UNIQUE MEGHNAGHAT
POWER LIMITED

4th Construction Phase E&S Monitoring Report - 584 MW Gas Fired Combined Cycle Power Project in Sonargaon, Narayanganj, Bangladesh – Jul-Sep 2023

Draft Report

14 October 2023

Project No.: 0575406

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ERM India Private Limited

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Acronyms and Abbreviations

AAQ	Ambient Air Quality
AI	Aspect Impact
AIIB	Asian Infrastructure Investment Bank
AoI	Area of Influence
ARIPA	Acquisition and Requisition of Immovable Property Act
BCPA	Bangladesh Crop Protection Association
BECR	Bangladesh Environmental Conservation Rules
BIWTA	Bangladesh Inland Water Transport Authority
BLA	Bangladesh Labour Act
BLR	Bangladesh Labour Rules
BOD	Biochemical Oxygen Demand
BPDB	Bangladesh Power Development Board
BWA	Bangladesh Water Act
BWR	Bangladesh Water Rule
CAAB	Civil Aviation Authority of Bangladesh
CAR	Corrective Action Request
CCGT	Combined Cycle gas Turbine
CCPP	Combined Cycle Power Plant
CEMS	Continuous Emission Monitoring System
CIA	Cumulative Impact Assessment
CL	Casual Leave
CMB	Common Monitoring Basin
CO2	Carbon di oxide
CoC	Cycle of Concentration
COD	Commercial Operation Date
COVID	Corona Virus Disease
CSR	Corporate Social Responsibility
CW	Cooling Water
DEG	Deutsche Entwicklungs- und Investitionsgesellschaft
DG	Diesel Generator
DIFE	Department of Inspection for Factories and Establishments
DoE	Department of Environment
DWP	Demineralized Water Plant
E&S	Environment & Social
ECA	Environmental Conservation Act

ECA	Ecologically Critical Area
ECC	Environmental Clearance Certificate
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EL	Earned Leave
EMF	Electric and magnetic Field
EMP	Environmental Management Plan
EPC	Engineering, Procurement and Construction
ERM	Environmental Resources Management
ESDD	Environmental and Social Due Diligence
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environment and Social Management System
ETP	Effluent Treatment Plant
FGD	Flue gas Desulphurization
FGL	Finished Grade Level
FNTP	Full Notice to Proceed
GBV	Gender Based Violence
GE	General Electric
GHG	Green House Gas
GIIP	Good International Industry Practice
GIS	Gas Insulated Switchyard
GLC	Ground Level Concentration
GoB	Government of Bangladesh
GRM	Grievance Response Mechanism
GSA	Gas Supply Agreement
GT	Gas Turbine
GW	Ground Water
H_2S	Hydrogen Sulphide
HAZOP	Hazard and Operability
HDD	Horizontal Directional Drilling
HFL	High Flood Level
HIRA	Hazard identification and Risk Register
HP Steam	High pressure Steam
HR	Human Resource
HRSG	Heat Recovery Steam Generator
HSD	High Speed Diesel
IDCT	Induced draft-cooling tower
IEC	Installation, Erection and Commissioning

IEE	Initial Environmental Examination
IFC	International Finance Corporation
ILO	International Labour organization
Km/Hr	Kilometre/Hour
KPI	Key Performance Indicator
kV	kilovolt
LESA	Lenders' Environmental and Social Advisor
LGED	Local Government Engineering Department
LoI	Letter of Intent
LOTO	Lock Out Tag Out
LP Steam	Low Pressure Steam
LPG	Liquefied petroleum Gas
LRP	Livelihood Restoration Plan
MPEMR	Ministry of Power, Energy and Mineral Resources
MPR	Monthly Progress Report
MSDS	Material Safety Data Sheet
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NEPC	Northeast No.1 Electric Power Construction Co Ltd
NFPA	National Fire Protection Association
NG	Natural Gas
NOC	No Objection Certificate
NOx	Nitrogen Oxides
OCC	Optimised for Cycling and Constructability
OPEC	OPEC Fund for International Development
P&ID	Piping and Instrumentation Diagram
PAH	Poly Aromatic Hydrocarbons
PAP	Project Affected Person
PCB	Poly Chlorinated Biphenyls
PEL	Permissible Exposure Limit
PGCB	Power Grid Company of Bangladesh
PLF	Plant Load Factor
PPA	Power Purchase Agreement
PPE	Personal Protective Equipment
PS	Performance Standard
PUC	Pollution Under Control
PVC	Poly Vinyl Chloride
PWD	Public Works Department
RAP	Rehabilitation Action Plan

RCC	Reinforced Cement Concrete
RMS	Regulatory Metering Station
RoW	Right of Way
SCB	Standard Chartered Bank
SE	Socio Economic
SEAH	Sexual Exploitation, Abuse and Harassment
SEP	Stakeholder Engagement Plan
SFL	Strategic Finance limited
SO_2	Oxides of Sulphur
SPM	Suspended Particulate Matter
ST	Steam Turbine
STP	Sewage Treatment Plant
SWAS	Steam and Water Analysis System
TDS	Total Dissolved Solids
TGTDCL	Titas Gas Transmission and Distribution Company Ltd
TL	Transmission Line
TSS	Total Suspended Solids
UHRL	Unique Hotel and Resorts Limited
UMPL	Unique Meghnaghat Power Limited
USP	Unsolicited Proposal
WARPO	Water Resources & Planning Organisation
WHO	World Health Organization
WMP	Waste Management Plan
WTP	Water Treatment Plant

EXECUTIVE SUMMARY

1. INTRODUCTION

1.1 Background

ERM India Pvt. Ltd. (ERM) was commissioned by Deutsche Entwicklungs- und Investitionsgesellschaft ("DEG"), and Asian Infrastructure Investment Bank (AIIB) (hereinafter collectively referred to as "Lenders") to conduct an independent Environmental and Social Due Diligence (ESDD) for proposed 584 MW gas fired combined power cycle project located in Sonargaon, Narayanganj, Bangladesh (hereinafter referred to as "Project"). Unique Hotel & Resorts Limited (UHRL) is the major sponsor of the project with 51% shareholding. A consortium led by UHRL named "Unique Meghnaghat Power Ltd" (hereinafter referred to as "UMPL" or "Company"), is developing this project. It is understood that Lenders are evaluating opportunity of equity investment in the project and have appointed ERM as Lenders' E&S Advisor (LESA) to support their due diligence prior to financial close as well as for periodic monitoring during the investment period.

1.2 Objectives

As Lenders' environmental and Social Advisor (LESA), ERM's overall role is to to support Lenders investment decision and follow-up approach by independently assessing the Company's operations and activities (existing and planned) against the Assessment Framework (see Section 1.3). ERM is required to identify gaps, describe necessary mitigation and management measures, assist the finalization of the ESIA report in accordance with the lenders' environmental and social safeguard policies and follow-up actions. This will be followed by periodic Environmental and Social (E&S) Monitoring i.e. quarterly during construction phase, quarterly for 1st year of operations and annually during operation for the following 2 years to verify compliance within assessment framework (Refer Section 1.4).

1.3 Work Scope – Periodic E&S Monitoring

The E&S Monitoring will be undertaken during both construction and operational phases in order to verify compliance within the assessment framework stipulated, which will include verifying the following:

- adequacy of the Company's E&S monitoring report;
- adequacy of the Company and contractor staffing and expertise to properly execute and monitor the E&S aspects of the operational activities;
- implementation status of the contractually agreed Environmental and Social Action Plan (ESAP) and all related processes and documents, as well as any deviations;
- adequacy of the Environmental and Social Management System;
- the implementation status of the Environmental and Social Management & Monitoring Program (ESMP) under special consideration of CO2 emissions (considering use of gas / HFO);
- general site condition and cleanliness, and work execution;
- any known contractual problems with sub-contractors;
- any changes in the original operational plan and their impact;
- any indications for concerns with regard to the relation with local communities, former land owners (or users) or workers;
- any impacts on livelihoods;
- effectiveness and efficiency of stakeholder engagement and GRM.

1.4 Applicable Reference Framework

The E&S Monitoring was carried out against the following the Assessment Framework

- Applicable local, national, international environmental, social (including occupational health and safety) legislation, and guidelines.
- ILO conventions covering core labour standards and the basic terms and conditions of employment.
- DEG Exclusion List;
- AIIBs ESP, ESSs and ES Exclusion List
- IFC Performance Standards (PS) 1–8, January 2012;
- World Bank Group General Environmental, Health and Safety (EHS) Guidelines, April 2007;
- World Bank Group General Environmental, Health and Safety (EHS) Guideline for Thermal Power Plants;
- World Bank Group General Environmental, Health and Safety (EHS) Guideline for Transmission Lines;
- World Bank Group General Environmental, Health and Safety (EHS) Guideline for Gas Distribution System;
- IFC`s Stakeholder Engagement Handbook;
- Good Practice Handbook on Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets; and
- Recommendation of the Council on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence.

1.5 ERM Team

A three-member ERM team had conducted the physical site walk around and consultations from 3-5 October 2023 as part of the 4th E&S monitoring exercise undertaken for the project construction phase. The composition of the ERM team were as follows:

- ***Dhritiman Ray (Environmental Specialist & Team Leader):*** Dhritiman having 22+ years of experience in undertaking environmental and social impact assessments, environmental due diligence, independent environment reviews, urban planning, environmental permitting and waste management in India, Bangladesh, Nepal, Sri Lanka, Myanmar, Maldives and Zambia. He has extensive experience working with government institutions, private sectors and lenders in developing projects in the energy, transport and manufacturing sectors, and is well-versed with various international benchmarks such the Equator Principles, the World Bank Operational Procedures, and the IFC Performance Standards.
- ***Subhradeb Pramanik (Health and Safety Specialist):*** Subhradeb Pramanik holds a Master Degree in Environmental Science and is presently working as a Partner at ERM India in Kolkata office. He has over 16 years of experience in field of EHS audits, due-diligence, site assessment and environmental impact assessments (EIAs) studies. Over the years he has played a key role in managing numerous projects in oil & gas, roads, mining, chemical, manufacturing, power and transmission sector. His primary focus and experience lies in the development and implementation of management systems, compliance monitoring, regulator reviews and EHSS performance audits. Apart from this he has also worked as a key EHS auditor for both Inogen Group and ARCADIS SENES India to support the implementation of their Due Diligence and Phase I & 2 programs for nearly 50 projects for key multinational clients in textile, metallurgical, chemicals and building sector.

- ***Tufail Khan (Social Specialist):*** Tufail Khan is a Senior Consultant with the Impact Assessment & Planning Practice at ERM India Pvt Limited. Over his 14 years of experience, Tufail have worked with SENES Consultants India Pvt (A Canadian Environment Consultancy firm), THDC India Ltd (A Mini Ratna PSU in Hydro power generation projects) and currently with ERM India Pvt Ltd at Gurgaon. Carrying out studies related to Social Impact Assessment and Resettlement & Rehabilitation have been his core functional areas throughout his total experience. Construction projects, Hydro power project, Thermal power projects, Wind power projects, solar power projects, mining projects etc. are the sectors wherein he has been actively involved and worked. Tufail has also long experience of implementing Resettlement & Rehabilitation action plan and working with communities at very grass root level.

1.6 Approach to the E&S Monitoring

The approach to the E&S Monitoring was broadly divided into the following tasks:

- Kick of Meeting
- Desktop based documentation review.
- Physical visit to the site and consultation with UMPL and EPC representatives; stakeholders such as workers and affected communities.
- Reporting

1.6.1 Kick-Off Meeting

The site visit began with a kick off meeting with the E&S management representative of UMPL and GE-NEPC consortium at the UMPL site office. The kick off meeting helped in developing understanding on the current status of the Project implementation and developments at the site. The ERM team also explained the purpose of the assignment as well as shared the approach and key activities that were planned in the course of the monitoring.

1.6.2 Desktop Documentation Review

A virtual Data Room (VDR) was created before commencement of the review wherein UMPL had uploaded the relevant documents, as shared through an information request list. The relevant Project documents pertaining to the EHS, and social compliances identified in the ESAP and ESMMP were reviewed at the site. This was aimed at understanding the ongoing implementation, record maintenance, internal monitoring and reporting and mandatory regulatory compliances required for the project. The list of documents reviewed as part of the E&S monitoring exercise has been furnished under **Appendix B.**

1.6.3 Site Visits & Consultations

The ERM team accompanied by the representatives of the Project team undertook site visits of the key Project components to assess the status and compliance with respect to EHS and social/labour issues and legal obligations. During the site visit the team made physical and visual inspection/verification of the construction phase activities and on-site management of EHS and labour issues. This was followed by visits to the worker camps and the consultations with the project affected communities and worker groups. Key activities undertaken during the course of the E&S monitoring visit is presented in **Table 1.1** below.

Table 1-1: Site Visit/Interviews – Key Activities Performed

S. No	Date	Activities
1.	3 Oct 2023	■ Opening Meeting with UMPL site team and GE senior Management. ■ Discussed current progress of construction phase of the project ■ Review of site-specific EHS Procedures and checklist, existing permits, licenses and associated records, Discussion on ESMP implementation status with NEPC and GE EHS Team. ■ Review of stakeholder engagement records, GRM records and discussion on progress of hiring LRP implementation and Monitoring Agency. ■ Review and detailed discussion on documentary evidence of other HR and labour compliance related pending actions items as per the ESAP. ■ Walkthrough the material laydown and worker camp area along with representatives of GE, NEPC-S and UMPL and discussion with housekeeping team, drivers' security personnel (Elite Security).
2.	4 Oct 2023	■ Walkthrough at Work area belonging to NEPC subcontractors (Man is Power, Meghna Enterprises), Occupational Health Centre, Jetty area, Batching Plant Area etc in the construction site. ■ Community Consultation with on-site workers at Camp site, ■ Consultation with local community at Doodghata village; ■ Discussion with local fisheries department officer and joint visit of river side area of the Doodhghata village ■ Discussion with NEPC HR Team and with site representatives of the two-manpower supply agency (i.e. Meghna Enterprise and 'Man is Power').
3	5 Oct 2023	■ Closing meeting with UMPL and GE at UMPL Corporate office in Dhaka.

1.6.4 Reporting

Information from various sources and direct observations made by ERM have been collated and compared against the reference framework components along with status of the compliance with respect to project ESAP, ESMMP and legal requirements.

1.7 Limitations & Assumptions

While this assessment has endeavoured to provide a comprehensive review against the requirements of the Applicable Standards, however, there remain certain limitations to the assessment that should be considered:

- This report is based on the site walkthrough, stakeholder consultations and review of information made available to ERM till date. Note that the findings in this report are subject to change depending upon other information that may come up in future. We cannot guarantee that these activities will necessarily yield complete information.
- The independent review is a high-level assessment of environmental and social risks/issues and should not be construed as a detailed legal compliance review to the conditions stipulated by enforcement agencies in the regulatory approvals and limited to the environmental and social approvals already accorded to the Project and shared with ERM.

- The findings and observations made herein are based on application of professional judgement. The findings should be viewed in the context of the applicable scope and objectives of the study and the limitation on time and resources made available to the consultants for the successful completion of the study. Kindly also note that the scope of work did not include any sampling, analysis of environmental media, collection of primary data, engineering design or development of technical specifications or cost estimates among others.

1.8 Use of the Report

ERM is not engaged in consulting or reporting for the purpose of advertising, sales promotion, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Client acknowledges that this report has been prepared for their exclusive use and agrees that ERM reports, or correspondence will not be used or reproduced in full or in part for such purposes and may not be used or relied upon in any prospectus or offering circular. Client also agrees that none of its advertising, sales promotion, or other publicity matter containing information obtained from this assessment and report will mention or imply the name of ERM.

Nothing contained in this report shall be construed as a warranty or affirmation by ERM that the site and property described in the report are suitable collateral for any loan or that acquisition of such property by any lender through foreclosure proceedings or otherwise will not expose the lender to potential environmental or social liability.

ERM may grant other financial institutions involved in the financing of the Project ("Other Parties") the right to rely on Services or work product generated by or for ERM pursuant to the Contract (“Work Product”), provided that each Reliant Party is specifically identified by name, any agreed consideration is paid, and that these Other Parties deliver to ERM, a signed copy of ERM’s standard reliance letter. The reliance letter shall govern the Other Parties’ right to rely on the Work Product.

1.9 Lay Out of the Report

The draft report is structured as under:

Section 1 (This Section):	Introduction
Section 2:	Project Appreciation and Current Status of the Project
Section 3:	ESAP & ESMMP – Compliance Status
Appendix A:	Photo Documentation
Appendix B:	List of Documents/Information Reviewed

2. PROJECT APPRECIATION AND CURRENT STATUS OF THE PROJECT

2.1 The Project

Unique Meghnaghat Power Limited (UMPL), a Joint Venture Company constituted by the consortium consists of Unique Hotel & Resorts Limited (UHRL), GE Capital Global Energy Investments BV and Strategic Finance Limited (SFL), has been incorporated in the year 2018 for development of 600-Megawatt (MW) Gas based Combined Cycle Power Plant (CCPP) project with net output of 588.31 at Dudhghata mauza in Pirojpur union of Sonargaon upazila under Narayanganj district, Bangladesh. The consortium of UHRL, GE and SFL has been selected by Bangladesh Power Development Board (BPDB), Government of Bangladesh (GoB) through Unsolicited Proposal (USP) basis. The LoI (Letter of Intent) was issued by BPDB on 25th June 2018. GE has made a consortium with NEPC for project construction and commissioning activity. Corresponding agreements like Power Purchase Agreement (PPA) with BPDB, Gas Supply Agreement (GSA) with Titas Gas Transmission and Distribution Company Limited (TGTDCL), Implementation Agreement (IA) with Power Division, Ministry of Power, Energy and Mineral Resources (MPEMR), GoB and Power Grid Company of Bangladesh (PGCB) have also been executed. The proposed site is located in 21.07 acres of land to the South-west of the Dhaka-Chittagong Highway and right bank of branch channel of Meghna River. This project is expected to be funded by Asian Infrastructure Investment Bank (AIIB), DEG and OPEC Fund for International Development (OPEC Fund) under financial advisory of Standard Chartered Bank (SCB). Summary of the project is presented below:

Table 2-1: Project Details - Snapshot

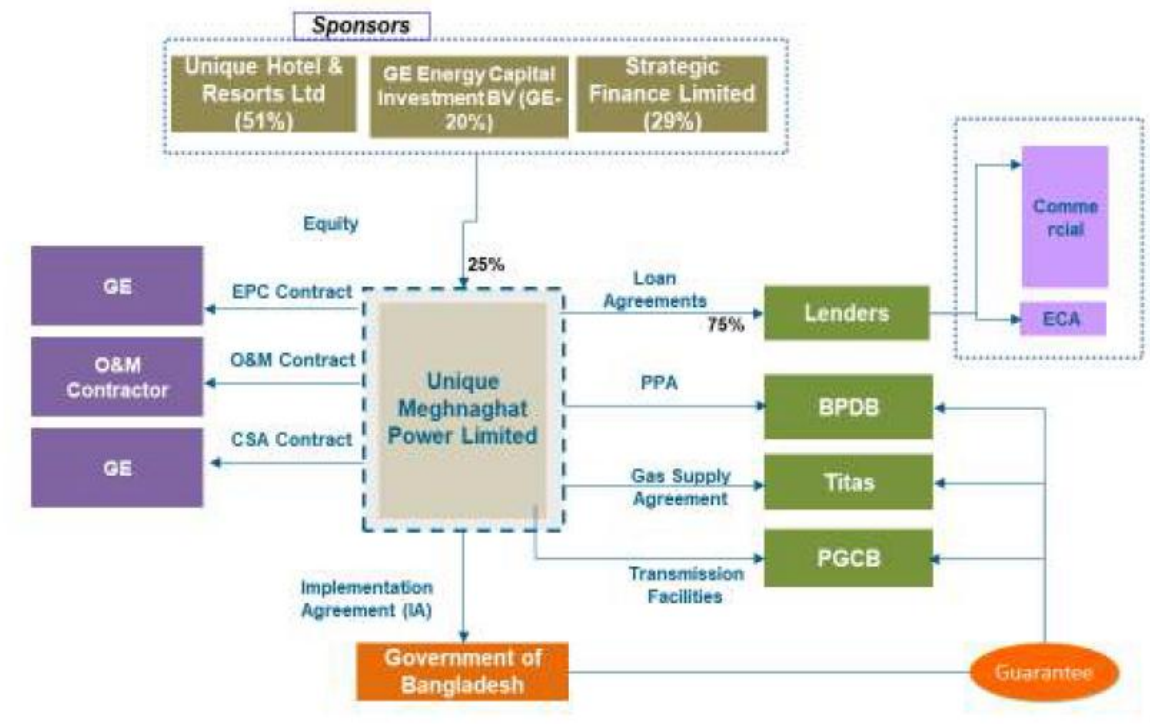
UMPL 584MW Gas Fired Power Project	
Location	Dudhghata Mouza of Pirojpur union, Sonargaon upazila, Narayanganj district, Bangladesh
Project owner	Unique Meghnaghat Power limited (UMPL)
EPC Contractor	General Electric Global Services (GmbH)
Area of Land proposed	21.07 acres
Government Land/Private Land	Private Land from 343 landowners
Plant Load Factor	84.6% with minimum availability of 90%
Electricity Generation	584 MW, however EPC Contractor has guaranteed 588.31 MW
Unit Configuration	Power block of 600 MW with HRSG, one steam turbine and two generators
Fuel Type	Natural Gas (NG)
Gas Supply	Titas Gas Transmission and Distribution Company Limited (TGTDCL) through 20-inch diameter subsurface pipeline across the Meghna river
Electricity Off-take	Grid substation of PGCB through 400 kV Single Circuit (S/C) line.
Grid Connection	Nearest Grid Substation of PGCB which is to be located around 800 meter from the project site across the Meghna river near Summit Meghnaghat power project

2.1.1 Project Owner/Company

Unique Meghnaghat Power Limited (UMPL) would be the proponent of the proposed power plant. UMPL has been duly incorporated under the Laws of People Republic of Bangladesh in the year 2018 as a Limited company to develop, design, finance, build, own, operate and maintain the proposed power plant. UMPL is a joint venture company of Unique Hotel and Resorts Limited with 51% ownership, which is a Sister Concern of Unique Group and GE Capital Global Energy Investment BV with 20% ownership and Strategic Finance Limited with 29% ownership. Project is expected to be

funded by AIIB, DEG and OPEC Fund for International Development (OPEC Fund) executed through EPC contractor. Project contractual structure is presented in **Figure 2.1.**

Figure 2-1: Project Contractual Structure



Source: UMPL

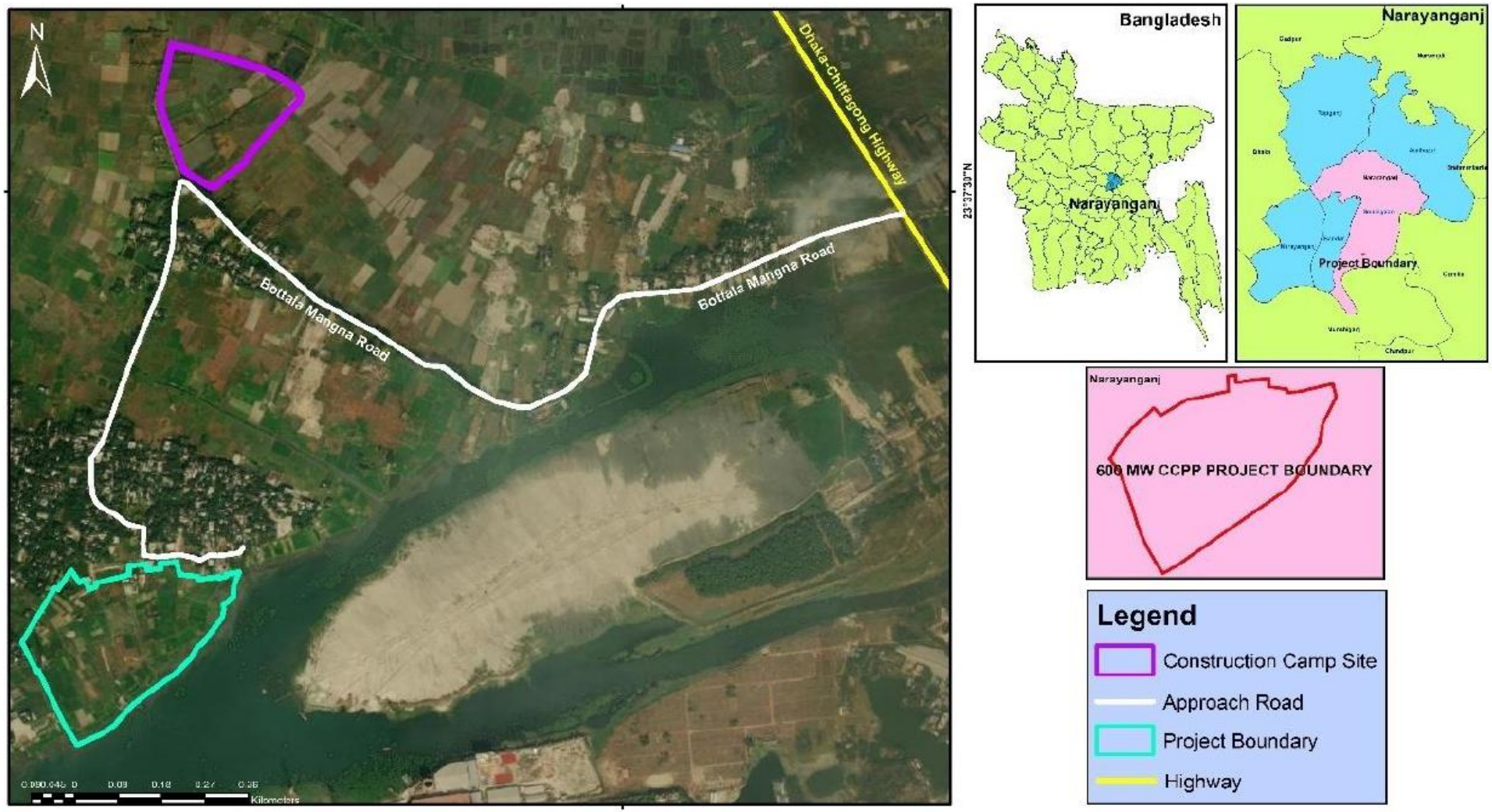
2.1.2 Project Location

The proposed project site for 584 MW gas fired Combined Cycle Power Plant (CCPP) by UMPL is located in Dudhghata Mouza of Pirojpur union, Sonargaon upazila, Narayanganj district, Bangladesh. The site is about 1.46 km from Dhaka-Chattogram highway to the south-west, about 3.49 km south-west of the Sonargaon upazila headquarter and about 3.28 km away from Mograpara bus stand by road. The project site is situated on the right bank of the branch channel of Meghna River. The location of the proposed project site lies, geographically between 23°37'4.57"N; 90°35'19.23"E and 23°36'53.20"N; 90°35'34.55"E. The project location on satellite imagery is presented in **Figure 2.2.**

2.1.3 Plant Layout

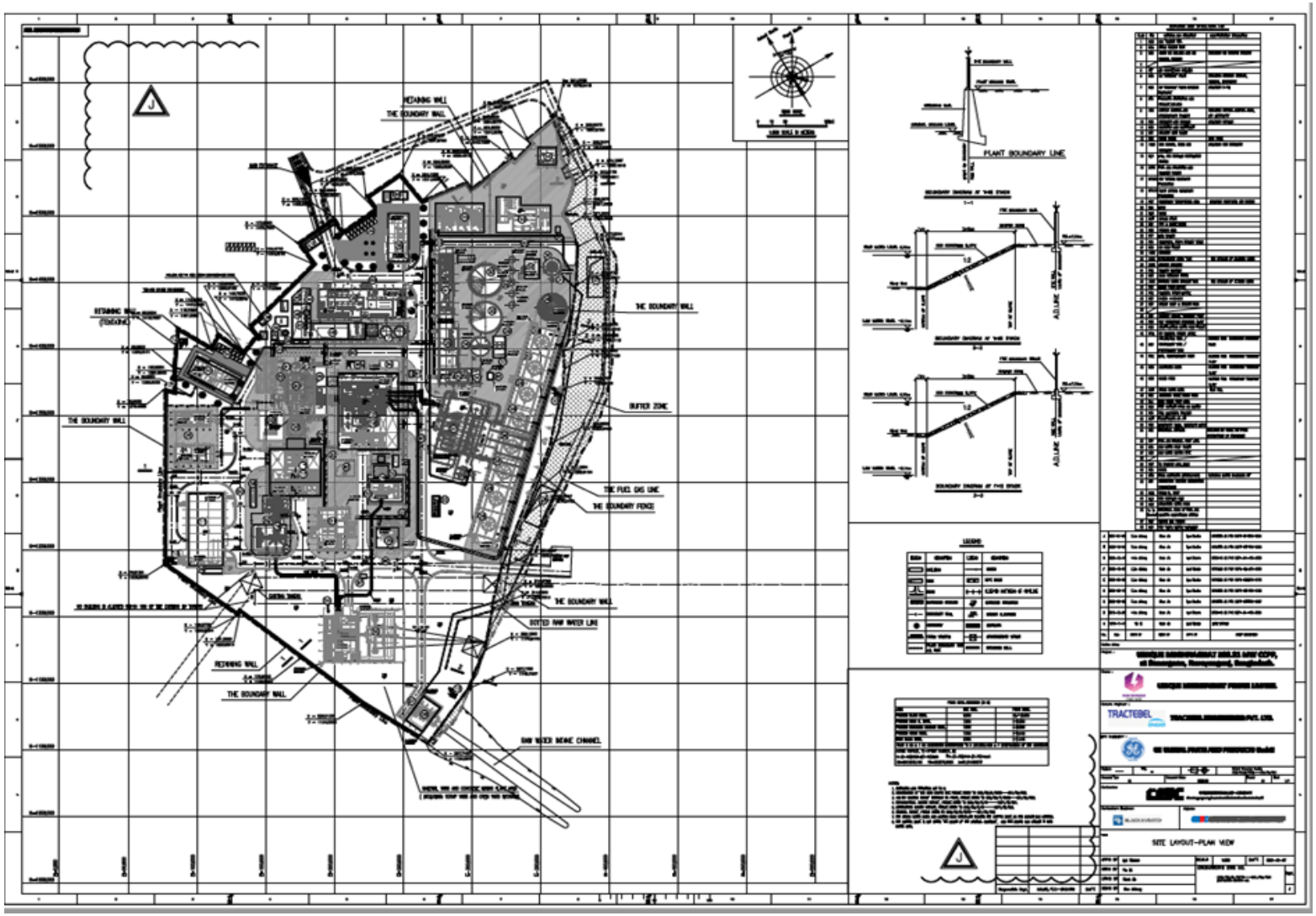
The proposed power plant would be consisting of main block area and auxiliary area. The main block would be comprising of gas turbine hall, HRSG, steam turbine hall, main transformer, and HV unit auxiliary transformer. The auxiliary area will include boiler make-up water treatment plant, industrial waste water treatment plant, chemical dosing room, mechanical draft counter flow cooling tower, C.W. pump house, mechanical accelerated clarifier, raw water intake pump house, comprehensive water pump house, service & firefighting water basin, raw water basin and potable water basin, filter and sanitary waste water treatment plant. A site layout map is presented in **Figure 2.3.**

Figure 2-2: Project Location – Satellite Imagery Snapshot



Source: UMPL Project Final ESIA dated 18 Sep 2022

Figure 2-3: Project Site Layout



Source: UMPL

2.1.4 Key Project Components

ERM has the following understanding of the Project, key project facilities and specific requirements for the project operations:

2.1.4.1 Major System in the Power Plant

Single flow open circuit type gas turbine controlled by Local Control Cubicle and the Central Control Room;

Heat Recovery Steam Generator (HRSG) at downstream of gas turbine and auxiliaries;

Steam Turbine Generator plant and auxiliaries;

Feed water system for delivering feed water from low pressure drum to the HRSG economizer inlet header and supplies spray water of HP steam system, HP bypass system and reheat steam system;

Condensate system to deliver condensate accumulated into condenser hot well to the LP steam drum of HRSG via the condensate extraction pumps;

Cooling water system to supply make-up water for demineralised cooling water for gas turbine oil coolers, gas turbine generator hydrogen coolers, steam turbine oil coolers, steam turbine generator air coolers, pumps, steam and water samplers, air compressors, and any other equipment requiring cooling water and to reject the waste heat to the auxiliary cooling water via the closed cooling water coolers;

Plant Water System to draw water from the Meghna River by 2 X 100% raw water make-up pumps located in the intake water pump house. A closed cooling water system employing Induced draft-cooling tower (IDCT) has been envisaged for each proposed unit to minimize the plant water intake requirement;

Wastewater Treatment System wherein the wastewater from De-mineralised Water plant and other service area will be treated in the neutralising pit and effluent treatment plant to the required degree. The total effluent available after treatment from effluent Treatment Plant will be utilised partially for plantation and the balance effluent shall be routed to the outfall.

A 400kV Gas Insulated Switchyard (GIS) for evacuation of power, import of power for start-up / shut down / station auxiliary power through Unit Transformers.

2.1.5 Key Project Facilities

2.1.5.1 Natural Gas Supply

As indicated in the ESIA Report daily requirement of Natural Gas would be approximately 96192 million standard cubic foot (mscf). The gas will be supplied by Titas Gas Transmission and Distribution Company Limited (TGTDCL), which is at distance of 500-700 m across the Meghna Branch Channel. Gas Supply Agreement (GSA) has already been signed between TGTDCL and UMPL. Reportedly and as observed the site has already laid 20inch dia X ~600m pipeline across the Meghna River using horizontal directional drilling (HDD). Leak test of the pipeline has also been completed and the same communicated to the Department of Explosives, Bangladesh.

Figure 2-4: Gas Pipeline Final Route Map

Source: UMPL Project Final ESIA Report dated 18 September 2022

2.1.5.2 Temporary Jetty

Two (02) temporary river jetty has been constructed with the following details:

- One (01) temporary jetty (40m X 20m) has been constructed for unloading of construction material, heavy equipment and machinery brought to the site using Meghna waterways. UMPL has obtained permission from Bangladesh Inland Water Transport Authority for use of foreshore waterfront of Meghna River for construction of temporary Jetty, water pipeline & pump house and RCC guide wall.
- In addition to this, Site is constructing another temporary jetty of approximate dimension of 55m X 12m-16m having 600 MT material handling capacity, for unloading of engines. However, permission for BIWTA for the second jetty is awaiting as on the date of assessment.

2.1.5.3 Power Evacuation Line

Power generated from the proposed power plant will be evacuated to the nearest grid substation of PGCB through 400 kV Single Circuit (S/C) overhead transmission line. 400kV grid sub-station belonging to PGCB will be located around 800 m from the project site. Evacuation of power from the proposed power plant will be done at 400 kV level. The 400-kV single circuit transmission lines between power plant 400 kV substation and PGCB grid sub-station, for this purpose, will be under the scope of this project. Further detailed interconnection plan with PGCB nearest grid substation along with Load flow, short circuit and transient stability with due consideration of capacity addition of proposed 584 MW project will have to be carried out by UMPL in coordination with PGCB.

2.1.5.4 Construction Camp/Laydown Area

A total of 12 acres land in Dudhghata mouza has been taken on temporary lease for three years from Hamdard Laboratories (WAQF), a Bangladeshi Company for setting up construction camp/laydown are. The land was filled up by UMPL by using river sand up to the road level for constructing temporary construction campsite. The construction camp/laydown area presently comprise of the following:

- Office area and living area for UMPL, GE and NEPC.
- Provision of warehouses comprising of shed warehouse as well as Class A & Class B warehouses.
- Provision of material storage in open storage yards.

2.1.5.5 Sewage Treatment Plant (STP) & Discharge Pipeline

Sewage generated from the site is currently being treated through a modular STP. The STP would consist of Biological Oxidation tank, secondary sedimentation tank, sludge tank and disinfection tank. The treated effluent is being discharged to a public sewage channel through a 105 m long discharge pipeline.

2.1.6 Project Associated Facilities

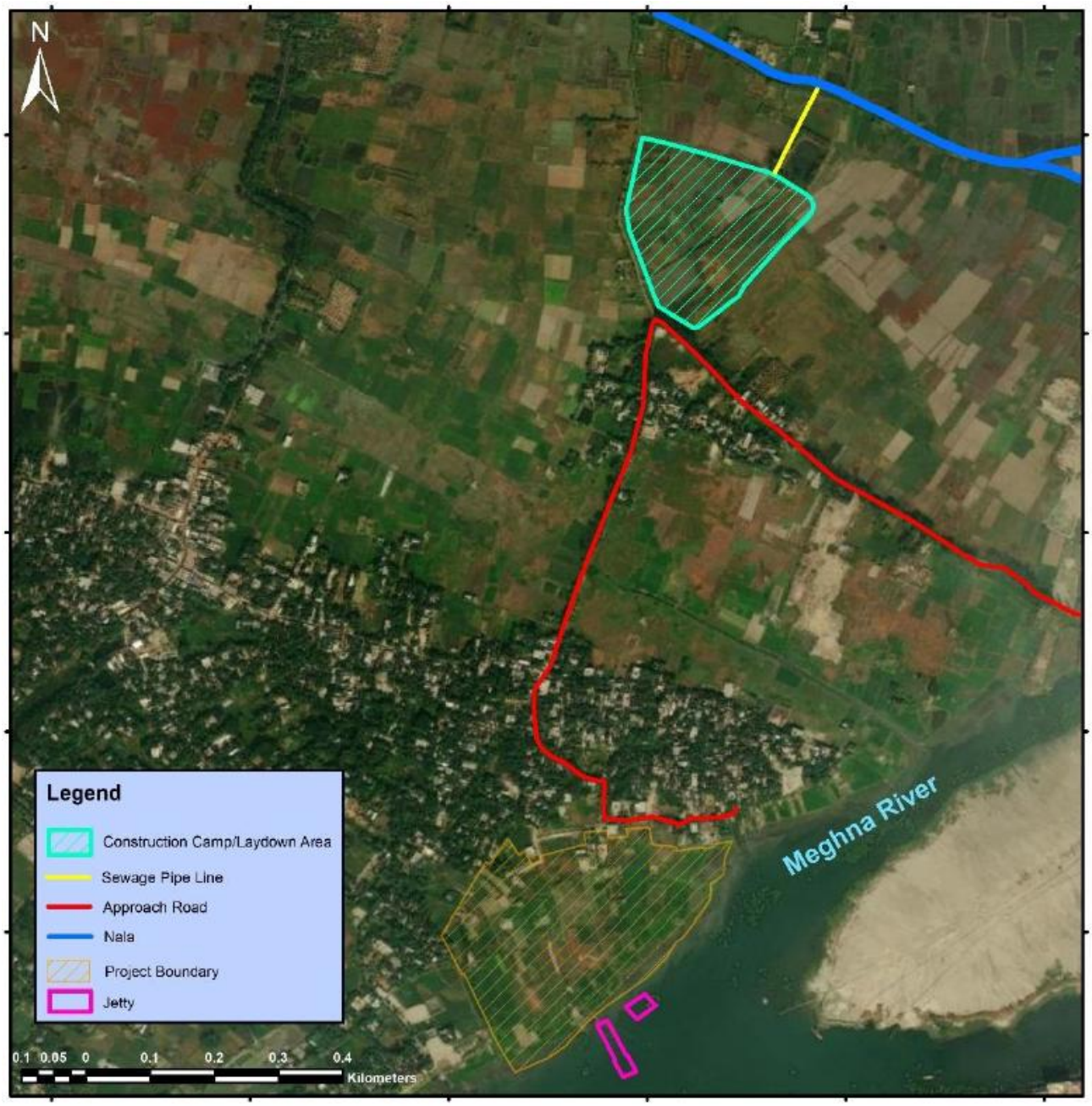
2.1.6.1 Access Road:

The Project location will be accessed through an earthen branch road coming out from Dhaka-Chittagong Highway. The distance between Highway and project site is approximately 1.5 km. There is no alternate access road available for connecting the site.

ERM consider access road widening work as part of associated facility of the project in view of the fact that UMPL requires an access road to connect site location for viability of the project, especially during construction phase for material transportation.

ESIA report mention that 0.1664 acres (0.0673 Hectare) from 27 landowners were procured along the existing village road between Battala Bazar to Plant Gate for widening and strengthening of existing village road that will also be used as access road for the project. As observed during the site visit, the access road is currently being widened by Local Government Engineering Department (LGED) under the Rural and Culvert Maintenance Program.

Figure 2-5: Layout of Project Facilities



Source: UMPL Project Final ESIA Report dated 18 September 2022

2.1.7 Current Project Status

The Engineering, Procurement and Construction (EPC) Contract is awarded to M/S General Electric Global Services (GmbH) whereas M/S Tractebel Engineering Pvt. Ltd. has been identified as the owner's engineer. The EPC Contractor has made consortium with NEPC and have commenced site construction activities. Review of the Monthly Progress Report (MPR) shared by UMPL for Aug 2023 indicated the construction progress status as stated below:

- Cable pulling completed 862 kms; cable termination completed 15995 sets; Piping welding DI completed 143726 DI
- Fuel Gas Compressors Commissioned; CCW & ACW flushing, and restoration completed
- GT First Fire done (15 August) and GT Synchronization to Grid done on 21 August.

- HRSG /WSC Hydrotest completed.
- Filtered water tank-2 external painting completed.
- 203 Nos. Sub-system walkdown completed and NOCC issued for 161 Nos.

2.1.8 Status of E&S Indicators

The status of E&S indicators as obtained from the project MPR for August 2023 is presented in Table below:

Table 2-2: Project E&S Dashboard – August 2023

SL #	Indicators	August 2023	Cumulative
A	**Health & Safety**		
1.	Fatality	0	0
2.	Significant/Major Injury	0	0
3	Lost Time Incident (LTIs)	0	0
4	Near Miss	0	12
5	Medical Treatment Case	0	1
6	First Aid Case	1	27
7	Potential Severe Event	0	0
8	Fire/Explosion	0	1
9	Stop Work – EHS	09	255
10	Warning letter issued	04	223
11	Safety Rewards	120	1409
12	Training Hours	875	43790
13	EHS Inspections	08	320
14	Emergency Drill	0	16
15	Toolbox Talks	31	1289
16	Monthly Manhours	405312	9364864
B	**Environment**		
1.	Spillage	0	0
2.	Contaminated soil (m3)	0	0
3	Contaminated concrete (m3)	0	0
4	Scrap Metals (tonne)	6	120.25
5	Wooden Palette (tonne)	5	147.70
6	Plastic Packaging (m3)	4	37.49
7	Domestic food waste (bins)	106	1874
8	Used oil (litres)	120	2160
9.	Contaminated Rags (kgs)	8	44.5
10	Medical waste (kg)	0.5	9.5
11	Surface water consumption (m3)	7000	8000
12	Laydown water consumption (m3)	100	3600
13	Treated sewage discharge (m3)	15	389

C	Social		
1.	Grievance Recorded	0	12
2.	Stakeholder Engagement	1	8

Source: GE-NEPC MPR May 2023

2.1.9 Project Manpower Requirement

The present workforce strength at ongoing construction site as observed during ERM's visit is presented in Table 2.2 & 2.3 below.

Table 2-3: Current Manpower involved at site

SL #	Employer	Manpower size
1.	UMPL Employees	56(30 corporate management staff + 12 site management staff + 26 Support)
2.	GE employees	72 (52 Officers + 20 Support)
3	NEPC Management staff employee	86 (35 Chinese + 51 Bangladeshi)
4	NEPC workers (Chinese)	191
5	NEPC Subcontractor Workforce (total of 4 subcontractors engaged)	1003
	Total	**1408**

Manpower break-up of the sub-contractors engaged by NEPC is presented below.

Table 2-4: Manpower details of sub-contractors engaged by NEPC

S. No	Sub-contractors	Scope of work	Manpower size
1	Man is Power corporation	Main Plant & Lay down	876
2	Meghna Enterprise	Main Plant & Lay down	101
3	Sazzad	Main Plant & Lay down	18
4	Brownfield Engineering	Main Plant & Lay down	8
5	NASBO	Paint work at	3
6	Elite Force (Security)	Main plant and lay down	47
	Total		1050

Source: UMPL

2.1.10 Project Schedule

The proposed schedule for the project has been presented in the Table below.

Table 2-5: Proposed Project Schedule

SL#	Project Component	Planned	Actual/Forecast
1.	Signing of EPC Contract between GE and UMPL	30 August 2019	30 August 2019 (A)
2.	Full Notice to Proceed (FNTP)	23 October 2019	23 October 2019 (A)
3.	Clear and Unhindered access to site	23 October 2019	1 December 2019 (A)
4.	GT on Foundation	7 April 2021	22 January 2022 (A)
5.	HRSG OCC Modules (Installation Started)	25 February 2021	4 September 2021 (A)
6.	GT Generator on Foundation	8 April 2021	22 January 2022 (A)
7.	ST Generator on Foundation	19 April 2021	12 March 2022 (A)
8.	Commencement of Cold Commissioning	17 August 2021	20 March 2023 (A)
9.	Completion of Back Energization	23 August 2021	25 June 2023 (A)
10.	Fuel Gas Available	23 October 2021	5 June 2023 (A)
11.	GT First Firing in Simple Cycle	4 December 2021	15 August 2023 (A)
12.	Completion of 1st Synchronization	12 December 2021	21 August 2023 (A)
13.	Completion of Steam Blowing	24 December 2021	19 October 2023
14.	First Steam to Turbine	13 January 2022	23 October 2023
15.	Completion of Trial Operation	16 June 2022	5 December 2023
16	Completion of Performance Test	22 June 2022	After PAC
17	PAC/COD*	22 June 2022	5 Dec 2023** (Target: 15 Nov 2023 with deferment of few other tests after PAC, which is under discussion with UMPL)

Source: UMPL

3. COMPLIANCE STATUS – ESAP, ESMMP, LRP, SEP & GRM IMPLEMENTATION

The compliance status based on the site visit and review of documents as on 3-5 October 2023 has been presented in **Table 3.1** and relevant sub-sections. In order to define the status of various action items, colour coding has been used for easy referencing, which is as follows:

Action Item Closed/ Complied	**Satisfactory Progress**
Partially Complied	**Not Complied/ Delay**
To be assessed during Operations/Decommissioning	**Document Pending**

3.1 ESAP, ESMMP & Regulatory Compliance Status

The observations made by the ERM audit team with respect to the project EHS aspects as outlined in the ESAP, EMMP and applicable local and national regulations have been presented in **Table 3.1** below.

Table 3-1: ESAP & EMMP - Compliance Status

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
1.	**EHSS Regulatory Permitting/Compliance**							
1.1	Develop and implement a plan for 100% wastewater recycling for project operations. Update the green belt development plan to ensure 33% coverage of the project area.	S. No 1.1, Table 3.1	UMPL	Copy of wastewater recycling plan Copy of greenbelt development plan	6 months prior to COD	Review of the site clearance conditions requires UMPL to develop and implement a plan to facilitate 100% wastewater recycling during operations. However, discussion with EPC consortium reveals that as per the design both Effluent Treatment Plant (ETP) and Sewage Treatment Plant (STP) to be installed and operated will be having two separate outfalls with no provision for provision for wastewater recycling. Presently, the site is yet to develop a wastewater recycling plan to support to demonstrate compliance with the aforesaid regulatory requirement Review of the updated green belt development plan indicates that the current area proposed for green belt has now been increased from 6.22 acres to 6.95 acres which represents 33% of the total project area. The green belt development plan will be implemented within the plant (near transmission tower, along internal roads etc) constituting 6.41 acres of the total project area. Remaining green belt (0.54 acres) to be developed outside plant i.e., along the project access road and project peripheral boundary.		Develop and implement a plan for 100% wastewater recycling for project operations or explore provision of seeking necessary exemption/waiver on this condition while obtaining Environmental Cleara
1.2	Update the BIWTA clearance to cover both stormwater outfall lines as depicted in the project operations drainage layout.	S. No 1.2, Table 3.1	UMPL	Copy application seeking amendment Copy of BIWTA approval	Immediately, prior to first disbursement Within six (6) to eight (8) months from application date	BIWTA clearance obtained by UMPL for the stormwater outfall lines, water intake structure foreshore usage, construction of guide wall, gas pipeline and transmission towers has expired on 31 Aug 2023. Renewal application to this effect has been filed on 25 July 2023 and is expected to be obtained by end of Oct 2023.		*Action closed as per the Oct-Dec 2022 E&S monitoring report and validated for the current monitoring period.*
1.3	Coordinate with WARPO to obtain approval for ground water sourcing from all the onsite bore wells on a fast-track basis.	S. No 1.3, Table 3.1	UMPL	Copy of communication with WARPO	Immediately, prior to first disbursement	Documentation review indicates that UMPL has obtained permission from WARPO vide letter dated 11 Aug 2022 for abstraction of 450 KLD of ground water to meet construction requirements and 14000 KLD of surface water from Meghna River branch channel. The permit is found to be valid for a period of 2 years i.e. Aug 2024.		*Action closed as per the Oct-Dec 2022 E&S monitoring report*
						Documentation review indicates that UMPL has made communication with WARPO vide letter dated 7 Sep 2023 seeking enhancement in the surface water withdrawal rate to 16300 KLD as compared to 14000 KLD earlier. In consistent with requirements specified in the last E&S monitoring report, UMPL has now prepared and submitted water resource availability and ground water abstraction impact assessment study report along with surface and ground water consumption records for the period Jan-Jun 2023 which is found to vary from 25-30 KLD and 42-44 KLD respectively. In this regard, UMPL has also sought exemption from WARPO in the aforesaid communication regarding the following condition i.e., installation of monitoring well and implementation of rainwater harvesting system, however no confirmation has been received from WARPO till date. Although UMPL has sought exemption/waiver towards implementation of rainwater harvesting the water resource availability study undertaken recommends such system implemented along with sustainable groundwater management practices like artificial recharging etc.		Implement rainwater harvesting system and sustainable ground water management practices like artificial recharging in accordance with the recommendation of the water resource availability study.

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
1.4	Follow up with WARPO seeking status on the clearance/permission on the riverbank protection for the project..	S. No 1.4, Table 3.1	UMPL	Copy of communication with WARPO	Immediately, prior to first disbursement	Documentation review reveals indicates that UMPL has obtained permission from WARPO vide letter dated 27 Sep 2022 for setting up riverbank protection and temporary Jetty at the branch of Meghna River for the proposed project. The permit is found to be valid for a period of 2 years i.e. Sep 2024.		*Action closed as per the Jan-Mar 2023 E&S monitoring report and validated for the current monitoring period.*
						Refer response to S. No. 1.3		Demonstrate compliance to the conditions specified in the WARPO permission for construction of riverbank protection and temporary jetty.
1.5	Install indication mark for the pipeline crossing the Meghna River at both sides as per applicable regulatory requirements.	S. No 1.5, Table 3.1	UMPL	Photographic evidence of installed indication mark	Immediately, prior to first disbursement	In consistent with the Natural Gas Safety Rules, 1991, UMPL has applied for and obtained necessary approval for laying of the natural gas pipeline (20" X 600m) vide Department of Explosives, Bangladesh vide letter dated 30 May 2021. In this regard, UMPL has notified the Chief Inspector of Explosives of the pipeline leak testing with the same being undertaken on 23 April 2022 and relevant test documentation being maintained as per the aforesaid Rules. As noted during the site walkthrough, UMPL is have noted indication mark of the pipeline passing across the Meghna River at the crossing point of both sides.		*Action closed as per the Oct-Dec 2022 E&S monitoring report and validated for the current monitoring period.*
1.6	Follow with up Deputy Commissioner office to seek update on the approval status of LPG storage. Post approval, apply for LPG cylinder storage license to the Department of Explosives, Bangladesh	S. No 1.6, Table 3.1	EPC	Copy of evidence of communication with Deputy Commissioner Copy of communication with Department of Explosives, Bangladesh	Immediately, prior to first disbursement	Discussion with the UMPL representatives indicates that the site is yet to obtain layout plan approval for LPG cylinder storage (2000 kg at the project site and 2000 kg at the construction laydown area) from Narayanganj District Collector. Reportedly continued follow up communication has been initiated by UMPL vide letters dated XXX to facilitate the approval, but without any response from the regulatory authority. This is also validated through review of relevant documentation. In this regard it is to be that noted that the project is expected to declare COD in Nov 2023, hence only limited LPG cylinder storage will be required, which is likely to be below the threshold limit that will require approval to be obtained.		Continue to follow up with up Deputy Commissioner office to seek site layout plan approval for LPG storage. With COD expected to be declared in Nov, ensure the total number of LPG cylinders being stored is below the threshold limit requiring approval.
1.7	Seek approval of layout plan of hydrogen plant under construction from Department of Explosives on a fast-track basis.	S. No 1.7, Table 3.1	UMPL	Copy of approved lay out plan	3 months prior to COD	The project involves the installation and operation of hydrogen plant, with the hydrogen to be used for filling up of high-pressure hydrogen cylinders, which in turn is required for generator initial fill up and regular make-up for generator rotor cooling. As mentioned in last quarterly monitoring report, documentation review indicated that UMPL has now obtained license from Department of Explosives for storage of 240 hydrogen cylinders vide letter dated 26 July 2023. The license is found to be valid till 31 Dec 2023. Plan and license conditions to be verified.		None
1.8	Obtain license from the District Deputy Commissioner for the storage and usage of acid and alkalis as part of the project DWP regeneration system	S. No 1.8, Table 3.1	UMPL	Copy of valid acid storage license	3 months prior to COD	Review of the documentation indicate that UMPL has obtained license for storage of the acids and alkalis in bulk during operations. This includes: ■ Sulphuric acid: 140 KL ■ Hydrochloric acid: 140 KL		None

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
						■ Caustic soda: 80 KL The license is found to be valid till 30 June 2024:		
1.9	Obtain BERC license as an independent power producer (IPP) prior to project operations.	S. No 1.9, Table 3.1	UMPL	Copy of valid IPP license	3 months prior to COD	With COD expected in Nov 2023, review of the permitting documentation indicates that UMPL has obtained temporary license from BERC vide letter dated 18 Sep 2023, which is found to be valid for a year subjected to submission of license fees. Documentation shared indicated the license fees has been submitted to BERC vide letter 24 Sep 2023		None
1.10	Coordinate with TGTDCL to share the BERC license for supply of natural gas and operation of the gas pipeline for the proposed power project prior to operations	S. No 1.10, Table 3.1	UMPL/TGTDCL	Copy of valid license for natural gas supply and pipeline operations	3 months prior to COD	With UMPL planning to declare COD by Nov 2023 and GT synchronisation already done, UMPL is required to coordinate with TGTDCL for sharing the BERC license for supply of natural gas prior to operations		Coordinate with TGTDCL to share BERC license prior to commencement of operations
1.11	Obtain boiler registration from the Chief Boiler Inspector prior to project operations.	S. No 1.11, Table 3.1	UMPL	Copy of valid boiler registration	3 months prior to COD	UMPL has obtained registration for three water tube boilers from Chief Boiler Inspector vide letter dated 10 Sep 2023. As stated in the aforesaid communication, boiler operation certification shall be issued post installation of safety valve and display of registration number which reportedly shall be undertaken prior to COD which is expected by end of Nov 2023.		Seek boiler certification prior to commencement of boiler operations
1.12	Follow up with manpower supply agency needed to ensure that they obtain the registration certificate soon.	S. No 1.12, Table 3.1	UMPL	Copy of communication with Department of Labour, Bangladesh	Immediately, prior to first disbursement	For the construction phase, the EPC consortium has deployed the following manpower supplier contractors – Manis Power and Meghna Enterprises. Document review indicates that aforesaid contractors has obtained license/registration from the Department of Inspection of Factories & Establishment (DIFE) which is found to be valid till 4 Dec 2023 and 17 July 2024.		
2.	**PS1: Assessment and Management of Environmental and Social Risks and Impacts**							
2.1	Develop and obtain ISO certification for project operations ESMS.	S. No 2.2, Table 3.1	UMPL	Copy of ISO certification for project operations ESMS	1 year from COD			
2.2	Incorporate EHS&S Policies as part of the agreement / employment contract with the third-party agencies and workers.	S. No 2.3, Table 3.1	UMPL & EPC	Copy of sample agreement/ contract	Immediately, prior to first disbursement.	The site has developed the EHS & Social Policy in local language (in Bengali) signed by the GE Project Director and the same was found to be displayed onsite at conspicuous places like site main entrance, worker camp etc. As noted during the last monitoring, UMPL has integrated the EHSS policies in the sample employee appointment letter being issued. Furthermore, worker agreement (*Manis Power Corporation & Meghna Enterprise*) has also been updated to include the aforesaid policies.		*Action closed as per the Jan-Mar 2023 E&S monitoring report and validated for the current monitoring period.*
2.3	Review and update the AI matrix to cover all potential environmental aspects/impacts of the sewage treatment and batching plant operations. The AI matrix mitigation measures also need to be aligned to the project ESMMP and IFC General/Sectoral EHS Guidelines.	S. No 2.3, Table 3.1	EPC	Update project Environment Aspect-Impact (AI) Register	Immediately, prior to first disbursement.	EPC consortium has prepared an Environment Aspect-Impact (AI) Matrix in line with the EHS Risk Assessment template shared in the EHS Plan. Per the earlier E&S monitoring recommendations, the EPC consortium has updated the AI matrix cover the potential environmental impacts and mitigation measures for sewage treatment and batching plant operations for construction phase as per the ESAP requirements. Furthermore, as reported, the AI matrix will be updated by UMPL prior to operations to include potential environmental impacts associated with flue gas emissions, wastewater discharges, hazardous waste management, fuel storage and handling, water consumption, operations of high noise machineries/equipment.		None

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
2.4	Develop and maintain an updated EHSS regulatory register encompassing applicable regulatory requirements and permit conditions for both construction and operations. Track and record compliance status against regulatory register on a periodic basis	S. No 2.5, Table 3.1	UMPL, EPC & O&M	Copy of updated regulatory register for construction along with quarterly internal regulatory compliance audits. .	Immediately, prior to first disbursement during construction.	In line with the ESAP recommendation, UMPL along with EPC Consortium has developed a E&S permit and regulatory register to track compliance with the E&S permit conditions and applicable regulations viz. *Environmental Conservation Rules, 2023, E-Waste Rules 2021, Air Pollution Control Rules, 2022, BWTA Rules, BNBC 2020, Solid Waste Rules 2021, Water Rules 2018, Noise Control Rules 2006 etc.* In consistent with the last quarterly monitoring report, the legal register has now been updated to furnish the requirements related to demonstrating compliance with environmental standards prescribed for ground water, treated wastewater, sewage and ambient noise as per the provision of Bangladesh Environmental Conservation Rules (BECR), 2023 and Noise Pollution Control Rules, 2006. Documentation review indicates that GE-NEPCS has also undertaken a quarterly regulatory compliance audit in June 2023.		
				Copy of updated regulatory register for operations along with six (6) monthly internal regulatory compliance audits	Three (3) months prior to commencement of COD and ongoing	UMPL has developed a consolidated legal register for both construction and operations with the operations phase register to be updated to cover the following E&S regulations viz. *Boiler Act, 1923; Petroleum Rules, 2016; Acid Control Act, 2002; Natural Gas Rules, 1991 etc.*		Update the legal register for operations encompassing the following regulations viz. *Boiler Act, 1923; Petroleum Rules, 2016; Acid Control Act, 2002; Natural Gas Rules, 1991 etc.*
2.5	Develop / update and implement the project specific E&S management plans for construction, operations and decommissioning (as applicable) viz. Hydrotest Water Management Plan; Dredged Material Management Plan; Drill Cutting & Drilling Mud Management Plan; Water Management Procedure and Decommissioning Management Plan. Implement Gender Action Plan commitments which includes developing a policy on sexual harassment; constitution of a dedicated committee dealing with sexual harassment issues; organising awareness session on GBVH with communities and workforce. Implement the Labour Management Plan commitment which includes preparing a Code of Conduct (CoC) for contractor /suppliers which is to form a part of the employment contract and displayed at conspicuous places. Update the Labour Management Plan to encompass specific role and responsibilities of key personnel identified for implementation of the Plan including a	S. No 2.6, Table 3.1	UMPL	Copy of site-specific management plan along evidence of implementation Evidence of closure of gaps identified and implementation of the Plans	Immediately, prior to first disbursement	As specified in the ESAP and ESMP, the site has presently developed/updated the following management plans as part of the ESIA viz. Hydrotest Water Management Plan; Dredged Material Management Plan; Drill Cutting & Drilling Mud Management Plan; Storm Water Management Plan and Decommissioning Management Plan. As recommended in the last audit, the EPC consortium has development a method statement and a timeline for decommissioning activities to be undertaken at both camp and office including management of waste generated from some activities. The method statement also outlines the potential E&S risks associated with decommissioning activities like height work, material lifting, dust and noise generation etc. along with the mitigation measures/controls to be adopted. As noted during the site walkthrough and with the project now in commissioning UMPL has made provision of proper drainage arrangement (through concrete drains) at both worker camp and main project site equipped with screens and interceptors. Cleaning is also found to be undertaken periodically to prevent water logging although at the certain stretches at the project site stagnant water is found in the drains reportedly due to some construction activities/work in and around these areas. As observed, UMPL has also constructed a dedicated storm water collection basin for collection of surface run-off during operations with the overflow to be getting discharged into Meghna river through dedicated outfall channel. UMPL have an approved 'Sexual Harassment Policy' in place which defines the process of reporting and handling the sexual harassment related cases associated with project. Awareness session on GBVH issues with local communities are being conducted by Sajida Foundation (LRP implementation Agency) under the supervision of UMPL CDM (Community Development Manager). CDM is also responsible for conducting GBVH awareness session with construction workers. Sexual harassment committee is formed by Sajida foundation to		Update the Labour Management Plan and prepare and communicate a Worker Code of Conduct as advised in previous audit report. Sexual Harassment Committee as formed by Sajida Foundation, should have registration from UMPL.

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
	checklist to assess compliance with the Plan requirements on a periodic basis.					deal with any GBV issues if reported by community. This committee has no representation from UMPL. UMPL was advised to update Labour Management Plan document and include COC (code of conduct) that should be applicable for all site workers including sub-contractor workers. The updated LMP document was not available for review.		
2.6	Ensure mobilisation of the remaining EHS Supervisors by NEPC as per the organogram. Document and integrate the roles and responsibilities of the UMPL EHS Manager and Assistant Manager – Community Development in the EHS Plan.	S. No 2.7, Table 3.1	UMPL & EPC	Copy of appointment letter NEPC EHS Supervisors. Documented roles and responsibilities UMPL EHS Manager and Assistant Manager – Community Development	Immediately, prior to first disbursement	In line with the ESAP recommendation, the EPC consortium has deployed a Project EHS Manager (GE), Assistant EHS Manager (GE) and 2 Project EHS Manager (NEPC) and the same has been presented in the EHS organogram along with the EHS Supervisors, Site Doctor & Paramedic, EHS Trainer, Lifting Specialist & Coordinator and Certified Scaffolder. In addition to the above, GE and NEPC has mobilised 7 and 15 EHS Supervisors respectively and the same was found to be depicted in the EHS Organisational chart. Review of the project EHS Plan indicates that the roles and responsibilities of the UMPL EHS Manager and Manager – Community Development has now been documented and integrated in the aforesaid Plan. Reportedly, organogram of E&S management for operations phase is currently not available and shall be firmed up prior to operations.		*Action closed as per the Oct-Dec 2022 E&S monitoring report and validated for the current monitoring period.*
2.7	Update the EPRP to include the site lay out plan, list of fire prevention and control equipment, updated onsite responders list along with details of medical and firefighting team.	S. No 2.8, Table 3.1	UMPL and EPC	Updated EPRP Copy of mock drill report	Immediately, prior to first disbursement Six monthly during construction and operation period	In line with last ESAP audit recommendation, the EPRP has now been updated to include the list of fire prevention and control equipment, along with contact details of First Intervention Team, Alarm & Evacuation Team, Emergency Coordinators, Search and Rescue Team, Security Team, Tactical Team and Oil Spill Response Team. Documentation review indicates that an annual mock drill schedule has been prepared for 2023, with mock drills being undertaken on a six-monthly basis and results documented. Records indicated that the site has undertaken mock drills at both main plant site and worker camp during 18 Sep 2023 and 27 Mar 2023, respectively. It is recommended that going ahead during operations mock drills are undertaken in presence of BFSCD personnel and records maintained in prescribed format (i.e. Form 22A) as per BLR, 2015 requirements.		
2.8	Arrange for a standby boat equipped with life jacket and trained personnel to respond to any project riverine traffic related emergencies.	S. No 2.9, Table 3.1	UMPL and EPC	Photographic evidence	Immediately, prior to first disbursement	In consistent with the ESAP recommendation, the site has now updated the Emergency Preparedness and Response Plan (EPRP) to encompass emergencies related to road and riverine traffic incidents/accidents along specific response, evacuation and rescue measures. Furthermore, as specified in the EPRP and ESAP, the site has now provided a standby boat equipped with life jacket and trained personnel at the material loading and unloading temporary jetty.		*Action closed as per the Oct-Dec 2022 E&S monitoring report and validated for the current monitoring period.*
2.9	Perform quarterly E&S audits of the manpower supply contractors to assess compliance with applicable regulatory	S. No 2.11, Table 3.1	UMPL & EPC	Copy of quarterly subcontractor audits	Immediately, prior to first disbursement	The Project EHS Plan developed by the EPC consortium reveals the requirement for performing quarterly audit/inspection of the subcontractor HSE performance with the audit findings and corrective actions/recommendations to be reported to the subcontractor site manager to facilitate necessary closure. Presently, EPC has engaged "*Meghna Enterprises*"		Develop a CAPA for the quarterly subcontractor audits

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
	requirement and project E&S plans/procedures. Extend the coverage of the weekly EIC to cover the worker accommodation along with the development of CAPA for all non-conformances identified.			Copy of weekly EIC		and "*Man-Hs-Power*" as manpower supply contractors for the construction phase of the project. As noted during the E&S monitoring (Oct-Dec 2022), the EPC consortium undertakes quarterly EHS performance audits of the aforesaid subcontractors with audit reports being maintained. However, no Corrective & Preventive Action Plan (CAPA) was noted to be developed for the non-compliance identified as part of such quarterly EHS audits. The same is still found to be pending for the current monitoring period (July-Sept 2023)		
2.10	Update and implement the project Environmental Monitoring Plan to cover all environmental attributes and parameters as specified in the regulations and IFC EHS guidelines. The plan to clearly outline the rationale for selection of the monitoring locations.	S. No 2.12, Table 3.1	UMPL & EPC	Copy of updated Environmental Monitoring Plan & Monitoring Reports.	Immediately, prior to first disbursement	Environmental Monitoring Plan (EMP) outlined in the ESIA report for the purpose of environmental monitoring activities is being implemented for construction phase. Reportedly the site has engaged a third-party agency – M/s Environmental Laboratory and Research Centre (ELRC) to carry out E&S monitoring for the project during construction phase. Review of the ELRC quarterly monitoring report for the period Apr-Jun 2023 indicated the site actioned on the earlier audit recommendation by updating the treated sewage and stormwater quality monitoring program with the results found to be in compliance with the standards specified in the BECR, 2023. For drinking water, the site has updated the monitoring suite to cover all parameters as specified in the earlier audit recommendation, with soil quality also being monitored for the worker camp location. ***Ambient Air Quality Monitoring*** Monitoring of ambient air is undertaken at 6 locations on a monthly basis (24 hr sampling) including worker camp and main site. The parameters monitored is limited to *PM10 (45.64-94.21 µg/m3), PM2.5 (19.52-58.64 µg/m3), SO2 (18.60-41.45 µg/m3); NOx (17.95-35.11 µg/m3); Ozone (47.14-54.71 µg/m3); and CO (0.10-0.30 mg/m3).* The result in all cases was found to be in compliance with Schedule 12 of the *Air Pollution Control Rules, 2022.* ***Ambient Noise Quality Monitoring*** Monitoring of ambient noise (both day and night) is undertaken at 7 locations (2 at main plant site, 1 at worker camp and 4 outside the plant near sensitive receptors viz, *Purbapara Mosque, Kurbanpur Ghat* etc). The monitoring is being undertaken on a weekly basis with results in all cases found to be in compliance with the day and night-time noise standards prescribed under Noise Rules, 2006. However, for the *Poschim Para Jame Mosque* and *Dudhghata Primary School* location both day and night-time equivalent noise levels was found to be higher than the prescribed standards for silent area/zone primarily attributed to anthropogenic activities. ***Surface Water Quality Monitoring*** Monitoring of surface water quality is being undertaken at 3 locations – upstream and downstream of Meghna River and near the project temporary jetty. The sampling is undertaken on a monthly basis and samples analyzed for the following parameters – pH, BOD, DO, COD, TSS, TDS, ammoniacal nitrogen, total chromium, lead, mercury, Total Dissolved Solids (TDS), Oil & Grease and Total Coliform with results found to be in compliance with the newly notified BECR, 2023. ***Ground Water Quality Monitoring*** Review of the quarterly GW monitoring report for the Apr-Jun 2023, reveals the ground water has monitored from 4 areas (3 at main plant site and 1 at worker camp). As recommended in the last audit report, the drinking water monitoring suite has been updated to cover all 55 parameters with results found to be in compliance with *Schedule 2 of the BECR, 2023*, with results found to be in compliance to the aforesaid standards except for nitrite. The		

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						concentration of nitrite (4 mg/l) drinking water at the project site is still found to be exceeding the standard of 1 mg/l. ***Storm Water Quality Monitoring*** The site has undertaken monitoring of stormwater from the outfall at both main project site and worker camp. The monitoring encompasses the following parameters – temperature, pH, TSS, oil and grease, total residual chlorine, total chromium, copper, iron, zinc, lead, cadmium, mercury and arsenic with the results found to be in compliance with the IFC EHS Guidelines for Thermal Power Plants. ***Treated Sewage Monitoring*** Review of the monthly treated STP effluent monitoring report reveals the effluent has been analysed for pH, temperature, BOD, COD, TSS, sulphate, phosphate, nitrate, oil and grease and total coliform with results found to be in compliance with the standards prescribed in Schedule 3 of BECR, 2023. The effluent is generated from the STP located at the worker camp and is being discharge to a natural drainage channel. ***Soil Quality Monitoring*** Review of the quarterly soil monitoring report reveals the soi samples has been collected from the project site, worker camp cum material laydown area and nearby agricultural land. The soil samples so collected has been analysed for pH, electrical conductivity, heavy metals, nitrogen, phosphorus, potassium, calcium and magnesium. Currently there are no soil standards in Bangladesh against which the results could be validated.		
2.11	Update the monthly E&S progress report to include social KPIs along with key environmental KPIs such as water consumption, wastewater generated and discharged, waste recycled/disposed	S. No 2.13, Table 3.1	UMPL & EPC	Copy of monthly EHS KPIs for construction	Immediately, prior to first disbursement	EPC generates a monthly progress report encompassing Environmental and H&S KPIs along with key E&S incidents/issues and corrective actions. The following key EHS KPIs are reported in the progress report viz. ***Fatalities, LTIs, Medical Treatment Case, First Aid Case, Fire, Near Misses, Stop Work, Safety Rewards, Training hours, Toolbox Talks, Safe Man hours, EHS Inspections, Spill Incidents, Waste generation etc.*** As recommended in the last audit report, environmental and social metrices in the form of water consumption, waste generation and stakeholder meetings etc has been captured in the EPC monthly progress report of August 2023.		
2.12	Update the SEP to include a point on specific channel of communication for external stakeholders established on regular basis to register concerns /feedback from general public or any other external stakeholder. A clear reporting format should be developed and used for SEP Implementation. Implement the Grievance Redress Mechanism for community and report regularly.	S. No 2.15, Table 3.1	UMPL	External Communication procedure document Stakeholder activities to be reported in the ES monitoring report Functional GRM; records and database of grievances (including all formal	Immediately, prior to first disbursement Ongoing activity Ongoing activity	Current SEP document has now included the specific channel of communication for external stakeholders, as recommended in previous Monitoring reports. GRM function appears to be working at satisfactory level. Stakeholder, specifically local community in close vicinity of project are well aware with team responsible for registering their issues and concerns. Records of issues received from stakeholder are recorded and also feature in periodic social monitoring report. Grievances received from workers at construction site are also recorded and reported in Social Monitoring report.		

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				and informal complaints and legal court cases) and resolutions: grievances to be reported in the ES monitoring report.				
2.13	Check effectiveness of GRM for workers through review of grievance records, action taken report, workers' consultations etc.	S. No 2.1 & 2.14, Table 3.1	UMPL	GRM implementation evidence	Ongoing activity	GRM function were observed to be working fine. Grievances recording system is in place and it is being documented.		
3.	**IFC PS 2: Labour and Working Conditions**							
3.1	Update UMPL HR policies to ensure alignment with IFC PS-2 requirements as well as BLA 2006 requirements.	S. No 2.1, Table 3.4	UMPL	Updated HR policy	Immediately, prior to first disbursement	During July-Sept 2023 visit, it was observed that UMPL management has updated their HR policy and got it approved by board of directors of the company.		
3.2	Facilitate approval of the service rules in coordination with the competent authority	S. No 3.2, Table 3.1	UMPL	Approved Service Rule	3 months prior to COD	UMPL has applied for service rule approval on 31st July 2023 after updating their HR policy. Company has not received further response from Labour department on approval. However as per labour rule 2015, deemed approval is granted for service rule upon completion of three months since the date of application.		
3.3	Generate a list of contract workers documenting their overtime work status till date (beginning of construction phase till end of Jan'23), gaps with respect to overtime payment including arrears to be paid.	S. No 3.4, Table 3.1	UMPL in coordination EPC Contractor	OT work status spreadsheet for contract workers	Immediately, prior to first disbursement	As discussed in previous audit report, UMPL has agreed to ensure payment of differential amount of overtime hours performed and minimum wage payment to eligible workers in alignment with the revised minimum wage notification that was published in August 2021. In this regard, a detailed assessment on differential amount for eligible workers is prepared. Releasing of the differential amount is not being initiated now, in view of potential business interruption related risk that were discussed in detail during site visit. UMPL has submitted a Memo in this regard along with details on valid reason for delay in releasing the differential amount, disbursement plan as well as details on differential amount calculation sheet. This Memo assures that EPC contractor (GE) will ensure disbursement of releasing the differential amount payment ot eligible workers immediately after construction phase which is likely to be completed by December 2023.		UMPL is responsible to ensure that payment of differential amount to eligible workers, is released by EPC contractor as per the disbursement plan submitted with the Memo.
	Facilitate and complete payment of arrears to the contract workers identified with OT pay gaps in the list above.	S. No 3.4, Table 3.1	EPC Contractor	Evidence of payment of OT related arrears to the eligible workers.	Prior to COD	Same a s above		Same a s above

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
	Ensure OT payment to both direct and contractual workforce is undertaken in alignment with Bangladesh Labour Rules (BLR), 2015 from 1 Feb 2023 onwards	S. No 3.4, Table 3.1	EPC Contractor	Documentary evidence of compliance	Immediately, prior to first disbursement	Same a s above		Same a s above
3.4	Every worker should be issued appointment letter by their respective sub-contractors of EPC contractor as required under section 5 of BLA 2006.	S. No 3.6, Table 3.1	EPC Contractor	Documentary evidence of compliance	Immediately, prior to first disbursement	Consultation with workers at site indicates workers are now being provided by their respective sub-contractors.		Regular follow-up with manpower supply agencies should continue to ensure that all of their new recruits provided appointment letter on the very day first of their joining.
3.5	EPC contractor should also comply with applicable provisions of BLA 2006 w.r.t records and registers required to be maintained as per BLA 2006	S. No 3.7, Table 3.1	EPC Contractor	Documentary evidence of compliance	Immediately, prior to first disbursement	Manpower supply agencies (i.e. 'Meghna Enterprise' and 'Man is Power') are maintaining the applicable compliance related documents that were reviewed at site by ERM.		None
3.6	Ensure improvement of the driver accommodation conditions at the worker camp as per EBRD guidelines. Ensure the sanitation facilities at the driver accommodation at the worker camp is designed to provide workers with adequate privacy, including ceiling-to-floor partitions. Proper locking arrangements to be provided at all doors of the temporary toilet rooms/ units on-site.	S. No 3.8, Table 3.1	EPC Contractor	Monitoring checklist and monthly monitoring reports on accommodation facility. Photographic evidence	Immediately, prior to first disbursement	A monitoring check list on worker's accommodation has been prepared and being implemented to assess overall performance. As noted during the current visit, the site has made necessary efforts to make provision of cupboards at the driver/worker accommodation at the worker camp for storage of belongings. Furthermore, in consistent with the earlier audit recommendations, privacy requirements has now been ensured for the sanitation facilities at the driver accommodation. Mosquito screens/nets has also been provided at the windows for the worker rooms but reportedly these have been removed by the residents.		Ensure mosquito nets/screens provided across all rooms in the camp are being maintained.
3.7	Remove/replace electric hand power tools using defective/frayed wiring. Appoint designated personnel having valid license for supervision of electrical works and carrying out work on high voltage electrical installations.	S. No 3.12, Table 3.1	EPC	Photographic evidence Copy of wireman permit of all the electricians specifying its validity	Immediately, prior to first disbursement	As observed during the site walk round, handheld power tools being used were found to be equipped with earthing provision and the same is checked monthly using dedicated electrical inspection checklist. As recommended in the last audit, the site has now made provision of double earthing across all arc welding machines in use at the hot work areas onsite. The electric pumps/motors at the worker camp Water Treatment Plant (WTP) have also been equipped with double earthing except for a few which was actioned and completed during the course of the audit. The site has appointed electricians having wireman and supervisory permit to conduct installation and operation of medium and high voltage electrical works in accordance with the provision of Electricity Rules, 2020. Review of the aforesaid permits for sample electricians indicates the same is found to be valid for the current monitoring period.		
3.8	Make provision of standalone lighting at the worker restroom/shelters at the main plant site. Share periodic illumination monitoring records for review and validation. Update the GW monitoring program as specified in S. No. 3.13 of Table 3.1 of the 1st E&S monitoring report.	S. No 3.13, Table 3.1	EPC	Photographic evidence Illumination records Updated GW monitoring program	Immediately, prior to first disbursement and ongoing	As noted during the current monitoring, the site continues to ensure provision of adequate illumination at all restrooms/shelters provided onsite. Reportedly and documentation review indicates that the site undertakes periodic illumination monitoring for all work areas to assess compliance with the illumination standards prescribed. As mentioned in the last audit report, the site has now extended illumination monitoring in the worker camp (a total of 5 representative samples) with results found to be in compliance with the standard value of 100 lux. Workplace illumination monitoring results at the main project site also indicates compliance to the aforesaid standards. For the groundwater monitoring program, please refer to S. No. 2.10 of this Table		

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3.9	Ensure locking out (de-charging and leaving open with a controlled locking device) and tagging out (warning sign placed on the lock) devices during service or maintenance. Ensure all hot work activities is performed with use of proper barrier screens and in presence of a standby “fire watch” at all times. Provide toe board with the exiting hard barricading at open end of floor/platform as per BNBC norms. Implement standalone work permits for height work and confined space entry. Ensure provision of SCBAs, rescue watch, first aid etc. for all activities involving confined space entry. Conduct Job Safety Analysis (JSA) for all high hazard activities being undertaken Share details of the Safety Committee composition along with meeting minutes.	S. No 3.14, Table 3.1	EPC	Photographic evidence Work permits for height work and confined space entry. JSA for high hazard works Safety committee composition & meeting minutes	Immediately, prior to first disbursement	*Electrical Safety* With respect to electrical safety, the site has marked the hazardous areas (electrical rooms, installation etc), with appropriate safety signages and warning signs. The site uses electrical hand power tools with proper earthing, which is subjected to monthly inspection based on a defined checklist and records maintained. Also as recommended, the site has implemented a robust Lock Out Tag Out (LOTO) program/permit system, which was evidenced during the current monitoring period. *Hot Work* For hot work-related activities, the site has implemented a work permit system which requires all personnel performing such work to possess requisite competency, use appropriate PPEs and safety equipment viz. flame arrestors, make provision of necessary firefighting equipment at the hot work area etc. Sample document review and physical visit to the site indicates that the site made provision of fire blankets and stand by “fire watch” in the work permits as per the IFC General EHS Guideline requirements. Sample inspection of the work areas also indicate the workers involved in such high hazard activities are equipped with appropriate PPEs. *Safety Committee* In accordance with the BNBC, 2020 requirements, a Safety Committee has now been constituted to efficiently manage all safety related affairs. The GE-Site in Charge acts as the head of the Committee which meets on monthly basis. Documentation review indicates monthly safety committee meeting minutes being maintained and corrective actions identified. *Height work* As observed during the site walkaround, every open side floor/platform including stairways of under construction building onsite is provided with temporary hard barricading of appropriate height. Also as recommended in the ESAP, the hard barricading railing for such buildings were now provided with toe boards as per BNBC requirements. In this regard and as earlier recommended, site has developed and implemented a standalone height work permit system with all scaffolds being provided with coloured tags specifying its “USE/NO USE” status. Inspection of sample areas indicated workers operating on such scaffolds equipped with appropriate PPEs like safety harnesses etc. <u>For ladders being used, an inspection checklist is found to be available and implemented however in some cases the ladders were not found to be marked with a “safety to use” tag.</u> *Confined Space Entry* In consistent with the earlier monitoring report, oxygen and LEL levels are now being monitored and documented as part of the confined space work permit system and the same was evidenced during the current visit. *Excavation Work* Documentation review indicates that the site has developed and implement a permit system for excavation work with temporary barricading now being provided near open trenches/drains near ST building, dormitory building and fire pump room.		Ensure all ladders used on onsite bear inspection tags indicating its usage status.
3.10	Develop and implement a robust near miss recording system. Conduct regular training of the workforce to enhance awareness on “near miss” definition to improve overall reporting.	S. No 3.15, Table 3.1	EPC	Near Miss Reporting & Recording Procedure	Immediately, prior to first disbursement	Documentation review indicates that site has implemented a safety induction program for the workforce with records found to be maintained. Reportedly and as noted during the documentation review, the site records and reports near miss as part of the monthly EHS KPI report. Presently a total of 12 near miss has been reported for the construction period till date which appears to be unlikely for this construction		*Action closed as per the Oct-Dec 2022 E&S monitoring report and validated for the current monitoring period.*

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	Update the training program to encompass the refresher training and its frequency. Maintain separate records for all refresher training being provided.			Training Records (including refresher training)		site where nearly 1500 workers are currently engaged. In this regard, a near miss reporting system has been established and awareness campaigns being undertaken on a monthly basis. Reportedly, refresher trainings are being conducted however the frequency of such trainings have not been defined under the training program and records documented.		
3.11	Develop and implement occupational noise monitoring plan for workers operating nearing high noise equipment viz. batching plant, grinding machines, concrete mixers etc. and maintain records for the same.	S. No 3.16, Table 3.1	EPC	Occupational noise monitoring plan and records	Immediately, prior to first disbursement	The site has prepared high noise map zone covering a total of 7 areas within main plant viz. main gate, HRSG, dormitory, batching plant, jetty, RMS and STG. Documentation review indicates noise is monitored at these locations 4 times in a day on a monthly basis. In consistent with the ESAP recommendation, the site has undertaken monitoring of occupational noise levels near high noise generating equipment and operations (diesel generator sets, cranes, batching plant, grinding and concrete mixing operations) with results found to be in compliance with the threshold occupational exposure limit of 85 decibels specified under the IFC General EHS Guidelines.		*Action closed as per the Oct-Dec 2022 E&S monitoring report and validated for the current monitoring period.*
3.12	Ensure all LPG cylinders at the worker camp and main plant are being stored in covered storage and chain linked. For temporary/satellite LPG storages onsite ensure display of appropriate hazard communication.	S. No 3.16, Table 3.1	EPC	Photographic evidence	Immediately, prior to first disbursement	As observed during the site walkthrough, appropriate hazard and safety signages was observed to be displayed at the designated LPG storage area at the worker camp and construction site along with copy of the MSDS (in both English and Bangla). Also as recommended in the earlier monitoring report, the site has made effective provision for chain-linking of the LPG cylinders at storage and usage areas onsite. In this regard, the site has also developed a Compressed Gas Cylinder Management procedure which outlines the process of cylinder unloading in consistent with industry best practices.		*Action closed as per the Jan-Mar 2023 E&S monitoring report and validated for the current monitoring period.*
4.	**IFC PS 3: Resource Efficiency and Pollution Prevention**							
4.1	Review and validate the project main and bypass stack design in consistent with the IFC General EHS Guidelines requirements. Prepare and implement a Noise Prevention & Control Plan for operations to ensure compliance with the applicable noise standards at the sensitive receptors (both day and nighttime)	S. No 4.1, Table 3.1	UMPL	Copy of stack height design validation study based on IFC EHS Guidelines. Copy of Noise Prevention and Control Plan along with evidence of implementation.	Immediately, prior to first disbursement	The HRSG stack height of 75m has now been validated in accordance with the IFC General EHS Guidelines and is found to be line with the requirements, which specifies the minimum stack height to be 72.5 m. The site has prepared a Noise Prevention and Control Plan for operations with noise barrier wall (~3m height) reportedly to be constructed on top of the project boundary wall for which the budget has already been approved by UMPL Board of Directors. Reportedly construction of boundary and retaining wall is expected to commence in Dec 2023 and be completed by Mar 2024, with the installation of noise barrier expected to be completed by Jun 2024. In this regard, documentation review indicates that the site has already prepared the approved design documentation for boundary & retaining wall including the noise barrier. Signed agreement is also available with the concerned vendors for construction of the boundary wall and noise barrier along with supply of materials for erection of the noise barrier.		Ensure installation of the noise barrier wall in accordance with the updated schedule.
4.2	Perform annual quantification of GHG emissions during operations in accordance with internationally recognized methodologies and good practices. Facilitate implementation of the Climate Change Risk Assessment (CCRA) Study Report	S. No 4.2, Table 3.1	UMPL	Copy of GHG emission quantification for operations. Report on the implementat	Annually during operations.	To be reviewed and validated during project operations.		

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
				ion progress of CCRA study				
4.3	Install flowmeters for all borewells at the site and camp. Maintain water consumption records from such borewells and report it as part of monthly EHS KPI report being generated.	S. No 4.3, Table 3.1	UMPL & EPC	Copy of flow meters purchase order and monitoring records. Updated monthly EHS KPI report	Immediately, prior to first disbursement	Reportedly, the site is currently operating one borewell at the worker camp with records of such consumption being maintained through installation of flowmeters. Water requirement for construction activities is met through surface water source i.e. Meghna River. In line with the earlier recommendation, site is currently maintaining records of both ground and surface water consumption and details furnished as part of the monthly progress report KPIs.		
4.4	Conduct analysis of the riverbed sediment for any potential contaminants by engaging laboratories outside Bangladesh. Implement sediment control measures for the riverbed sand being used for levelling at the worker camp.	S. No 4.4, Table 3.1	UMPL & EPC	Copy of riverbed sand analysis report. Photographic evidence	Immediately, prior to first disbursement	As mentioned in the last monitoring report, UMPL has now undertaken analysis of the riverbed sediments (4 samples) by engaging a third-party agency – *ALS Technichem HK Pty Ltd*, to assess for any potential contaminants viz. PAHs, PCBs, BTEX, TPH and heavy metals. Review of the results with respect to the Dutch Soil Standards (in absence of any national soil standards) reveals in all the cases the concentration of the aforesaid contaminants to be well below the target and intervention values (as presented in the aforesaid standards), which is not indicative of any potential contamination. During the site walkthrough it was noted that arrangements has been made to prevent overflow of riverbed sand to adjoining community land parcels etc. through use of sandbags. Also observed during the last and current monitoring visit, the site has implemented erosion control measures such as grass matting on the riverbed sand slopes of worker camp/accommodation area.		*Action closed as per the Jan-Mar 2023 E&S monitoring report and validated for the current monitoring period.*
4.5	Update the WMP as per the ESAP recommendation to cover all major waste streams. viz. drill cuttings and drilling mud during gas pipeline laying; riverbed sediment from construction of water intake & outfall structures; and septic tank sewage sludge.	S. No 4.5, Table 3.1	UMPL & EPC	Copy of updated project WMP.	Immediately, prior to first disbursement	In line with recommendation made in the last audit report, the site has placed a request for analysis of sewage sludge through a third-party agency (EQMS) for the following parameters – copper, molybdenum, zinc, arsenic, nickel, lead, cadmium, selenium, benzene, xylene and ethylbenzene in accordance with the Bangladesh Sludge Management Guidelines. The EPC consortium has also developed a Sewage Sludge Management Plan which outlines the measures for the treatment of sewage and disposal of sewage sludge generated from the process through licensed waste disposal agencies. Reportedly, the same will be undertaken during the decommissioning of the worker camp following operations.		Share copy of the sludge analysis report as undertaken through third-party agency.
4.6	Create a centralised, covered and paved hazardous waste storage facility at both main site and construction camp. All hazardous waste storage containers at the said facility to be appropriately labelled bearing hazard codes. Maintain a waste inventory and manifests for hazardous waste being generated and collected from site in accordance with the WMP requirements.	S. No 4.6, Table 3.1	UMPL & EPC	Photographic evidence. Copy of waste inventory and manifests. Details pertaining to drilling	Immediately, prior to first disbursement	The site has established a centralised hazardous waste storage area as per the ESAP recommendation. The hazardous waste comprising of used oil was found to be kept on a paved area with spill kit and firefighting and eyewash provisions. As earlier recommended and noted during the current visit, all empty paint and chemical containers (which were earlier stored in the open and unpaved ground) have been removed from the worker camp by licensed vendors with waste manifest being maintained in prescribed format. Reportedly, the site has engaged Meghna Enterprises for the collection and disposal of both general and hazardous waste. Review of the communication received from DoE reveals that aforesaid agency is not required to obtain Environmental Clearance Certificate (ECC) for such waste collection and disposal activities. As communicated, Meghna Enterprise is involved in selling of the used oil to a third-party agency – Min Oil Unit-2 Ltd, having ECC which is found to be valid till April 2024. Documentation review also indicates that Meghna		

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				cutting and drilling mud disposal.		Enterprises has an agreement with the aforesaid agency for disposal of hazardous waste, which is found to be valid for a year.		
4.7	Ensure all hazardous and medical waste generated from the construction site and worker camp is collected and disposed through third party agencies having valid agreement and permission from regulatory authorities. Conduct screening audits to assess the performance of the waste treatment and disposal facilities/agencies identified prior to their engagement. Renew the biomedical waste disposal agreement with M/s Suveccha hospital.	S. No 4.7, Table 3.1	UMPL & EPC	Copy of valid agreement & license/approval for all third-party waste management agencies. Copy of audit report of third-party WMAs. Copy of renewed agreement with biomedical waste disposal agencies	Immediately, prior to first disbursement	Based on the documentation review and interaction with UMPL and GE representatives, it is understood that collection and disposal of solid wastes (including hazardous waste) and biomedical waste from site is being managed through third party agencies – M/s Meghna Enterprise and M/s Prism Review of the agreement with Meghna Enterprise is found to be valid till 30 April 2023, while the agreement with Prism is found to be valid till December 2023. As earlier stated, Meghna Enterprise is not required to obtain Environmental Clearance Certificate (ECC) from DoE, Bangladesh for current nature of waste management activities. For Prism, ECC was found to be available and valid till 26 September 2023. Furthermore, in line with the ESAP recommendation, the EPC consortium has conducted an audit of Meghna Enterprises and Prism with records being maintained. As recommended earlier, a corrective action plan has also been developed as part of such audits in order to track closure of the audit recommendations.		Furnish valid agreement and ECC of the M/s Meghna Enterprise and M/s Prism
4.8	Make provision of emergency showers/eye wash at all hazardous chemical/fuel storage sheds of EPC. Avail and display concise version of MSDS of fuel/chemicals in Bangla language. Perform analysis of the transformer oil being used for the presence of PCBs. For oil storage at the worker camp, ensure provision of secondary containment and spill kit as per the Hazardous Material Handling and Storage Management Plan	S. No 4.8, Table 3.1	EPC	Photographic evidence. Analysis report of transformer oil for PCBs Photographic evidence	Immediately, prior to first disbursement	The diesel, lubricant and engine oil storage containers were found to be kept at the designated covered fuel and chemical storage sheds marked with hazard labels/pictograms. Material safety data sheets (MSDS) were found to be available for the aforesaid areas in both English and local language as recommended in the ESAP. Furthermore, the site has made provision of emergency eye wash at the aforesaid hazardous chemical storage areas including the diesel storage area at the worker camp. Spill kits and MSDS were also made available at the worker camp diesel storage area. In line with earlier audit recommendation, provision of portable eye-wash station and spill kits have been made at the designated paint and thinner storage shed at the worker camp. However, the portable eyewash station was not found to be functional, which was actioned for closure during the course of the monitoring. The site has also adopted and implemented a chemical compatibility matrix for the aforesaid storage. No spray-painting activities were being undertaken at the time of the visit however photographic evidence shared indicates the worker involved in such activities are equipped with appropriate PPEs in the form of full-face respirators as identified in the said chemical MSDS. As suggested, the site has now procured Self-Contained Breathing Apparatus (SCBAs) as specified in the MSDS to address any chemical emergencies viz thinner spills/fire. .		Ensure functionality of portable eyewash stations at all times through implementation of a dedicated inspection checklist.

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
4.9	Obtain and share the renewed license of the third-party agency involved in pest control activities onsite. Discontinue the Bromadiolone and any WHO Classified Hazard Class Ia (extremely hazardous); or Ib (highly hazardous) pesticides. Update the Pest Control Procedure to introduce pesticide screening and selection based on WHO Recommended Classification of Pesticides.	S. No 4.9, Table 3.1	UMPL & O&M Contractor	Copy of renewed licence of pesticide application agency Notice communicating the discontinuation of WHO Class Ia &Ib pesticides Updated pest control procedure	Immediately, prior to first disbursement	The EPC consortium has engaged a third-party agency (Care Pest Control Services Ltd.) for performing pest control activities onsite and camp on a weekly basis. Documentation review indicates that the license of the aforesaid agency as issued by the Department of Agriculture, Plant Protection Wing, Bangladesh is currently valid till 23 July 2023. In this regard, the agency has applied for renewal to the competent authority vide letter dated 20 July 2023. As reported the agency uses the following pesticides onsite viz. Lambda Cyalothrin, Cypermethrin, Permethrin and Darsbun, which do not fall within the category of Class Ia/Ib pesticide as per WHO classification. EPC has also updated the Pest Control Procedure (U-EHS-PD-037) to clearly prohibiting the selection and use of WHO Class Ia and Ib pesticides with same now being communicated to the pest control agency.		
5.	**IFC PS 4: Community Health, Safety and Security**							
5.1	Obtain relevant certification from concerned agency stating that the power project buildings/structures conform to BNBC requirements prior to commencement of operations. Conduct HAZOP study of the natural gas pipeline – identified as an associated facility of the project through a reputed third party agency. Implement the recommendation of the HAZOP study in the natural gas pipeline design.	S. No 5.1, Table 3.1	UMPL & EPC	Copy of BNBC certification from competent EPC personnel Copy of HAZOP report for natural gas pipeline	6 months prior to COD Immediately, prior to first disbursement.	Vysus China Inc. was engaged NEPC to carry out a HAZOP study of the power project. Review of the HAZOP Report dated 8 October 2021 indicates that it covers the following: *Main & Secondary Cooling Water System; Water Supply and Treatment; Demineralized Water System; Biocide Dosing System Cooling Water; Closed Cooling Water; Wastewater; Hydrogen Storage and Distribution; Compressed Air System and Fuel gas system.* As specified in the Oct-Dec 2022 monitoring report, HAZOP study has been extended to cover the natural gas pipeline. As discussed, and recommended in the last monitoring report, the HAZOP report has been updated to include the gas pipeline node to assess the provision of appropriate engineering controls. The review of the report indicates that there are no recommendations with respect to the gas pipeline node safety risks and controls available.		
5.2	Prepare and implement a medical screening procedure for all workforce engaged in the project. Undertake specific medical test viz. audiometry, vision, colour blindness etc. for specific target worker groups based on the nature of work to be performed. Ensure the sanitation facilities at the driver accommodation at the worker camp is designed to provide workers with adequate privacy, including ceiling to floor partitions. Proper locking arrangements to be provided at all doors of the temporary toilet rooms/units onsite. Make provision of additional first aid boxes and certified first aiders at the main plant site as per BNBC norms.	S. No 5.2, Table 3.1	UMPL & EPC	Copy of pre-employment medical screening procedure along with medical examination reports for construction phase Annual medical examination report for operations	Immediately, prior to first disbursement for construction phase. Annually during operations Immediately, prior to first disbursement	Reportedly and as observed during the earlier and current visit, the EPC consortium have made provision of a total of 20 sanitation facilities at the main plant site to prevent exposure to water/vector borne disease resulting from improper sanitation and hygienic conditions. In addition, as per the ESAP recommendation, adequate toilet facilities have also been provided at the UMPL/NEPC/GE employee cabins at the worker camp for both males and females. The aforesaid sanitation facilities are adequately lighted and observed to be subjected to daily cleaning by designated housekeeping team. As recommended in the ESAP and the Oct-Dec 2022 monitoring report, the worker sanitation facilities has made provision of privacy arrangement at the worker sanitation facilities at the camp. Regarding the preparation of worker pre-employment and periodic medical surveillance procedure, the same has now been prepared and documented as U-EHS-PD-043. The procedure outline the list of health screening parameters to be checked based on the nature of work activities. Reportedly EPC Consortium undertakes pre-employment medical screening of all workers (including security and housekeeping workforce). As earlier recommended, the site undertakes specific tests like audiometry, vision and colour blindness		

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
				Photographic evidence		for designated target groups along with blood tests, ECG etc. and the same was validated as part of the sample medical records review undertaken during the current visit. With respect to first aid, as recommended in the ESAP the EPC consortium has now made provision of a 14 first aid box at the main plant site and worker camp. The first aid box contents are subjected to periodic checks based on a defined checklist. Reportedly, a total of 22 first aiders have been deployed onsite with name and contact details of the first aiders being displayed at the worker resting areas onsite. As recommended in the last E&S monitoring report, site has now arranged first aid certification training for designated first-aiders through Skill Crafts Associates on 16 Feb 2023, which is validated based on review of sample first aider certificates.		
6.	**IFC PS 5: Land Acquisition and Involuntary Resettlement**							
6.1	Facilitate engagement of LRP implementation monitoring agency on a fast track basis.	S. No 6.2, Table 3.1	UMPL	Engagement letter of LRP agency LRP implementation report	Immediately prior to first disbursement Quarterly during project construction and operations phase	LRP implementation agency (i.e. M/s. Sajida Foundation) and External Monitoring agency for LRP implementation (i.e. M/s. SSCL) are already on board and implementation activities are progressing as planned in their inception report.		None
7.	**IFC PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources**							
7.1	Promote local fish breeding site in in consultation with the Fishery Department as per ESMP requirement.	S. No 7.2, Table 3.1	UMPL	Evidence of engagement with Fishery Department Local fish breeding progress report	Immediately, prior to first disbursement Quarterly during project construction and operations phase	In consistent with the recommendation of the Oct-Dec 2022 monitoring report, UMPL has engaged with the Upazila Fisheries Department and local fishermen group with respect to promotion of local fish breeding sites. In this regard, the site was also visited by the local Fisheries Department Officer, who recommended the release around 100kgs of carp fish fingerlings of local species such as *Ruhi, Katla, Kalibaush, Mrigel & Sorputi, Bata* etc. by end of July to August when water level will be higher, and fishes get enough oxygen and natural feeding provisions. This is also captured as part of the UMPL Corporate Social Responsibility (CSR) Plan. As part of first phase of the plan, UMPL has released 120kgs of fish fingerlings (ruhi, katla, kalibaush, mrigel, grass carp and sorputi) in the Meghna River on 27th August 2023. In the ceremony, UMPL Site personnel, EPC personnel, Fisheries Dept. personnel, community people and fishermen were also present, and it was well appreciated by the local fishermen. .		Maintain copy of the meeting minutes with Fisheries Department. Prepare a quarterly progress update report on implementation of the fish breeding promotion program.
8.	**IFC General EHS Guidelines & IFC EHS Guidelines for Thermal Power Plants**							
8.1	Develop and implement a dust control procedure for managing fugitive emission from construction activities/operation in accordance to the "*IAQM Guidance on the assessment of dust from demolition and construction.*"	S. No 8.1, Table 3.1	EPC	Copy of dust control procedure with evidence of implementation.	Immediately, prior to first disbursement.	In consistent with the recommendation specified in the Oct-Dec 2022 monitoring report, the EPC Consortium has now developed a standalone "Dust Control Procedure" as per the IAQM guidance document as recommended in the ESAP. As specified in the plan, the EPC consortium has made provision of designated area for concrete mixer and vehicle washing, with the wash water getting collected in the stormwater basin constructed. Copy of the stakeholder communication plan as outlined in the dust control procedure is yet to be shared for review and validation.		Ensure implementation of the Dust Control Plan through development of a stakeholder communications Plan.

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
8.2	Update the Environmental Monitoring Plan for construction to undertake monitoring of treated sewage and storm water discharges from the main plant and worker camp to assess conformance with the discharge standards specified in BECR, 1997 and IFC Sectoral EHS Guidelines. Make provision of proper drainage arrangement at the construction plant site to prevent water stagnation. Ensure provision of sedimentation tank for collection and treatment of vehicle wash water. Ensure functionality of batching plant wastewater treatment system in order to prevent wash water overflows. Share copy of construction site drainage plan and relevant design documentation to validate the design of the septic tank system being utilised for sewage disposal at the main plant site.	S. No 8.3, Table 3.1	UMPL, EPC & O&M Contractor	Updated EMP and records of treated sewage and storm-water monitoring Photographic evidence Copy of construction site drainage plan and septic tank design documentation	Immediately, prior to first disbursement and ongoing as per the frequency specified in the EMP. Immediately, prior to first disbursement. Immediately, prior to first disbursement.	The EPC consortium has installed a modular STP at the worker camp in accordance with the ESMMP requirements. The treated effluent from the modular STP is currently being discharged into the nearby natural sewer/drainage channel. Review of the third party quarterly environmental monitoring report (Apr-Jun 2023) indicates that both treated sewage and surface run-off is being monitored to assess compliance with the discharge standards specified in Schedule 3 of the BECR, 2023 and IFC General EHS Guidelines. For further details, please refer to S. No. 2.10 of this Table. As earlier mentioned in the Oct-Dec 2022 report, the sewage at the main plant site for construction is being disposed into septic tanks and is periodically cleaned/removed through third party waste management agencies for disposal at an external location (not known). Design documentation of the septic tank and soak pit has been shared for review and validation. In accordance with the ESMMP, wastewater generated from concrete batching plant in the form of washing of transit mixers, vehicles etc along with surface run-off etc. to be subjected to treatment through temporary sedimentation tank prior to discharge into Meghna River conforming to the standards specified in the BECR, 2023. However as recommended in the Oct-Dec 2022 monitoring report, the site has made provision of designated washing bay with wash water getting collected in the stormwater basin being constructed. However, there is currently no provision of recycling of the wash water as per the ESMP requirements. Reportedly, the batching plant is expected to be decommissioned by end of Oct/early Nov with COD expected by Nov 2023. For the main plant site, the drainage plan shared indicate the provision of 2 outfall equipped with catch pits. For further details with respect to stormwater outfall monitoring please refer to S. No. 2.10 of this Table.		
8.3	Evaluate installation of automated bleed/feed controllers, and use of inert construction materials to reduce chemical treatment requirements for cooling tower. Select and use chemical additives devoid of heavy metals like chromium and zinc, being used as corrosion inhibitors. Apply intermittent shock dosing of chlorine as opposed to continuous low-level feed.	S. No 8.4, Table 3.1	UMPL, EPC & O&M Contractor	Copy of design of cooling towers Details of chemical additives to be used for treatment of condenser cooling water	3 months prior to COD	Review of the cooling tower design shared indicates use of inert material for construction. As per the Cooling Water Chemical Dosing System documentation, no specific additives are required except for sodium hypochlorite and sulphuric acid for dosing to prevent biofouling of the condenser and prevention of scaling respectively.		
8.4	Ensure all LPG cylinders (both empty and filled) are kept in covered storage and chain linked to prevent any accidental fall. All such cylinder to be marked as empty/filled as per BNBC norms. Update the monthly construction equipment inspection checklist to encompass gas-based welding equipment and maintain records of the same.	S. No 8.5, Table 3.1	UMPL & EPC	Photographic evidence along with quarterly inspection records of welding equipment Updated monthly construction	Immediately, prior to first disbursement and ongoing	During the walkaround of the worker camp, reportedly empty LPG cylinders (45 kg capacity each) were found to be kept chain linked and in covered storage. Within the storage area, both the “empty” and “filled” LPG cylinders are separated out and marked for ease of identification. In view of the ESAP recommendation, the site has developed and implemented a Gas Cutting Equipment Inspection Checklist (U-EHS-PD-001) to assess the availability and functioning of the engineering safety controls viz. non-return valves, flash back arrestors, condition of LPG/oxygen lines etc.		*Action closed as part of the Oct-Dec 2022 E&S monitoring report.*

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
				equipment checklist				
8.5	Perform characterisation of waste sludge for operations and facilitate its reuse/disposal in accordance to the Bangladesh Standards and Guidelines for Sludge Management as notified by the Department of Environment (DoE), Bangladesh.	S. No. 8.6, Table 3.1	O&M Contractor	Copy of clarifier sludge analysis report and disposal plan	6 months from COD or following generation of sludge, whichever is earliest	To be reviewed and validated post the project COD and during operations of the Effluent Treatment Plant (ETP).		
8.6	Ensure providing a mechanical shaft to the pinion at all the concrete mixers being used at labour camp area. Provide adequate guard to the rotating part of the concrete mixer	S. No. 8.7, Table 3.1	EPC	Photographic evidence	Immediately, prior to first disbursement	During the site walkthrough it was observed that the portable concrete mixers being used have been provided with mechanical shaft to the pinion along with mechanical covering of rotating parts except for one, where wooden log is being used as shaft. Photographic evidence shared also indicates that movable guards installed for the rotating parts of the concrete mixers deployed while operating the machine.		*Action closed as part of the Oct-Dec 2022 E&S monitoring report and validated for the current monitoring period.*
8.7	Arrange for nylon nets 3 m to 4 m below the working level along the periphery of tall buildings under construction at the main plant site.	S. No. 8.8, Table 3.1	EPC	Photographic evidence	Immediately, prior to first disbursement	As specified in the earlier monitoring reports, EPC Consortium has developed and implemented full body harness inspection checklist (U-EHS-PD-02). Documentation review indicates that this inspection is being undertaken on a weekly basis and records maintained. Furthermore, as the site has made provision of nylon nets for all exterior height work activities as per BNBC,2020 requirement and this was validated during the site walkthrough undertaken at the construction areas. During the current monitoring period no external height work activity was found to be undertaken requiring the provision of fall protection arrangement in the form of nylon nets as per BNBC requirements.		
8.8	Develop a driver guide on road and vehicular safety in consistent with the requirements of the Traffic Management Plan. Conduct campaigns and develop brochures to enhance community awareness on pedestrian safety.	S. No. 8.9, Table 3.1	UMPL & EPC	Copy of driver guide on road and vehicular safety both on-site and off-site. Photographic evidence and copy of road safety communication material.	Immediately, prior to first disbursement.	The project has developed a guideline for road and vehicular safety for drivers and nearby communication. Safety brochures have been prepared in local language in line with the above guidelines and also shared with local communities to enhance their awareness on road and pedestrian safety.		
8.9	Ensure periodic inspection of all firefighting equipment (particularly hose reels, hydrants, sand buckets) based on a defined checklist and maintain records for the same. Make provision for fire extinguisher and smoke detection system at the driver accommodation within the worker camp. Install fire extinguishers near all temporary electrical panels and LPG storages onsite (both camp and main plant).	S. No. 8.10, Table 3.1	EPC	Copy of firefighting equipment inspection checklist and records. Photographic evidence. Photographic evidence. Fire rating enclosure	Immediately, prior to first disbursement	Review of the firefighting equipment layout for both worker camp and main plan and site walkthrough indicate that the site has made provision of fire extinguishers, hydrants, hose reel boxes and sand buckets at strategic locations onsite viz. paint, chemical, hazardous waste storages etc. In addition, provision has also been made for temporary water storage facilities to serve for emergency firefighting. Smoke detection system has been installed at the worker camp offices and GE/NEPC/UMPL employee accommodation onsite. Firefighting equipment and detection system is currently has also installed at the strategic areas such as hydrogen storage buildings, turbine and substation building. The site has also made provision of fire hydrant/hose reel system and smoke detection system at the driver accommodation. Wooden enclosure has been removed for the flammable chemical storages in conformance with the BNBC, 2020 requirements. As specified in the last monitoring report the site has now removed all flammable material in the form of wooden planks etc. near electrical panel and made provision of fire extinguishers		Share status of development and approval of Fire Protection Plan as per the project Fire NOC requirement. Relocate all hydrogen gas cylinders kept in the open to designated licensed storage shed onsite having access restriction.

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
	Ensure paints/varnishes storages onsite are constructed of fireproofing material.			certification of paint /varnish store on-site		near all such panels. Furthermore, the site has removed all electrical lighting/appliance from the flammable paint/thinner storages and provided smoke detection system at the Control Relay Centre (CRC) of the substation building and electrical panel room at worker camp/accommodation. However, the status on development an approval of fire protection as per NOC requirements is to be shared for review and validation. During the current visit, it was noted the flammable hydrogen gas cylinders (~80) were found to be chain linked and kept in the open without any access restriction. In accordance with the license issued by Department of Explosives, all hydrogen cylinders need to be stored at designated and licensed storage areas being access restricted. In some cases, the fire hose reels at the camp were not found to be placed in hose reel box and missing nozzles. The same was actioned and closed during the course of the audit.		
8.10	Initiate conducting a Fire Safety assessment to assess the fire protection requirements	S. No. 8.11, Table 3.1	UMPL and EPC	Copy of Fire Safety Assessment Report	6 months prior to COD.	As required under Section 8.1.3 of Project EHS Plan, Site is required to undertake a Fire Safety Assessment to verify and validate the design to assess the fire protection requirements. Reportedly the site has engaged Safety Wings to conduct the Fire Safety assessment, however review of the report do not specify the compliance status with respect to applicable regulatory requirement including BNBC and NFPA standards. The functionality of the firefighting infrastructure is also not found to be mentioned in the said document. Hence it could not be established to ensure whether it is in alignment with the applicable regulatory requirement such as BNBC 2020.		Coordinate with the third-party agency to revisit the fire safety assessment in conformance with the applicable regulations, BNBC and NFPA requirements. Share copy of the terms of reference to ensure coverage of applicable fire safety standards and codes as part of this assessment.
9.	**IFC EHS Guidelines for Gas Distribution Systems**							
9.1	Facilitate installation of gas detection and alarm system at the RMS in consistent with the IFC EHS Guidelines.	S. No 9.1, Table 3.1	UMPL & EPC	Copy of RMS design indicating provision of gas detection and alarm	During designing of RMS	Relevant supporting documentation to be shared by UMPL for review and validation		
9.2	Assess the occupational risks associated with gas pipeline laying and operation with respect to welding activities and considering the presence of any buried utility infrastructure in near vicinity. Coordinate with TGTDCL to ensure all confined space entry works are undertaken in accordance to a confined space entry procedure and appropriate work permits. Ensure usage of ventilation and oxygen / explosive level detection and alarm equipment prior to any confined space access.	S. No 9.2, Table 3.1	O&M Contractor	Copy of occupational risk assessment report for natural gas pipeline. Copy of confined space entry procedure for pipeline laying.	3 months prior to pipeline laying & operations 3 months prior to COD or pipeline operations, whichever is earliest. Prior to confined space entry work	The site has completed with the pipeline laying activities across the Meghna River, with potential safety risk and mitigation measures being discussed under *"Method Statement of Fuel Gas Pipeline HDD Construction for Crossing the Meghna River" (UNQ00KUEP2–ADPMS038).* With project yet to be operational, reportedly the confined space entry requirements is to be formulated prior to project COD/pipeline operations.		

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
				Records of work permit with oxygen level detection level for confined space entry works.	during operations.			
9.3	Identify and locate existing gas and other buried utility infrastructure, if any prior to excavation for installation or repair of gas pipelines. Ensure installation of visual marking of gas pipeline as part of installation and carry out purging of gas from pipelines prior to welding/cutting activities.	S. No 9.3, Table 3.1	EPC & O&M Contractor	Copy of underground utility infrastructure layout along the pipeline RoW. Photographic evidence	Prior to laying of gas pipeline. Prior to COD or operations of pipeline, whichever is earliest.	As communicated by the UMPL construction team, there exists no utility infrastructure along the natural gas pipeline RoW. However, copy of supporting documentation to be shared for review and validation. Provision of visual marking of the natural gas pipeline supplying the project has already been installed and validated as part of the current monitoring visit.		
9.4	Develop and implement an O&M plan for the natural gas pipeline in coordination with TGTDCL. Submit the same to the Department of Explosives (DoE), Bangladesh.	S. No 9.4, Table 3.1	O&M Contractor & TGTDCL	Copy of O&M plan submitted to the Department of Explosives	3 months prior to COD	To be reviewed and validated prior the operations of the natural gas supply pipeline by TGTDCL		
9.5	Develop and implement an offsite emergency response and preparedness plan in coordination with TGTDCL. Communicate the potential hazards presented by the gas supply line, safety measure/controls in place and response measures to be adopted in case of any emergencies in the form of pipeline leaks/explosions. Implement a telephone notification system to respond to reports of leaks or questions of general safety from the affected community and other interested parties.	S. No 9.5, Table 3.1	UMPL, O&M Contractor & TGTDCL	Copy of offsite emergency response and preparedness plan with evidence of implementation.	3 months prior to COD or operations of pipeline, whichever is earliest.	To be reviewed and validated prior to operations of the natural gas supply pipeline by TGTDCL.		
10	**IFC EHS Guidelines for Electric Power Transmission & Distribution**							
10.1	Ensure installation of marker balls for the power transmission line to prevent bird collisions.	S. No 10.1, Table 3.1	EPC	Photographic evidence	Prior to COD or energisation of the transmission line, whichever is earliest.	During the site visit it was noted that marker balls have been installed on the transmission lines to prevent bird collisions		

S. No	Action item	Reference in ESDD Report	Responsibility	Deliverable	Suggested Timeline for completion	ERM Observations (3-5 Oct 2023)	Progress Status	Recommendations
10.2	Ensure provision of effective grounding for the towers supporting the live transmission lines in accordance to the regulatory requirement.	S. No 10.2, Table 3.1	EPC	Records of earthing resistance.	Prior to COD or energisation of the transmission line, whichever is earliest.	Reportedly, all transmission towers have been provided with effective grounding in the form of earth pits. The same has been subjected to inspection internally by the EPC consortium with records being maintained.		
10.3	Updated height work procedure to include work on transmission lines, rescue of fall arrested workers, use of rated hoisting equipment by trained operator.	S. No 10.3, Table 3.1	EPC	Copy of updated height work procedure with evidence of implementation.	Immediately, prior to first disbursement.	GE-NEPC consortium has developed a Work at Height Procedure (U-EHS-PD-016) which outlines the hazards associated with height including general and specific requirements to be followed for carrying out such high hazard activity. The procedure also specified the inspection and training requirements for effective implementation of the Plan. In additional to the above, there is also a Work at Height Rescue Plan prepared and implemented for tower erection works which includes a checklist for rescue actions along with procedure for notification, emergency response actions, rescue team risk assessment and medical evaluation and retrieval requirements. The contact details of both onsite and offsite emergency/rescue responders have also been furnished in the Plan.		
10.4	Develop and implement an EMF Safety Program prior to the commencement of project operations	S. No 10.4, Table 3.1	UMPL & O&M Contractor	Copy of EMF Program with evidence of implementation	Prior to COD or energisation of the transmission line, whichever is earliest.	Reportedly, the EMF safety program will be prepared by the operations E&S team prior to project operations		
10.5	Display cautionary signs and install barriers to prevent public contact with transmission towers located outside the project. Perform grounding of conducting objects (e.g. fences or other metallic structures) installed near power lines, to prevent shock.	S. No 10.5, Table 3.1	UMPL & O&M Contractor	Photographic evidence	Prior to COD or energisation of the transmission line, whichever is earliest.	To be reviewed and validated prior to project operations.		

3.2 Livelihood Restoration Plan (LRP) Implementation Status

UMPL has engaged Sajida Foundation as a LRP implementing agency and has engaged SSCL as an external Monitoring & Evaluation Agency for LRP implementation. LRP implementation activity is currently in progress. and inception report has been submitted by Sajida Foundation and SSCL to UMPL. Sajida foundation has established their site office and their field team are mobilised at site. Specific activities carried out in last quarter includes:

- Submission of 'Need Assessment Report' to UMPL
- Conducting focused group discussion with local women group on GBV issues & management measures along with other related topics, is prepared and submitted to UMPL;
- Organise FGDs, with fishermen group, farmers group and aspiring migrants;
- Key informant interviews with local government representatives and local community leaders
- Service provider mapping for vocational training, agriculture and micro business
- Household selection for transitional aid distribution. First monthly instalment of this transitional aid distributed to 130 households
- Completed household registration for LRP benefit etc.

UMPL has also engaged SSCL (Sustainability Safeguard Compliance Limited) as External Monitoring consultant for LRP monitoring. SSCL has submitted their work plan as part of final Inception Report to UMPL.

3.3 Stakeholder Engagement Plan (SEP) & GRM Implementation Status

A well-qualified and trained personnel in the capacity of Community Development Manager (CDM) engaged by UMPL, is leading stakeholder engagement activities at site, with the support of a dedicated field staff who sits in Community relationship office set up by UMPL in Doodhghata village, near plant gate. Based on ERM's consultation with PAHs from Doodhghata village, it was noticed that community members are well aware with the formal engagement system established by UMPL and also quite familiar and comfortable with the CDM and his team in terms of sharing any sort of issues connected with the project activities.

UMPL Community Development team have established a system of documentation of their engagement with PAHs and other stakeholder. Minutes of meeting of all important meetings carried out by CSR Manager is being documented for records. Community Development team have established a good connect with local stakeholder and also acting as chain of communication between UMPL Management and local community.

GRM system is well established . GRM process is displayed at notice board. Workers are informed a out this at the time of their induction training. Grievance boxes are placed across multiple locations in plant area and campsite. It was noticed that workers are familiar with this system and they hesitate a little in using the formal channel. Instead they prefer communicating their issues with their respective site supervisors. Although workers are encouraged to use formal channel of GRM by site level executives. Community issues are being taken care of by Community Development department. One construction worker had registered a complaint in July 2023 regarding his salary disbursement by the contractor (Man Is Power) that was resolved with CDM's intervention.

APPENDIX A PHOTO DOCUMENTATION

Fig 1: Portable eyewash station provided at the paint/thinner storage shed at camp

Fig 2: Empty chemical and paint containers removed from camp area for disposal

Fig 3: Water treatment plant motors provided with dual earthing

Fig 4: Electrical panels onsite provided with lock and insulated mats

Fig 5: Privacy arrangements made for sanitation facilities at worker accommodation area

Fig 6: Electrical panel room equipped with smoke detectors

Fig 7: Access restricted RMS station onsite

Fig 8: Safe barricading provided at open excavated areas/drains

Fig 9: Scaffolds onsite provided with inspection tag indicating safe usage

Fig 10:Cylinders used for hot work activities provided with chain linking

Fig 11: Emergency eyewash and shower being installed at the acid-alkali storage area

Fig 12: Emergency eyewash and shower being installed at the cooling water dosing area

Fig 13: Hydrogenation building onsite

Fig 14: Flammable hydrogen cylinders stored in the in the open without access restriction

Fig 15: Safety labels and hazard signages displayed at the central hazardous waste storage

Fig 16: Safety labels, hazard signages and spill kits displayed at the LPG storage area

Fig 17: Hose reel at camp not found to be equipped with nozzles

Fig 18: Fire hose reel not observed to be placed in hose reel box at camp

Fig 19: consultation with local community members in Doodhghata village along with LRP implementation Agency

Fig 20: Consultation with construction workers at Plant construction site location

Fig 21: Consultation with Sajida Foundation (LRP Implementation Agency) at their site office

APPENDIX B DOCUMENTS/INFORMATION REVIEW LIST

- Final ESIA Report dated 26 March 2022 and appendices.
- Gender Action Plan
- Copy of WARPO license for groundwater abstraction and riverbed protection construction structures
- Copy of wireman license for electricians.
- License of pest control agency – Care One Pest Services along with SOP for pesticide handling/application
- Labour license and manpower registration copies for the contractors
- Update copy of EHS Manual prepared by GE-NEPC consortium.
- Copy of updated Aspect-Impact and HIRA matrix for the project
- Training calendar for FY 2022-23 along with sample training records of workers including induction records.
- Updated emergency preparedness and response plan and copy of mock drill records at both camp and site
- Copy of duly filled in sample permits - height work, hot work, electrical work etc.
- Occupational noise monitoring records.
- Sample health surveillance records.
- Agreement with agencies involved in hazardous waste and biomedical waste – M/s Meghna Enterprise and Prism Foundation
- Copy of updated Waste Management Plan, Gender Action Plan, Dust Control Procedure, Labour Management Plan and Traffic Management Plan, Stakeholder Engagement Plan, GRM and LRP
- Copy of Method Statement for Pipeline Laying
- Hazardous Chemical Handling - Job Safety Analysis/Risk assessment document
- HAZOP study report of the project site
- List of first aiders along with their copy of training and certification.
- Inspection records of lifting equipment, tools and tackles including welding equipment and fall protection harness
- Monthly Progress Report for May 2023
- HSE Dashboard for May 2023
- Overtime calculation sheet of manpower supply contractors
- Current minimum wage notification for construction labour
- Worker’s accommodation monitoring report in predefined monitoring check list
- Organogram of GE & UMPL
- Firefighting equipment lay out at main site and worker camp
- UNQ- Emergency Mock drill Schedule
- Spill Incident Mock drill report and project site camp emergency drill
- Labour license and manpower registration copies for the contractors
- Legal register and regulatory approval list

- UMPL Quarterly Environmental Monitoring Report Jan-Mar 2023
- Method statement of Fuel Gas pipeline HDD construction for crossing Meghna River
- Environment Management and Monitoring Plan including Water Management;
- Inception Report for LRP implementation and LRP implementation Monitoring;
- UPML CSR Plan
- UMPL Grievance Redressal Mechanism document
- Legal opinion on the wage component considered for overtime payment calculation
- Sample wage sheet, appointment letter for manpower supply contractors
- Sub-contractor list and manpower details
- Worker accommodation facility design;
- Premium submission evidence of group life insurance taken by NEPC
- Manpower supply agreement between NEPC and the contractor – Man is Power
- Sexual Harassment Policy
-

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