Environmental and Social Monitoring Report

Project Number: 50253-001
April 2021

Bangladesh: Reliance Bangladesh LNG and Power Limited
(Reliance Bangladesh Liquefied Natural Gas and Power Project)
(Subproject: Meghnaghat 718MW Combined Cycle Power Project)

Prepared by TRACTEBEL ENGINEERING Pvt. Ltd. for Reliance Bangladesh LNG & Power Limited and the Asian Development Bank.

Reliance_750MW CCPP Meghnaghat Bangladesh

3rd Environment and Social Monitoring Report

JBIC - Japan Bank for International Cooperation
Tokyo

RESTRICTED

01 April 2021

REPORT
Rev A

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ENVIRONMENTAL & SOCIAL MONITORING REPORT

Our ref.: **Document No. P.014716-U-00016-003**

Imputation: Project No. P.014716

RESTRICTED

Client : **JBIC, NEXI, ADB and Commercial Lenders**

Project : **718 MW (Net) Combined Cycle Power Plant at Meghnaghat, Bangladesh**

Subject : **Submission of 3rd Environment & Social Monitoring Report**

Comments:

Revision No.	Date	Prepared / Revision By	Description
A	2021/04/01	DMA	Issued for Submission

REV.	YY/MM/DD	STAT.	WRITTEN	VERIFIED	APPROVED	VALIDATED
A	2021/04/01	Draft	DMA	SDM	SDM	DMA

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1. INTRODUCTION

Reliance Bangladesh LNG & Power Limited (RBLPL) is setting up a gas based Combined Cycle Power Plant of 718 MW (Net) contracted capacity at Meghanaghat village in Sub – district Sonargaon of Naryanganj District in Bangladesh.

Tractebel Engineering Pvt. Ltd. (TEPL) has been appointed as the Financiers' Environmental and Social Advisor for the Project (hereinafter referred to as FESA). Accordingly, as per the Phase – 1 of the mandate, the Final Environmental and Social Due Diligence was prepared and submitted on 26th June, 2020. Subsequent to the Phase – 2 scope of Services as per the mandate, FESA has prepared this Environmental and Social Monitoring Report, based on the documents furnished by the Project Company and site visit conducted on 16th August, 2020.

The project site is located approximately 45 km from Dhaka Airport, near the Meghna Road Bridge on the Dhaka – Chittagong Highway (National Road No. 1) and is around 2 km west from Dhaka – Chittagong Highway.

Presently, there is 3-meter-wide 2.1 KM Bitumen road from Dhaka-Chittagong highway to near the Site. However, there is no defined access road (around 200 meter) after 2.1 km Bitumen road to site.

The land for the project belongs to the Bangladesh Power Development Board (BPDB). Nearly 35 acres of land required for the project has already been handed over by BPDB under land lease agreement to RBLPL.

The CCPP module consists of two Gas Turbine Generators (GTGs), two Heat Recovery Steam Generators (HRSGs) and one Steam Turbine Generator (STG).

The natural gas required for the project will be supplied by Titas from the nearby valve station.

There is an 11kV Transmission line available very close to site, which will be used for drawl of construction power. The power generated from the proposed CCPP shall be evacuated through 400 kV double circuit lines connected to the PGCB owned 400kV AIS at Meghnaghat. The power evacuation line and the facilities at the Meghnaghat substation shall be constructed, owned and operated by PGCB. The transmission network under consideration is presently under development by PGCB. Till the time AIS substation is ready, power from the CCPP is proposed to be evacuated through the existing 400kV lines (passing very close to project site) connecting the Aminbazar substation owned by PGCB.

The ESIA report was prepared for the project by Adroit Environment Consultants Ltd, Bangladesh based on the study carried out during the period September to December 2016. The study was based on the EIA guidelines issued by Department of Environment, Government of Bangladesh in compliance with International regulations/ Guidelines like ADB, SPS etc.

1.1. Scope of Work

The scope of services of FESA includes the following

- ✓ Phase-I (From commencement of services till commencement of Construction Activities) - Technical Due Diligence and E & S Due Diligence of the Project
- ✓ **Phase-II- Construction Progress Report and EMP Monitoring**
- ✓ Phase-III Annual O & M Review and EMP Review.

The reporting tenure is considered from 1st October to 31st December, 2020. The scope of work for the E & S Monitoring and Reporting during Construction Phase, as defined in the Contract, is as follows:

- ✓ Provide confirmation of project status and compliance with Applicable Standards
- ✓ Provide confirmation of the Borrowers' organization capacity
- ✓ Identify obvious discrepancies between on – site reality and the reviewed documentation
- ✓ Understand the project challenges with regards to the implementation of Applicable Standard to define the relevant corrective actions, and
- ✓ Evaluate the extent of community support
- ✓ Inspection of Project site
- ✓ Inspection of the associated infrastructures
- ✓ Inspection of monitoring methodology and data recording
- ✓ Interviews with stakeholders including site managers, contractors and EHS specialists
- ✓ Interviews with affected communities and key locals' representatives

The following documents have been reviewed for the present E&S Construction Monitoring Report –

- ✓ Implementation Agreement (IA) for the Project between the Government, PGCB and RBLPL
- ✓ Labor Management Plan
- ✓ Site Waste Management Plan
- ✓ HSE Management Plan
- ✓ Traffic Management Plan
- ✓ Construction, Environment and Social Management Plan
- ✓ Environment and Social Action Plan (ESAP) and compliance status
- ✓ Environmental clearance
- ✓ Site Photographs

This Report is prepared on the strength of and by placing reliance on the data provided by the Reliance Bangladesh LNG & Power Limited (RBLPL) (the "Data") for the exclusive use and benefit of the RBLPL and Lenders as applicable for First Environmental and Social Monitoring Report (the "Purpose") without having the requirement to independently validate the Data as to its accuracy or sufficiency. Consequently, Tractebel does not have any responsibility whatsoever with respect to the inaccuracy or insufficiency of the Data or the resulting inaccuracy or insufficiency creeping into the outcome derived therefrom in the Report. Tractebel's findings, contained in the Report are given as on the date of writing this Report, are strictly limited to the Purpose and are not to be read as extending by implication to any other purpose. The sharing of this Report in any form by Reliance Bangladesh LNG & Power Limited (RBLPL) or Lenders with any third party is strictly prohibited.

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2. ENVIRONMENT & SOCIAL MONITORING & REPORTING

Reliance Bangladesh LNG & Power Limited is setting up a gas based Combined Cycle Power Plant of 718 MW (net) contracted capacity at Meghanaghat in Bangladesh.

The block shall comprise of complete, integrated and operational functional package with two (2) gas turbine generators, two (2) heat recovery steam generators and one (1) steam turbine generator along with all associated equipment, components, systems & auxiliaries to operate with natural gas.

The environmental and social monitoring progress reporting is carried out as an integral part of the planning and execution of the construction phase for the review period 1st October to 31st December 2021.

2.1. Project Status

The Project Completion timeline is estimated to be 26 months from date of NTP, which is 27th Jan 21.

The current staff strength of the Contractor at site is around 893 personnel (including the sub contractor staff). FESA is of the view that, the manpower and resource deployment is adequate for present physical progress. FESA advised the Project Company to comply with the safety protocol prescribed in recent notification issued by GoB/WHO, considering the COVID – 19 pandemic. The detail manpower list is indicated below –

S. No.	Sub – Contractor	No. of Manpower
1.	Samsung Korean Staff	18
2.	Samsung Global Staff	5
3.	Samsung Local Staff	49
4.	Indirect Staff	42
5.	Sinamm (Civil contractor)	426
6.	UML (Civil Contractor)	234
7.	IBMS (Electrical Staff)	24
8.	DSHI (Mechanical Contractor)	60
9.	Security	35
	TOTAL	**893**

**Manpower deployment is floating in nature, based on need basis.*

An Overall Progress of around 34.5% (Engineering, Procurement, construction and commissioning) has been achieved by the EPC Contractor as against a planned progress of 33.5% as on 28th February 2021.

Corresponding Engineering Progress is around 84.1% as against a planned progress of 82.9%, the Procurement Progress is 42.0% as against the planned progress of 41.8% and Construction Progress is around 20.6% as against a planned construction progress of 17.6% up till 28th February 2021.

2.2. ESIA Methodology & Assessment

The ESIA report was prepared following standard methodology and covers all the key environmental and social parameters applicable and relevant to the project under consideration.

A study area of 5 km radius around the project periphery was considered for collection of baseline data and assessment of impacts

Baseline data from primary and secondary sources were collected on the following aspects:

- Climate and micro-meteorology
- Physiography
- Drainage and Hydrology
- Soil type
- Seismicity & earthquake
- Land use
- Ambient air quality
- Ambient noise levels
- Surface water and Ground water quality
- Soil characteristics
- Terrestrial and aquatic ecology including fish fauna
- Socio-economic profile
- Traffic situation

The identification and assessment of potential environmental and social impacts of the project within the study area was done using a checklist method. Impacts of the project was assessed for both construction and operation phases.

Impact assessment for construction and operation phases has been carried out for the following attributes:

- Land use / land cover
- Ambient air quality
- Ambient noise levels
- Water quality and resources
- Terrestrial and Aquatic Ecology
- Occupational health and safety
- Community health and safety
- Socio-economic impacts

Impacts arising out of various activities during construction and operation phases have been taken into account. These include impacts due to the following activities:

- Site development activities
- Traffic and transport
- Exhaust / stack emission
- Liquid discharge
- Solid and municipal waste
- Hazardous waste
- Noise and vibration

Based on the impact assessment, the ESIA report recommended an environmental and social management plan (ESMP). The ESMP describes the management and monitoring requirements for both the construction as well as operation phases. The ESMP, as provided in the ESIA report, includes the following:

- Roles and responsibilities
- Mitigation measures
- Monitoring plans and schedules
- Monitoring parameters
- Corporate social responsibility
- Green Belt development
- Monitoring and review of implementation
- Emergency response and disaster management plan
- Grievance redress mechanism
- Stakeholder management plan

Based on the Environment & Social Action Management Plan as suggested by the Project Company in the approved ESIA report and as per FESA's recommendation, FESA Categorized the project under Environment, Involuntary Resettlement and Indigenous People as indicated below –

a. The Land for the project belongs to BPDB and RBLPL has taken the land on lease for the duration of PPA. There is no inhabitant in the land and there is no displacement of people from the site.
b. The Plant uses Natural Gas which is clean fuel.
c. The equipment's are designed to meet the IFC's air quality, noise standards.
d. The plant is equipped with Effluent Treatment Plant (ETP), Sewage treatment plant (STP) and Central Monitoring Basin (CMB). The wastewater will be treated before disposal and meet the IFC standards.
e. The plant is equipped with Inducted Draft Cooling Tower and the water from Condenser outlet is cooled to room temperature. The blow down water from the cooling tower is treated in the CMB and disposed to River at ambient temperature.
f. The Plant used combined cycle power plant which uses Heat Recovery Steam Generation (HRSG) System that uses the heat from Gas Turbine exhaust gas for generation steam and further use it in the Steam Turbine to generate power. The flue gas after HRSG reduces the temperature to large extent and disposed to atmosphere with a stack of 70 meters above ground.
g. The ESIA Report has quantified the impact on the project on Air, Water, Noise and the community. The environmental impact with the designed equipment is within the stipulated IFC standards.
h. The ESIA Report recommends ESMP which will be implemented by EPC Contractor and monitored by RBLPL.

Based on the above and ESIA recommendations & observation, FESA categorization is based on the most environmentally sensitive component. This means that if one part of the Project is with potential with significant adverse environmental impacts, then the project is to be classified as Category A regardless of potential environmental impact of other aspects of the project.

Project Categorization

The ADB Safeguard Policy Statement 2009 sets out the requirements for ADB's operations to undertake an environmental assessment for projects funded by the bank.

As per ADB Safeguard policy Project is classified under category A.

Based on site specific environmental and social impacts assessment and checklist as stated in above section, the major observations of the project are as follows:

- Land for the project is being provided by BPDB. Hence, no involuntary resettlement is proposed for the project.
- No Schedule Tribes or Indigenous Population is likely to be affected by the project.
- No ecologically sensitive areas like national parks, wildlife sanctuaries, scheduled areas or critically polluted area is located within 10 km from the project site.
- Identified site is devoid of any natural forest or ecology of great concern. Hence no significant impact on ecological balance of the area is expected.

Accordingly, FESA observed that the Project has potential impacts and requires Public Consultation (at least twice during ESIA process), for which the second one is pending, hence FESA is of the view that the Project may be considered in Category – A as per IFC standard and OECD standard.

a) Involuntary Resettlement – Category C, since the Project under consideration involves no Involuntary Resettlement impact.
b) Indigenous People – Category C, since the Project under consideration is not expected to have impact on Indigenous People

FESA with consensus from the Lender's have finalized a Compliance Register based on the Environmental and Social Action Plan (ESAP) and Environmental and Social Management Plan (ESMP) for pre – construction and construction period. The same shall be quarterly updated and reported along with the site visit assessment.

2.3. ESAP & ESMP Compliance

The Environment & Social Action Plan and Environment and Social Management Plan Compliance Register as approved between the Lenders and Project Company was provided with status as on 31st December, 2020. FESA has reviewed the same our opinion is indicated below –

S No	Key aspects	Inspection/Monitoring Frequency	FESA's Remarks
Pre – Construction Compliance Conditions: Additional Baseline Data Collection and Analysis			
1.	Ambient Air Quality Monitoring (8 weeks). 24 Hrs Continuous monitoring at 6 Locations. Parameters: CO, CO2, N2O, O3, NOx, PM10, PM2.5, SOx, SPM, Humidity and Air Temperature.	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete. Report preparation by the Project Company is under progress incorporating both the

S No	Key aspects	Inspection/Monitoring Frequency	FESA's Remarks
			season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
2.	Noise Level Hourly for 24 Hrs, Once during each additional baseline data collection period. Sampling Location: 8 nos (3 nos at Plant Boundary + 5 Outside of Plant Boundary	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete. Report preparation by the Project Company is under progress incorporating both the season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
3.	Groundwater Parameters: Groundwater level, pH, TDS, Ammonia, Nitrate, Phosphate, As, Fe, Mn, Coliforms, TSS, Copper and Chloride	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete. Report preparation by the Project Company is under progress incorporating both the season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
4.	River Surface Water Parameters: Water temp., DO, BOD5, COD, Oil and Grease and heavy metals (Cr, Cd, Pb) Sampling Points 04 nos -Water Intake, Outfall Point,500mtrs Upstream and 500mtrs Downstream	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete. Report preparation by the Project Company is under progress incorporating both the season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
5.	Soil Quality Parameter: Cr, Cd, Pb and Oil and Grease	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete. Report preparation by the Project Company is under progress incorporating both the season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
6.	Hydrology Parameter: Flow of Meghna River	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete. Report preparation by the

S No	Key aspects	Inspection/Monitoring Frequency	FESA's Remarks
			Project Company is under progress incorporating both the season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
7.	Aquatic Ecology (Including presence of Gharial). Sample will be taken near intake & Outfall area.	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete. Report preparation by the Project Company is under progress incorporating both the season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
8.	Fishing and Navigation Sample will be taken from Temporary Jetty Structure, Water Intake & Water Outfall.	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete. Report preparation by the Project Company is under progress incorporating both the season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
9.	Flora and fauna	1.Aug'20-Sept'20; Once 2.Dec'20-Jan'21; Once	Additional Baseline Data Collection for the month of August to September, 2020 and Dec'2020 to Jan'21 is complete by RBLPL. Report preparation by the Project Company is under progress incorporating both the season data. The same shall be shared with FESA. FESA will review the comprehensive report and give its observation.
Additional Studies/Action Plan			
1.	Temporary Jetty Construction	Before Start of Jetty Construction	The E&S Assessment of the Temporary Jetty was conducted by M/s. Adroit Environment Consultant Ltd. (AECL). ESIA and ESMP report is prepared and shared with FESA and Lenders. Comments from the Lenders' and FESA is incorporated and submitted to Lenders'.
2.	Additional Laydown Area	Should be ready before use of additional laydown area	The E&S Assessment by M/s. Adroit Environment Consultant Ltd. is under progress.

S No	Key aspects	Inspection/Monitoring Frequency	FESA's Remarks
3.	Gas pipeline construction	Should be ready before start of Gas pipeline construction.	The E&S Assessment by M/s. Adroit Environment Consultant Ltd. is complete. The ESIA & ESMP report preparation is under progress.
4.	Temporary Transmission Line	Should be ready before start of temporary Transmission line construction.	The E&S Assessment by M/s. Adroit Environment Consultant Ltd. is complete. The ESIA & ESMP report preparation is under progress.
5.	Green House Gas Management	Condition precedent to first drawdown	The GHG management plan is approved and if monitoring required will be implemented as per the Plan.
6.	Traffic Volume	Condition precedent to first drawdown	Traffic Management plan is in place and is implemented at site
7.	Intake Channel	Before Start of Construction	The intake point should be designed in accordance with World Bank EHS guidelines. The construction activity is yet to start.
8.	Health & Safety Management Plan, Labor Management Plan and Sewage Management Plan	Condition precedent to first drawdown	All the management plans are prepared, approved and implemented.
9.	Preparation of CESMP/CEMP Preparation of Emergency Response Plan	Condition precedent to first drawdown	The plan is ready and approved. It is being accordingly complied during project execution phase
10.	OESMP will be prepared prior to Operational phase	Prior to Operation phase	Shall be prepared prior to operation phase
11.	Stakeholder Consultation	Before start of Construction Condition precedent to first drawdown	Conducted on 16th August, 2020
During Construction			
1.	Ambient Air Quality: CO, CO2, N_2O, O_3, NOx, PM10, PM2.5, SOx, SPM, Humidity and Air Temperature.	Monthly-Continuous 24Hrs	Is under progress. The monthly monitoring records (for review period 1st Oct to 31st Dec'2020) are attached as Annexure A, B & C respectively to this Report. FESA observed that all the monitoring results were well within the National Standard ECR 1997 and subsequent amendment 19th July, 2005.
2.	River Surface Water: Water temp, pH, DO, BOD_5, COD, Oil and Grease and heavy metals (Cr, Cd, Pb)	Monthly	Is under progress. The monthly monitoring records (for review period 1st Oct to 31st Dec'2020) are attached as Annexure A, B & C respectively to this Report. FESA observed that all the monitoring results were well within the National Standard ECR 1997.
3.	Noise Level: Noise at different locations	Monthly	Is under progress. The monthly monitoring records (for review period 1st Oct to 31st Dec'2020)

S No	Key aspects	Inspection/Monitoring Frequency	FESA's Remarks
			are attached as Annexure A, B & C respectively to this Report. FESA observed that all the monitoring results were well within the National Standard ECR 1997 and subsequent amendment 19th July, 2006.
4.	Drinking Water: TSS, TDS, Temperature, pH, Ammonia, Nitrate, chloride, Phosphate, As, Fe, Mn and Coliforms	Monthly	Is under progress. The monthly monitoring records (for review period 1st Oct to 31st Dec'2020) are attached as Annexure A, B & C respectively to this Report. FESA observed that all the monitoring results were well within the National Standard ECR 1997.
5.	Soil Quality: Cr, Cd, Pb and Oil and Grease	Once in a year	Shall be monitored and recorded during the construction
6.	Hydrology: Flow of Meghna River	Quarterly	The NTP of the project was 27th January, 2021. Subsequently Project Company plans to conduct the hydrology study during Jan'21 to Mar'21.
7.	Groundwater: Groundwater level, pH, TDS, Ammonia, Nitrate, Phosphate, As, Fe, Mn, Coliforms, TSS and chloride	Half Yearly	Shall be monitored and recorded during the construction
8.	Site Security: Proper fencing, isolation of site from general access, marked passage for workers and visitors	Before Start of Construction	The site access is restricted to general public, proper boundary wall with barbed wire fencing is constructed and 24X7 security staff are available at main gate and office area. Restricted access demarcation along with sign boards are placed.
9.	Traffic Volume: 1) Maintain entry and exit record of Vehicles. 2. Regulate entry and exit of Vehicles to avoid road blockages in the Project area.	Daily	The daily vehicle entry and exit data is being continuously recorded. The vehicular movement is being managed as per the vehicle management plan
10.	Personal Protective Equipment (PPE): Ensure every single person involved in the construction activity wear proper PPE	Daily	PPE kits is being provided to every person working at site, as a safety measure as well as to fight against Corona
11.	Incident record & reporting: Document record of all incident, accident, near misses etc. and its remedial process.	Daily	The incident reporting is being recorded and addressed consequently at site
12.	Solid Waste: Record quantity of solid waste, segregation and disposal process. No Sewage sludge can be used for fertilizer unless it is tested	Daily	The Solid waste management plan is being implemented at site. Project Company has engaged a waste disposal Company for collecting waste from the site on daily basis.
13.	Oily waste: Record quantity of oily waste, storage and disposal process	Daily	The NTP of the project was 27th January, 2021. Subsequently Project Company plans to

S No	Key aspects	Inspection/Monitoring Frequency	FESA's Remarks
			conduct the hydrology study during Jan'21 to Mar'21.
14.	Grievance Redressal: Record grievances and remedial actions taken. (Maintain Grievance register)	Regular	Grievance redressal committee and office has been established and introduced to the stakeholders. FESA observed that the Grievance Redressal facilities are easily accessible to the local and the labours at site. During the review period no grievances were raised.
15.	Provide Safety orientation and training before deployment. Safety Orientation for all the visitors coming for site inspection.	Regular	Is being implemented at site with proper record keeping
16.	Provide and maintain safe drinking water and sanitation facilities.	Daily	Drinking water facilities are installed and are accessible to all the workers. The sample monitoring is under progress. The monthly monitoring records (for review period 1st Oct to 31st Dec'2020) are attached as Annexure A, B & C respectively to this Report. FESA observed that all the monitoring results were well within the National Standard ECR 1997.
17.	Aquatic Ecology: Continuous daily visual inspection by trained staff.	Daily	Will be monitored from Jan'21 i.e. after NTP to start the construction works.
18.	Fishing and navigation: Avoid obstruction to Fishing and Navigation	Regular	Will be monitored from Jan'21 i.e. after NTP to start the construction works.
19.	Flora and Fauna: Restrict movement of personnel and vehicles on access roads and Project boundary.	Daily	Is being monitored regularly. The Traffic management plan is being followed and duly implemented.
20.	Archaeology: Report if any remains are found to Archaeological Department. Also protect insitu.	Daily	As on date no such remains has been witnessed, however, incase any such remains are encountered during project execution, then the same shall be dealt as per the Chance Find Procedure.
21.	Occupational Health & Safety: Provide EHS training to all staff and Workers including training on good housekeeping, cleanup of debris and spills, and working in confined spaces and at height. Record all fatalities, accidents and near misses during Construction work and implement corrective actions. Display of Emergency Contact Nos at Construction Site and Office.	Daily	The EHS practise is being implemented at site and regularly documented. The EHS report and certification is attached as **Annexure – D**

S No	Key aspects	Inspection/Monitoring Frequency	FESA's Remarks
22.	Condition of Roads & Bridge: 1. Ensure that roads and bridges used by construction traffic are maintained in their initial condition. 2. Damages to be immediately repaired.	Quarterly	Will be monitored from Jan'21 i.e. after NTP to start the construction works.
23.	Socio – Economic Environment: 1. Maximise use of local labour based on skill. 2. No Child labor. 3. Labor shouldn't be allowed to take up fishing in the area. 4. Regular talk with workers and staffs on communicable diseases including HIV.	Regular	As per the labour management plans, all the points are being implemented at site
24.	Maintaining proper functioning of the drainage system at Site and Laydown area.	Regular	Is being taken care at site.
25.	Dust Suppression: Regular Sprinkling of water for suppression of dust	Daily	The dust suppression measure i.e. by spraying water from the tankers are being implemented at site
26.	Natural Disaster and Flash Flooding: Drainage system to be designed with provision for settling basin before discharge into river.	One Time-Design Drawing	Shall be taken care during project execution. Appropriate drainage scheme shall be implemented during design and engineering

2.4. Additional Baseline Data Collection

As per approved ESIA, Project Company has conducted the additional baseline data collection for Meghnaghat 718 MW CCPP. First season data collection was for the month of August & September 2020 and the second season data of Dec'2020 and Jan'2021.

The Assessment Report is under preparation by the Project Company. The consolidated report shall be shared with FESA and once it is approved the reports will be submitted to the Lenders'.

The relevant environmental standards (national as well as international) for Gas based Powerplants as applicable to this Project is being complied. The priority economic activities are industrialization, fisheries, agriculture, and plantation. According to different environmental policy and regulations of Bangladesh, plant site is away from any notified eco sensitive area like Natural Park, wildlife sanctuary, buildings of archaeological importance etc.

1.0 Ambient Air Quality

According to the Environment Conservation Rules 1997 (Government of People's Republic Bangladesh) and its subsequent amendment at 2006, the national ambient air quality standard and international standard (IFC/WHO) has been depicted in table 1 below –

Table 1: Ambient Air Quality Standards/ Guidelines

Parameters	Bangladesh		WHO	
	24 hourly ($\mu gm/m^3$) mean	**Annual mean($\mu gm/m^3$)**	**24 hourly ($\mu gm/m^3$) mean**	**Annual mean ($\mu gm/m^3$)**
SPM	200	-	-	-
PM_{10}	150	50	50	20
$PM_{2.5}$	65	15	25 (guideline)	10
SO_2	365	80	20	-
NO_x	-	100	200 (1 – hour)	40
CO	10,000	-	10,000	-

Note – CO and SPM concentrations and standards are 8-hourly only.

- *The Bangladesh National Ambient Air Quality Standards have been taken from the Environmental Conservation Rules, 1997 which was amended on 19th December 2005 vide S.R.O. No.220-Law/2005.*
- *WHO Ambient Air Quality Guideline Values (2005 and 2000), which are also being referred in the World Bank and IFC's General EHS Guidelines (2007). Represents the standard values applicable to the Project.*

As per the WB/IFC General EHS guidelines, ambient air quality results need to be compared with the relevant ambient air quality guidelines and standards by applying national legislated standards, or in their absence, the current WHO air quality guidelines or other internationally recognized sources, such as the United States National Ambient Air Quality Standards and the relevant European Council Directives. Since, Bangladesh has its own national ambient air quality standards, these local standards are considered as the applicable standard for the project.

2.0 Ground Water Quality –

According to the Rule 12, Schedule-3 (A), ECR 1997, standard for ground water has been depicted in Table 2, below –

Table 2 : Bangladesh standard for Ground Water

Parameter	Unit	Bangladesh Standards
Arsenic	Mg/L	0.05
Ammonia	Mg/L	0.5
Aluminium	Mg/L	0.2
Chloride	Mg/L	150 – 600
Chromium	Mg/L	0.05
Coliform (Fecal)	N/100 ml	0
Coliform (Total)	N/100 ml	0
DO	Mg/L	6
Fluoride	Mg/L	1
Hardness	Mg/L	200 – 500
Iron	Mg/L	0.3 – 1.0
Lead	Mg/L	0.05
Manganese	Mg/L	0.1

Parameter	Unit	Bangladesh Standards
Nitrate	Mg/L	10
Chloride	Mg/L	600
Potassium	Mg/L	12
Copper	Mg/L	0.5
Phosphate	Mg/L	6
Phosphorous	Mg/L	0
pH	-	6.5 – 8.5
Sulphate	Mg/L	400
TDS	Mg/L	1000
TSS	Mg/L	150
Temperature	°C	20 – 30

Bangladesh Standards for surface water is indicate in the table 3, below –

Table 3: Bangladesh standard for Surface Water

Parameter	Unit	Bangladesh Standards
pH		6.5 – 8.5
BOD_5	Mg/L	50
DO	Mg/L	More than 8
TDS	Mg/L	2100
Conductivity	µS/cm	Not Found
Alkalinity	Mg/L	Not Found
Iron	Mg/L	2
Chloride	Mg/L	600
Hardness	Mg/L	200 – 500
Temperature	°C	40
Arsenic	Mg/L	0.02
TSS	Mg/L	150
COD	Pt-Co	200
Color	#/100 mL	10

3.0 Noise Level

According to The Bangladesh National Ambient Noise Standards have been taken from Schedule 4 (Standards for Sound) of the Environmental Conservation Rules, 1997 amended December 7, 2006, has been describe in the following Table 4, below –

Table 4: Noise Level Standards/ Guideline

Parameters	Bangladesh		IFC – WHO	
	Day (dB(A)	Night (dB(A)	Day (dB(A)	Night (dB(A)
Silent Zone	50	40	55	45
Residential Area	55	45	55	45
Mixed Area	60	50	-	-

Parameters	Bangladesh		IFC – WHO	
	Day (dB(A)	Night (dB(A)	Day (dB(A)	Night (dB(A)
Commercial Area	70	60	70	70
Industrial Area	75	70	70	70

Note – The Bangladesh National Ambient Noise Standards have been taken from Schedule 4 (Standards for Sound) of the Environmental Conservation Rules, 1997 amended December 7, 2006.

- *Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, World Health Organization (WHO), 1999.*
- *As per IFC EHS noise level guidelines, Noise impacts should not exceed the levels presented in the above table.*

2.5. E&S Assessment and Preparation of ESMP for Temporary Jetty, Laydown Area, Gas Pipeline area and Temporary Transmission Line

Adroit Environment Consultants Ltd. (AECL) was awarded to conduct the ESIA of Temporary Jetty, Additional laydown area, gas pipeline area, temporary transmission line etc. for Reliance Meghnaghat 718 MW CCPP Project at Meghnaghat, Sonargaon, Narayanganj, Bangladesh on 19th July, 2020. So far AECL has conducted the baseline survey and collected Air quality, Ambient noise, Surface water, Soil and Sediment samples from and around the project site. AECL has also conducted Focus group discussion (FGD) with the local people around the project area. In addition to this AECL has also identified environmental impacts due to project location, design, construction, and operations of the proposed temporary jetty and measures for minimizing and off-setting adverse impacts identified.

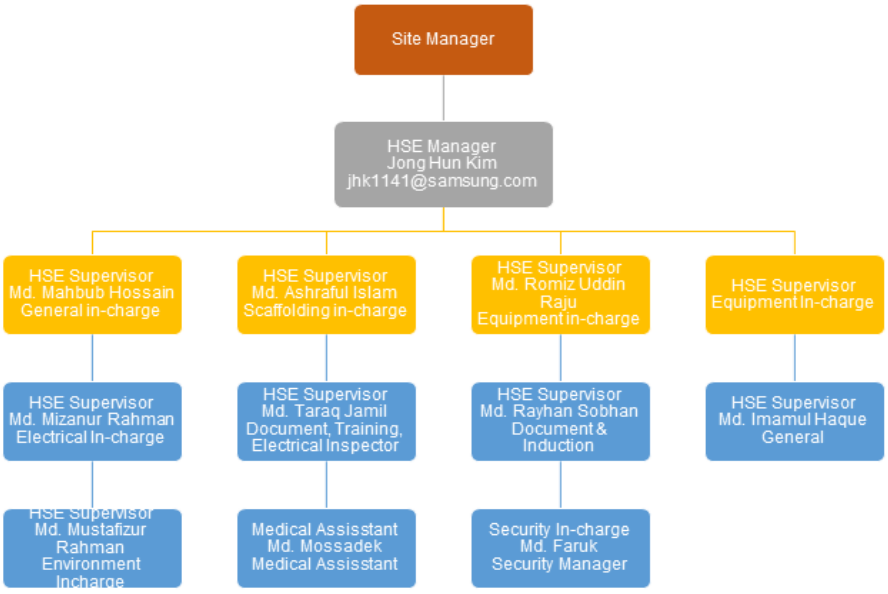
The ESIA and ESMP report for construction of Temporary Jetty was prepared and submitted to the Lenders' after incorporating the comments from FESA.

2.6. Organization Chart RBLPL

RBLPL's Environmental and Social Organizational chart is indicated below:

Considering the present status of the project where is construction works are being executed in full swing, FESA is of the view that the organizational capability responsible for EHS practices should be strengthened.

2.7. Organization Chart EPC Contractor



Occupational Health and Safety in the workplace is everybody's responsibility. However, certain individuals will be required to accept additional responsibilities based on their role. These roles include the following;

Site Manager

In addition to the demonstration of Occupational Health and Safety Leadership on the Project the assigned Project Manager has the responsibility and accountability for the Project Occupational Health and Safety and is specifically responsible for;

- Reports directly to Company HSE Representative relating HSE and Security concerns as representative of Project
- Providing leadership to the Project Team as it meets the overall objectives of the HSE Management System
- Ensuring that the Occupational Health and Safety Plan is established and implemented
- Monitoring the completion of Project activities in accordance with the requirements of the Occupational Health and Safety Plan
- Demonstrating commitment to the provision of safe systems of work that are non – hazardous to personnel or the environment
- Ensuring that activities are carried out in compliance with all applicable legislation
- Ensure that the 'Stop Work' Policy is place and understood by all staff, sub – contractors and workers
- Ensuring the delivery of the Project HSE objectives and expectations
- Reviewing project audits, incident reports and performance indicators

- Ensure adequate resources are made available for the implementation of the Occupational Health and Safety Plan
- Communicates HSE project performance to Company
- Promote a Near Hit reporting culture and ensure lessons learnt from these Near Hits are shared across Company, Contractor and all subcontract organizations
- Maintain a high profile in HSE by active participation in HSE audits, inspection and reviews
- Promotes open communication, co-operation and trust between himself, the Project team and subcontractor employees
- Provide excellent welfare to line-management, staff and workers

Project HSE Manager

Reports directly to the Project Manager

- Ensure the implementation, management and execution of the Occupational Health and Safety plan and procedures
- Review all HSE Inspection, Audit and Incident reports
- Conduct regular site inspections and prepare reports (including corrective actions) for submission to the Project Manager
- Liaise with Subcontractors' HSE Manager/s on matters regarding the health and safety of all workers
- Advise on work plans, risk assessments, method statements and safety procedures prior to commencement of work
- Ensure an Emergency Plan is established and maintained
- Provide Occupational Health and Safety information, advice and guidance as may be required, to all staff
- Establish and maintain an effective Occupational Health and Safety administrative system
- Assist in investigating all incidents. Reports with remedial actions will be submitted to HSE team at head office through the Project Manager
- Ensure that OH&S Officers conduct their Occupational Health and Safety activities
- To make the Emergency Plan for the Project according to the risks of the activities to realize and of the Project area

2.8. HSE Management

Health, Safety & Environment Objectives –

- Zero Lost time, Reportable or Fatal Accidents
- Zero Site Damage Incidents
- Zero (0) Environment Incidents
- Lost Time Injuries Frequency Rate (LTIFR) ≤ 0.02
- Total Recordable Injuries Frequency Rate (TRIFR) ≤ 0.10

The Project management team will establish key objectives and performance goals for the Project to achieve the overall objective of Zero Accidents. These goals will include positive, preventive or safety-enhancement actions (leading) and measurements of past events or non-compliances (lagging) indicators. Leading indicators are measurement of positive, preventive or safety – enhancement actions, eg –

- HSE induction training
- Daily Observation Closure Rate
- Site HSE Audit (Score)
- HSE communication
- HSE reward and recognition
- Permit to Work system
- Monthly Site HSE Assessment

Lagging indicators are typically measurements of past events or non – compliance, e.g. –

- Injury and illness rate
- Environmental incidents
- Compliance to EIA approval conditions
- Legal Compliance

General EHS management activities were conducted as follows:

Special Training, Quality and Safety Day Ceremony

- Special Training was conducted on "Avoiding Equipment Incident" to all personnel in several sessions.
- Special demonstration for prevention of material falling and proper use of Safety Harness

COVID-19 Awareness System

- All employee's body temperature checking is in progress three times per day and recorded daily.
- A disinfection Tunnel has been installed permanently at the main entrance gate (RFID Gate).
- Spraying disinfectant to every common area (resting shelter, toilet and urinate area, etc.)
- Mandatory use of mask

Security control

- The contractor is monitoring workers incoming & outgoing time daily basis.
- Total 35 numbers of security guards have been posted and working in 3 shifts.
- Vehicle entrance and materials carrying is controlled through approved gate pass only.
- RFID Gate operation started from 1st September 2020.

Security team conduct their duty in at three shift daily. Before starting every shift, In-charge person conducts TBT including with briefing with all security personnel. Shift changing procedure is following:

SHIFT A

- **Duty Time Period:** 06:00 to 14:00
- **Time of Presence:** Before 10 minute of starting duty hour.
- **In charge:** Security Manager (Time of Presence 08:00)

SHIFT B

- **Duty Time Period:** 14:00 to 22:00
- **Time of Presence:** Before 10 minute of starting duty hour.
- **In charge:** Security Manager (Time of Leave 16:00)
- Note: *After the security manager signs off, the security supervisor becomes in-charge.*

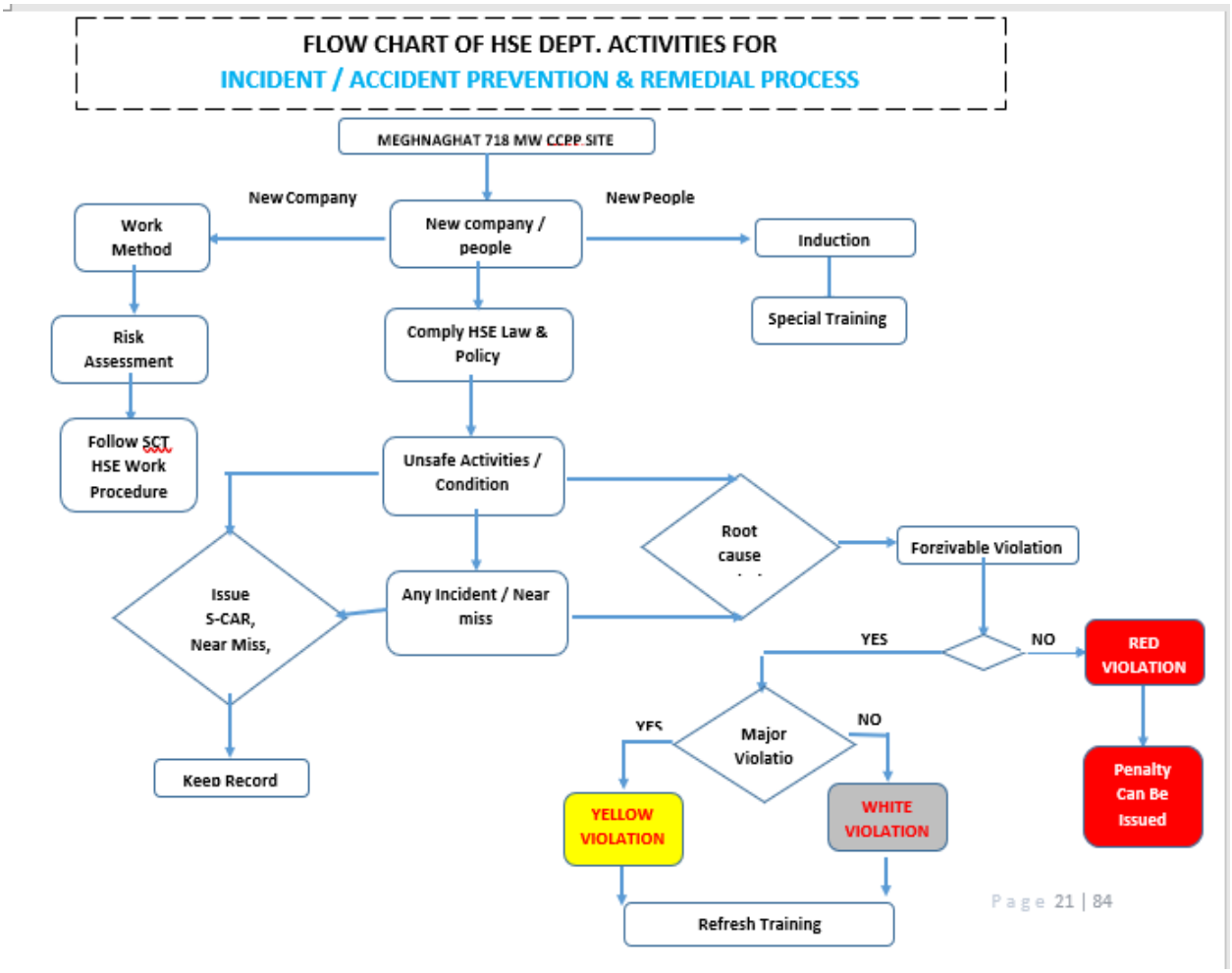
SHIFT C

- **Duty Time Period:** 22:00 to 06:00
- **Time of Presence:** Before 10 minute of starting duty hour.
- **In charge:** Security Supervisor (Time of Leave 16:00)

EHS Inspection

- Report against all unsafe activities, unsafe condition, Management failure, & Technical factor with evidence photo. On that report corrective action period should be written and corrective action should be done within that written time period. Evidence picture of that corrective action is mandatory.
- Inspection of Heavy Equipment, Lifting Gear, Electrical DB, and Power Tools conducted before the start of works.
- Every person is bound to implement PPE Standard on site. Safety Helmet, Safety Google, Safety Vest (Hi-Vi), Safety Hand gloves, Safety Shoe, this five PPE is mandatory. If any person wants to visit in site only, he also must need to wear mandatory PPE. Task specific PPE is also mandatory during special type of work
- Monthly Inspection and color-coding were conducted on all equipment, power tools & electrical DB.
- Walk-through and co-ordination meeting with sub-contractors has been conducted continuously for site EHS practice improvement

Total training statistics for the review period is attached as Annexure E.



2.9. Permits & Approval Status

S. No.	Permits Description	Issuing Authority	Issue Date	Validity Date
1.	Extension of EIA Approval	Department of Environment (DOE)	4th March 2018	3rd March 2022
2.	Approval for Construction of Temporary Jetty	Bangladesh Inland Water Transport Authority (BIWTA)	8th April, 2018	31st August 2021
3.	Approval for construction of intake, outfall structures and surface drain	Bangladesh Inland Water Transport Authority (BIWTA)	8th April, 2018	30th September 2021
4.	Temporary NOC from Fire Service Department	DFSCD	10th September 2018	20th September 2021
5.	Approval for Temporary Jetty	Department of Environment (DOE)	11th October 2020	Valid till operation phase

S. No.	Permits Description	Issuing Authority	Issue Date	Validity Date
6.	NOC to build exhaust stack and bypass stack at the site as part of the plant	Civil Aviation Authority of Bangladesh (CAAB)	14th February 2018	Valid till operation phase

2.10. GAP Analysis and Observation

As monitoring data furnished by the Project Company, FESA has following observation –

- the Project Company is complying to the ESIA & ESMP recommendations and practices.
- The Additional baseline data collection for two seasons is complete and consolidated assessment report is under preparation. The report will be reviewed by FESA and thereafter will be submitted to the Lenders'.
- The estimated start of construction of Temporary Jetty was March'21 to April'21. Accordingly, the ESIA & ESMP assessment was done prior to the construction of Temporary Jetty. The Report was reviewed by FESA and is shared with the Lender's as well. The comments from the lenders' was also suitably addressed and the revised report is circulated to all the stakeholders.
- Laydown Area:12.3 acre of laydown area available inside the site and the use of external laydown area will commence from April'21 after completion of supplemental ESIA for laydown. The E&S Assessment by M/s. Adroit Environment Consultant Ltd. is complete. The ESIA & ESMP report preparation is under progress.
- Temporary Transmission Line: As per L2 schedule construction start date:12-Aug-21. Commissioning/Back energizing date: 12-Sept-22. The E&S Assessment by M/s. Adroit Environment Consultant Ltd. is complete. The ESIA & ESMP report preparation is under progress.
- Gas Pipeline: As per L2 schedule construction start date:16-Feb-22 and Commissioning date is 12-Oct-22. The E&S Assessment by M/s. Adroit Environment Consultant Ltd. is complete. The ESIA & ESMP report preparation is under progress.
- Project Company is requested to share the Man – days & Loss Time Injury (LTI) Free Man – hours statistics.
- The statistics of Safety Corrective Action Request (S-CAR) and Behaviour Based Safety Observation (BBSO) should also be indicated in the E&S Monitoring Report.
- Project Company is advised to start monitoring and record keeping for the following activities as recommended in ESAP & ESMP –
    - Oily waste management and record monitoring – as per ESAP on daily basis
    - Hydrology study of Meghna river – as per ESAP quarterly basis
    - Aquatic Ecology – as per ESAP daily basis
    - Fishing and navigation – a regular practise
    - Condition of Roads & Bridge: (1) Ensure that roads and bridges used by construction traffic are maintained in their initial condition. (2) Damages to be immediately repaired. – As per ESAP on regular basis.

At the helm of the Energy Transition, Tractebel provides a full range of engineering and advisory services throughout the life cycle of its clients' projects, including design and project management. As one of the world's leading engineering and advisory companies and with more than 150 years of experience, it's our mission to actively shape the world of tomorrow. With about 5,000 experts and presence in more than 70 countries, we are able to offer our customers multidisciplinary solutions in energy, water and urban.

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