GIS Substation at Kalurghat:

GIS & CRP erection	GIS & CRP erection has been completed;
Civil Foundation	Civil Foundation (including Super Structure) of GIS Building has been completed;
	Civil Foundation (including Super Structure) work of Ansar barrack has been completed (100%).
Erection of EoT Crane	Erection of EoT Crane has been completed and Earthing Mesh work is in progress;
Transformer Foundation	Transformer Foundation (Including Blast wall), Installation & Erection work have been completed.
Equipment Foundation	132 kV and 33 kV Equipment Foundation has been completed;
Cable trench	Cable trench work has been completed;
The construction of Boundary wall	The construction of Boundary wall is 100% completed.
Construction of Internal Road	Construction of Internal Road is completed up to 80% and Sentry post, Guard House & Car Port is completed 90%.
All Equipment & Materials	All Equipment & Materials have been reached at site.

4) Upgradation of 132/33 kV Madunaghat AIS Substation to GIS Substation:

Pre-commissioning & testing work	Pre-commissioning & testing work is at final stage;
High Voltage(HV) Test of GIS has	High Voltage(HV) Test of GIS has been completed;

GIS Building Civil Foundation	GIS Building Civil Foundation (Including Super structure) has been completed;.
Transformer foundation, Installation & Erection	Transformer foundation, Installation & Erection work have been completed.
Gantry and Equipment foundation & erection work	Gantry and Equipment foundation & erection work has been completed;.
Civil Foundation (Including Super structure)	Civil Foundation (Including Super structure) of Ansar barrack and Sentry post have been completed;
The foundation of Car port & Security guard	The foundation of Car port & Security guard room is completed (100%);
Cable trench work	Cable trench work is 100% completed & Drainage work is 85% completed;
Construction of Internal Road	Construction of Internal Road is completed has been completed;
Surface finishing	Surface finishing of Switchyard & Earthing mesh-100% completed;
Erection and Installation of EoT Crane	Erection and Installation of EoT Crane has been completed.
Equipment & Materials	All Equipment & Materials have been reached at site.

Overall Physical Progress of Lot-1(Substations) is 88.00 %.

Lot-2 (Transmission Lines):

1) Madunaghat-Kalurghat 132kV Double Circuit Underground Transmission Line :

Cable Laying	Cable laying work has been completed;
Foundation of Joint Bay	Foundation of 07 nos. Joint bay out of 08 nos. has been completed.

2) Re-conductoring of Existing Cumilla(S)-Chandpur 132kV Double Circuit Overhead Transmission Line:

Reconductoring	Re-conductoring work of Cumilla-Chandpur 132 kV transmission line has been completed on 03/05/2019.
LILO Line	The LILO line for Kachua 132/33 kV substation has been successfully energized on 15/01/2020;

Overall Physical Progress of Lot-2(Transmission lines) is 95.00%

3.0 Environmental Status

3.1 Performance of EMP Implementation

The pertinent issues with reference to the Environmental Monitoring Plan (EMP) has been identified and correlated with the environmental standards where necessary. Such findings along with any unanticipated impact not included in the EMP have been placed with recommendations. Assistance to EA and its Contractors in taking corrective action/measures and the steps thus taken / to be taken has also been pointed out therein.

In that context, attention has been drawn to take necessary actions particularly in respect of Institutional Requirement and Monitoring Plan for the Post Construction and Operational Phase as per EMP approved by DOE & ADB for the project. This would include assessment of the training and awareness requirement on occupational hazard & safety issues for the operational teams and evaluation of injury and incident reports of the working contractors as well.

Sl. No.	Issues & Findings	Actions Taken by
1.	Monitoring Mechanism: This was required for implementing the EMMP	Health and Safety Officers have been appointed by the contractor.
2	Environmental Clearance Certificate (ECC) Renewal: ECC has been renewed.	ECC renewal completed, valid date: 30/01/2022
3.	Health & Safety Hazard Check List (HSHCL):	Regular Tool Box Meetings are held at site for awareness of the workers. Contractors have been advised to prepare and maintain HSHCL and it is monitored by EA.
4.	Environmental & Social Components: Environmental and Social Components were to be implemented with due diligence as per provision of the EIA.	PGCB is aware about the status of mitigation measures of potential impact on Environmental and social components.
5.	Environmental Parameters (EPs) Quality Monitoring.	No effluent from site falls into the river. Negligible amount of Green House Gas are emitted from the construction work.
6.	Sharing of information with Project Affected Persons (PAP) & Stakeholders' Response:	PGCB will continue keeping PAP informed in advance for remaining works on the ROW.
Table-3.1: Findings, Recommendations & Assistance to EA & its Contractors in Monitoring EMP		

3.2 Grievance Redress Mechanism (GRM)

There have been successful Implementations of social safeguard policy, including resettlement till date in the project. No significant issues related to the safeguard policy were reported during the monitoring period. Most of the project operations are as per the prescribed format of the resettlement plan and safeguard policy. To resolve all project related grievances and complaints a common social and environmental grievance redress mechanism will be in place. Common and simple grievances will be sorted out at project site level by the Contractor's Resettlement Supervisor, supervision staff of PMU and project NGO within 7 days. More serious complaints will be sent to the safeguard officer at the PMU to be resolved in 14 days. Any unresolved grievances will be forwarded to GRC to be resolved within 21 days. Despite the project GRM, an aggrieved person shall have access to the country's legal system at any stage.

3.3 Status of Implementation of the GRM

Compensation was paid to owners those were affected on acquisition by account payee cheque in presence of the local Member of Parliament, local representatives and local Government officers. Permanent Land acquisition was not required for the TL as per Electricity Act 1910 and Telegraph Act 1885 but due Compensation will be paid to the land owners to meet their losses of crops and trees. No permanent structure will be affected as TL passed through open field and agricultural land. PGCB project officials, District office are always ready to meet any kind of argue or dispute with proper judgment according to existing laws. Regarding Grievance Redress Mechanism, a complaint register has been opened at each site. A **Safeguard Focal Point** has been in charge to address any grievance regarding the project. However, not a single major grievance has been recorded in the project area.

3.4 Training Status

General Principles

- To ensure that there is an effective system of communication for the project both for the project team directly as well as with respect to external arrangements.
- To ensure that 1.30 Minutes of COVID 19 awareness training Dos and don'ts are communicated clearly to Employees including subcontractors.
- To ensure that all persons involved in the project are briefed on the What PPE should wear to protect from COVID 19 and emergency plan.
- To ensure that all persons are briefed on the Health safety rules before commencement of work.
- All ABB site consultation and communications are derived from the ABB Safety Consultation and Communication procedure.
- All personnel shall undergo site and Project specific COVID 19 training.
- The objectives and tasks for the day ahead shall be discussed at the daily tool box meeting/pre-start meeting to inform employees of the planned work for the day.

General Principles

- Ensure that all project team members are competent to carry out their HSE (and other) responsibilities effectively.
- Ensure that subcontractors appointed to the project are competent and have a satisfactory safety record.
- Ensure that prior to work starting on site that all operators have been briefed generally on the site rules and specifically in respect of the work packages that are to be delivered.

Contractor and its Subcontractors are responsible for the provision of competent personnel and training to perform all project work under the contracted service.

The ABB Project/Site Manager is responsible for project training plan implementation as following:-

- Identifying their respective personnel to undergo mandatory trainings
- Ensuring that their respective personnel have attended On-Job-Training and all prescribed HSE trainings
- Conducting Safety Induction Course for all site personnel including the subcontractors before they are allowed to commence work.
- The ABB Site HSE Officer (Trained and competent) is responsible for conducting site safety induction for all visitors and personnel:
 - All new employees receive in-house Safety Induction Course before job assignment.
 - This orientation training covers topics applicable to the employee's job description.
 - Specialized safety training is provided to each employee based on the requirements of their job.
- Project/Site Manager and/or Site HSE Officer must inform management of new trainings needed.
- Site HSE Officer are responsible for planning and coordinating training programs for employees working at site.

Emergency contact

SL.No	Name	Contact No.
1.	Emergency hotline for COVID-19 (Institute of Epidemiology, Disease Control and Research)	333
2.	IEDCR	09611677777
3.	Comilla Medical College Hospital (Corona Hospital)	+88-08165562
4.	Ambulance	+88-01940253547

Table : Training Status at Comilla and Kalurghat		
Month	Name of Training at Comilla	Name of training at Kalurghat

January'21	Manual Material Handling, Road safety	1. Excavation 2. Health awareness safety 3. Noise safety
February'21	1. Hazard reporting and Management 2. Hand and power tools safety. 3. Safety sign and signal 4. Life Saving Rules	1. Working at height 2. Material Handling 3. Emergency preparedness 3. Electrical awareness safety
March'21	1. 7 steps of electrical safety, 2. mock drill on heat stroke 3. safe use of ladder 4. Lock out tag out 5. Harnesses and temporary lifelines 6. Welding, Cutting & Brazing/grinding	1. Basic first aid training 2. Emergency preparedness 3. Health safety awareness training 4. Electrical awareness safety
April'21	1. Snake bite first aid 2. Health Saving Rules 3. Working at height, 4. Working in extreme weather conditions (Summer Safety)	1. Health safety awareness 2. Electrical safety awareness
May'21	1. Manual Material Handling 2. Electrical safety General 3. Awareness training on good housekeeping 4. Slips, Trips and fall Hazard prevention	1. Permit to work 2. Heat stroke
June'21	1. Hazard reporting and management, 2. Testing & Commissioning 3. Chemical hazard, Environmental awareness	1. Rigging and sling 2. Health safety rule 3. Environment awareness

3.5 EMP Implementation Performance

As EMP is a key requirement for obtaining Environmental Clearance from DOE. PGCB has submitted an EMP with EIA study. The function of EMP is to identify the impacts on environment because of construction work, how to mitigate the impacts and explain how monitoring will be carried out. All personnel related to construction work are made aware of the EMP by regular meetings and currently, compliance of EMP is monitored by PGCB and safety officers of contractor. So far construction works are running with full compliance of EMP.

Environmental Issues	Potential Impact	Observation/ Implementation	Recommended Action (if any)	Compliance Status (NC/PC/ FC)
Design/Pre-Construction Phase				
Soil sampling	Required for Substation and transmission line sites.	Done	NA	FC
Local recruitment of workers and	Same as above	Implemented	NA	FC

Environmental Issues	Potential Impact	Observation/ Implementation	Recommended Action (if any)	Compliance Status (NC/PC/ FC)
staff				
Orientation of Contractor(s) and workers on issues like HIV/AIDS, compliance to EMP, etc	To ensure safety	Implemented	NA	FC
Construction Phase				
Spraying of water to exposed land and before movements of construction vehicles	Substations and road basements when laying of underground cable to connect substations	Implemented	--	FC
Solid waste management	Health issues and hazard free environment	Implemented	--	FC
Danger and warning signs for safety of workers and the public	Hazard free work environment	Implemented	--	FC
Announcement to the public of works schedule	Preparedness from the public	Implemented	--	FC
Erosion control measures such as temporary shoring	Saving the environment	Implemented	--	FC
Smoke belching construction vehicles	Same as above	Implemented	--	FC
Housekeeping	Neat and clean work environment	Implemented	--	FC

Below is a summary of status of the safeguards documents in the all subprojects:

Table: Summary of status of the safeguards documents in the all subprojects

Type of safeguards document	Agency	Package	Coverage
Semi Annual Environmental Monitoring Report	PGCB	Lot-1 & 2	Environmental Issues
COVID-19 Exposure Prevention, Preparedness & Response Plan	Contractor	Lot-1 & 2	Health Issues
Site specific Environmental Management Plan (SEMP)	Contractor	Lot-1 & 2	Environmental Issues
Complain and sick register report	Contractor	Lot-1 & 2	Health Issues
OHS Plan	Contractor	Lot-1 & 2	Health Issues
Monthly HSE meeting reports	Contractor	Lot-1 & 2	Health Issues
Overall monitoring checklist	Contractor	Lot-1 & 2	Health Issues
Environment test report (132kV): included environmental monitoring, checklist, HSE monitoring	Contractor	Lot-1 & 2	Environmental Issues
Environment test report (230kV): included environmental monitoring, checklist, HSE monitoring	Contractor	Lot-1 & 2	Environmental Issues

4.0 Environmental Compliance

4.1 *Brief summary of status of compliance with Environmental Conservation Rules 1997:*

Table : Compliance with National Acts & Policies

Environmental Policy/Rules/Regulations	Responsible Agency/Ministry/Authority	Potential Applicability	Compliance Status
Bangladesh Environmental Protection Act 1995 and Environmental Conservation Rules (ECR)	MoEF	Bangladesh Environmental Protection Act 1995 and subsequent amendments and relevant Acts including Environmental Conservation Rules (ECR)1997 calls for environment-friendly execution of any Power Sector Development project in its all stages of Pre-Construction, Construction and Post Construction activities.	Complied
Environment Conservation Act 1995	MoEF	According to Environment Conservation Act 1995 and Environment Conservation Rules 1997, all projects have been classified into four categories (Green, Orange A, Orange B and Red). The power development projects are allocated to the red category, which triggers an automatic requirement for an Initial Environment Examination (IEE) followed by a full Environmental Impact Assessment (EIA) study. Subject to satisfactory review of the environmental assessment, the Department of Environment (DoE) issues an authorization for the project to proceed. The authorization consists of two parts: a “site clearance”, which gives approval to the site proposed for the project and an “environmental clearance”, which approves the content of the project.	Complied

		<p>A key requirement of the IEE/EIA for projects classified in the Red categories is an Environment Management Plan (EMP). The function of the EMP is to enable the project proponent PGCB to show the DoE how it will deliver the environmental performance assessed in the IEE/EIA (for which DoE approval is sought). The EMP must describe in detail organization and management responsibilities, give details of how mitigation measures identified in the IEE/EIA will be implemented and explain how monitoring will be carried out.</p> <p>The PGCB, as the executing agency, is responsible for carrying out IEE and EIA studies of the project. PGCB has already engaged Center for Environment and Geographic Information Services (CEGIS) for conducting IEE and EIA study by splitting the total project between two sections: Section A for TRANCH-2 & Section B for TRANCH-3. IEE and EIA study has been completed for all those sections and based on the assessment; environmental clearance from DoE has been received for all the sections.</p> <p>EMP has been made by CEGIS as a prerequisite of submitted EIA and getting approval from DOE. The EA (PGCB) has made its contractors concerned about the EMP and site activities are monitored to check the compliance with EMP.</p>	
--	--	--	--

4.2 Compliance to Environmental Covenants from the ADB Loan Agreement:

Civil construction works at different sites are running under the project. DOE's regulations and ADB's Safeguard Policy Statement (2009) are in general being complied with by the EA and its contractors. Provisions of the IEE and EMP updated with Hazard Safety issues to fill in by the working contractors and submitting regularly helped verification of compliance at site and so far did not call for any remedial actions to mitigate and making any specific event reference to ADB.

The contractors will submit report on the implementation of safety issues on regular basis with information that they were conducting awareness program and meeting up the gaps. Environmental Covenants are being complied with.

Table: Compliance with ADB loan covenants

Para	Summary	Compliance
5.1	Implementation Arrangement: Adequate qualified staff to undertake necessary tasks of procurement, construction supervision, inspection, testing, environmental components under their responsibility	Being Complied
5.2	Environment: Compliance to applicable laws and regulations, environmental safeguards, health and safety, corrective and preventive actions etc	Being Complied
5.7	The Borrower shall ensure, or cause the Project Executing Agency to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures and requirements relevant to the contractor set forth in the RP and any small ethnic community peoples plan, and any corrective or preventative actions set out in a Safeguards Monitoring Report; (b) make available a budget for all such social measures; (c) provide the Borrower with a written notice of any unanticipated resettlement or small ethnic community peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the RP or any small ethnic community peoples plan; (d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and (e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-	Being Complied

Para	Summary	Compliance
	project condition upon the completion of construction.	
5.8	Safeguard Monitoring and Reporting	Being Complied
5.10	<p>Labor Standards:</p> <p>Compliance to labor laws, safe working condition, equal wages for equal work etc</p>	Being Complied

5.0 Performance Indicator

5.1 Implementation of Environmental Safeguards Policies

A focal person is responsible for supervision of Environmental Management Plan. Consultants will be appointed for ensuring compliance of the Environmental Monitoring and Safeguards Policies, if required. Meanwhile, personnel from Environment Department, PGCB is in charge of maintaining Environmental Management and Safeguards policy. Equipment and construction materials are stored in sheltered spaces. All laborers are provided with Personal Protective Equipment.

5.2 Public Consultation and Complaints:

No consultation meeting and complains were received during these reporting period as the work went smoothly.

Table: Consultation meetings held during January to June 2021

Consultation Date	Location	Issue	No. Participants	Remark
X	X	X	X	X

Table: Complaints status of the reporting period (January to June 2021)

Complaint or Affected Persons	Location and Date of Complaint	Description of Grievance/ Complaint	Timeline	Time-bound Corrective Actions taken
None	NA	None	--	Not required

Table: Safeguard personnel

Name	Organization and Designation	Contact no./E-mail
Md. Ashraful alam	Safety Officer, ABB INDIA	01715455969
Sk monirul islam	Safety Officer, ABB INDIA	01616918446

5.3 Overall Performance in Relation to Environmental Compliance

The following table summarizes the overall performance in relation to environmental compliance:

Table: Overall Performance in Relation to Environmental Compliance

No.	Aspects of Environmental issues	Compliance Status			Remarks
		FC	PC	NC	
A.	General				
1.	Legal working hours	✓			Complied
2.	Employment Record keeping arrangement	✓			
3.	Payment Record keeping arrangement	✓			

4.	Environment, Health and Safety Officer designated	✓			
5.	Provision for monthly meeting for inspection of site activities	✓			
B.	Health and Sanitation				
Occupational Health					
1.	First-Aid Box availability at work sites	✓			Complied
2.	Provision of personal protection equipment's (PPEs)	✓			
3.	Handling of cement and other hazardous materials by workers	✓			
4.	Workers' complains taken care of by the supervisor	✓			
5.	Children below 18 employment	✓			
C.	Environmental Pollution				
Dust and emission control					
1.	Construction vehicles and machineries maintained properly to reduce emissions	✓			Complied
2.	Proper storage of materials and regular watering.	✓			
Noise Pollution					
1.	Movement of vehicles at desired hours	✓			Complied
2.	Noise control measures at sites	✓			
Water Pollution					
1.	Land filling	✓			Complied
2.	Wastes, cement, effluents and junks not disposed in water	✓			
Flora and Fauna					
1.	Trees and bushes outside the construction area preserved from damages	✓			Complied
2.	Disturbance to terrestrial fauna minimized	✓			
Waste Management					
1.	Construction wastes are removed off site regularly	✓			Complied
2.	Chemical wastes, if any, collected and disposed of properly	✓			

D.	Environmental documents at Field Office and Project sites				
1.	Field Office possesses copies of EMP, contract document and Technical Specifications	✓			Complied
2.	Heavy equipment maintenance records	✓			

5.4 Covid-19 Plan

The government has extended the ongoing curbs on public movement and gatherings in a bid to prevent the further spread of Covid-19. The ongoing restrictions will remain in place until July 15, said a notification issued by the Cabinet Division. During the period, all tourist spots, resorts, community and entertainment centres have been asked to remain closed. No social, political and religious gathering will be allowed either, the notice says. All government, non-government and autonomous organizations, banks and other financial organizations will be open while maintaining health guidelines.

As Covid-19 cases kept growing at an alarming rate since mid-March this year, the government was forced to impose a nationwide lockdown for one week from April 5 to contain the spread. Later, a stricter set of restrictions on public movement and gathering were announced from April 14 to 21. Since then, the restrictions have been extended several times considering the situation including the latest one.

Safety committee members and details

- | | |
|-----------------------|------------------------------|
| 1. Chairperson | Site Manager |
| 2. Secretary | Safety Officer |
| 3. Member | Contractor In-charge |
| 4. Member | Contractor Supervisor |
| 5. Member | Worker Representative |
| 6. Member | Worker Representative |

Safety committee functions with and duties

Chairperson

- Prepare agenda for meeting against COVID 19
- Ensure Safety Committee meet once in a Week
- Arrange for meeting place
- Notify members of meeting
- Arrange program
- Set time schedule for meeting
- Arrange all seating for members
- Review previous minutes and material for meeting
- Conduct meeting

Secretary

- Minutes of meeting record keeping.
- Distribute minutes to committee members
- Post minutes for other employees
- Report status of recommendations
- Assume chairperson's duties, if required

Members

- Report condition of Coworkers
- Attend all safety committee meetings weekly
- Report of unhealthy practices and required PPE
- Contribute ideas and suggestions for improvement of Health safety
- Influence others to work safely
- Actual duties will vary according to company needs.

Functions

1. Management Commitment to Workplace Safety and Health

- Establish COVID 19 procedures for review and management's response to minutes.
- Submit written recommendations for safety/health improvement/changes and response.
- Evaluate employer's safety/health policies and procedures.
- Respond in writing to safety committee recommendations.
- Review corrective action taken by management.

2. Committee Meetings and Employee Involvement

- Establish procedures for employee input, i.e. to receive suggestions, report
- Share the information and experience of COVID 19 information.
- Include employee input on agenda for safety committee meetings.
- Hold Weekly meetings and intended for COVID 19 precautions.
- Keep meeting minutes.
- Develop and make available a written agenda for each meeting.
- Take meeting minutes and distribute to management and the safety committee members.
- Include in the meeting minutes all recommendations.

3. COVID 19 Breakout issues Assessment and Control

- Establish procedures for site inspections to identify Unhygienic and Unhealthy issues.
- Assist the employer in evaluating prevention program.
- Appoint an inspection team of at least one employee representative and one employer representative.
- Conduct site inspections at least once in a week.
- Make a written report of Unhygienic issues discovered during inspections.
- Review corrective measures. Make written recommendation to correct the hazard, and submit it to management for timely response.

6.0 Conclusions And Recommendations:

The Environmental safeguard measures implemented are satisfactory in most work sites. The Health and Safety Procedures are strictly followed. The environmental impacts of the project are very localized and mostly confined to tower sites and are of short duration. The drilling and pilling activities at tower sites are unlikely to generate much widespread impacts. The project work sites, in most cases, are away from sensitive areas/ receptors.

This monitoring was conducted at the three sites and explored the compliance status based on ADB safeguard policy, EMP provided in the EIA, Bangladesh Govt. and ADB loan covenant. In this stage of environmental monitoring, the Environmental Management System and Action Plan, Occupational Health and Safety, Workers' wellbeing, Biodiversity and Sustainable Management of Natural Resources have been observed through site specific field visit (monthly) and following the indicators stated in the checklist. In addition, compliance status has been provided made it clear indicator's base status during the construction phase of the project at the three selected sites.

The objective and tools of monitoring and measuring the progress of implementation of the EMMP is basically to fulfill the safeguard requirements of ADB as well as that of DOE. Thus continuous updating of EMMP is required for unanticipated impacts standing currently apparent if any. Further, contract document has adequate coverage of Environmental and Occupational Health & Safety (EOHS) issues.

1. The copies of own policy documents of the contractors and their subcontractors pertaining to EHS & OHS along with Tender & contract provisions will be reviewed and evaluated periodically and followed for due assistance in implementing the EMMP. The gaps, if identified in the field through periodic inspection and verification, will be duly addressed.
2. Due safety training and awareness program will be continued particularly on Fire Hazards & Safety Orientation courses.
3. EMP is a dynamic mechanism and hence the provisions contained in the available tools like EMP of EIA doc will be revisited from time to time.
4. PGCB will also follow up with DOE regarding renewal of validity of their Environmental Clearance for renewal of ECC.
5. PMU always follow up with the contractors about implementation of the recommendations.

ANNEXURE

i. Safety Related Photos during COVID-19 at different Substation



Figure: Awareness raising posters regarding covid-19 in cumilla 132/33 kv gis substation.



Figure: Training on heat stroke



Figure: Tree Plantation



Figure: Observing National Safety Week in Madunaghat 132/33 kV Substation



Figure: Hand washing facilities



Figure: Maintaining Social Distancing during gathering



Figure: Thermal Scanning during entrance in Kalurghat 132/33 kV Substation



Figure: Safety meeting in Kalurghat 132/33 kV Substation

ii. 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: DoE/Clearance/5367/2017-18

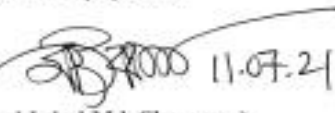
Date: 11/07/2021

Subject: Renewal of Environmental Clearance Certificate for 400/230/132 KV Grid Network Development Project; PGCB.

Ref: Your Application dated 19/05/2021.

With reference to your above application, the Department of Environment hereby renews the Environmental Clearance Certificate in favor of 400/230/132 KV Grid Network Development Project; PGCB. The terms and conditions stated in the Environmental Clearance Certificate of the above project issued on 31/01/2018 vide memo no. DoE/Clearance/5367/2017/34 shall remain valid for the renewed period.

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


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

Project Director
400/230/132 KV GND Project
Power Grid Company of Bangladesh Ltd (PGCB)
NLDC Building, Avenue-03, Aftabnagar, Badda, Dhaka.

Copy Forwarded to :

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