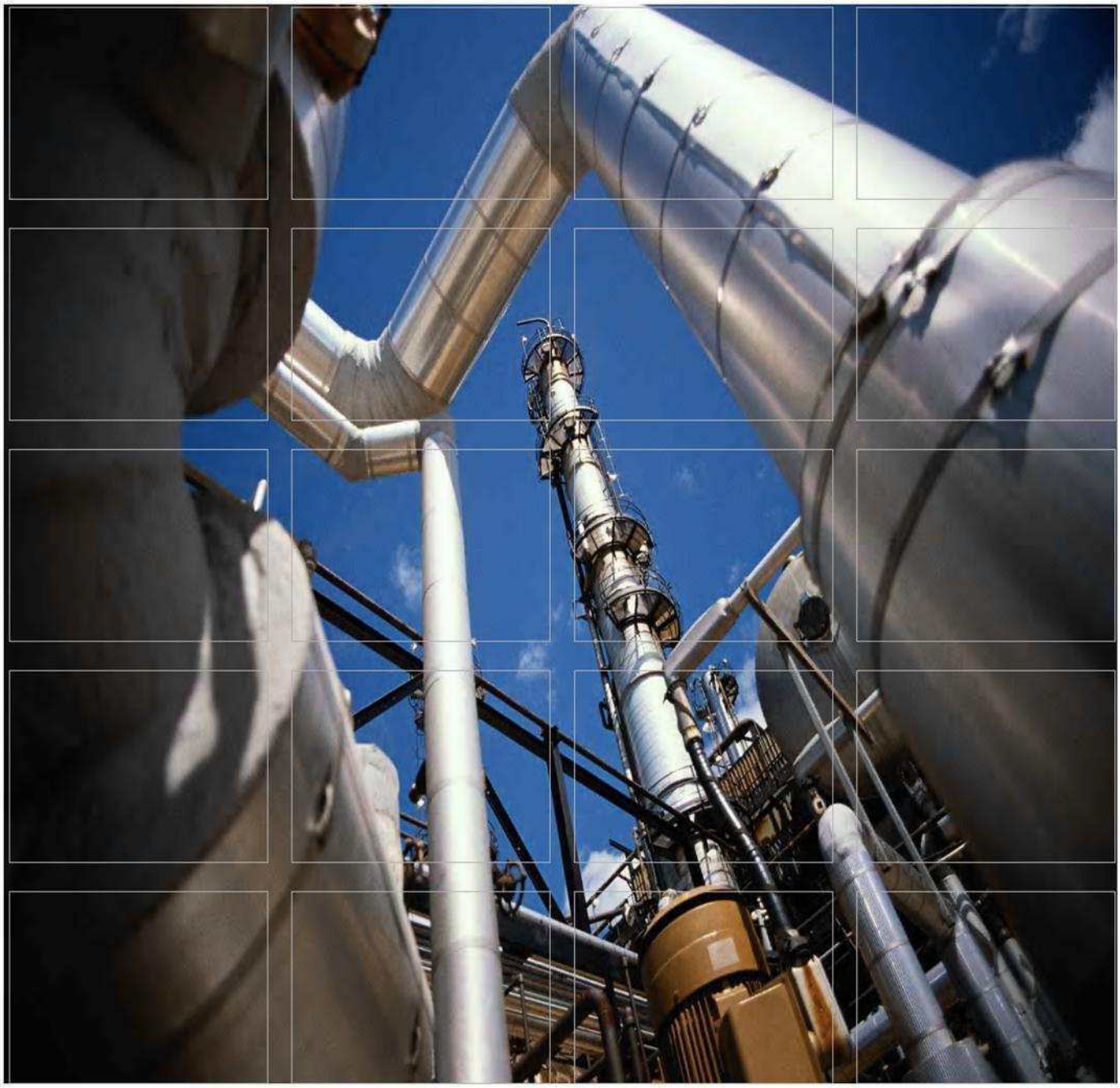
Environment and Social Compliance Audit

Project Number: 44951
October 2014

BAN: Bibiyana II Gas Power Project

Prepared by Environmental Resources Management for Summit Bibiyana II Power Company Limited



First Environmental, Health, Safety and Social (EHS&S) Compliance Audit during Construction Phase of Bibiyana II Power Project, *Habiganj, Bangladesh*

Summit Bibiyana II Power Company Limited

Draft Final Report

16October 2014

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CONTENTS

ABBREVIATIONS

ADB	Asian Development Bank
ALARP	As-Low-As-Reasonably-Practicable
AoI	Area of Influence
BCAS	Bangladesh Centre for Advanced Studies
BIWTA	Bangladesh Inland Water Transport Authority
BPDB	Bangladesh Power Development Board
CAP	Corrective Action Plan
CCB	Central Control Building
CCGT	Combined Cycle Gas Technology
CCPP	Combined Cycle Power Plant
CDO	Community Development Officer
CEMS	Continuous Emission Monitoring System
CLO	Community Liaison Officer
CMT	Construction Management Team
CO	Carbon Monoxide
COC	Cycles of Concentration
CSR	Corporate Social Responsibility
CW	Cooling Water
DLAO	District Land Acquisition Officer
DLN	Dry Low NOx
DM	Demineralisation
DoE	Department of Environment
EHS	Environment, Health and Safety
EHS&S	Environment, Health, Safety and Social
EPC	Engineering, Procurement and Construction
ERM	Environmental Resources Management
ERP	Emergency Response Plan
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
ESMS	Environmental and Social Management System
FNTP	Full Notice to Proceed
FY	Financial Year
GE	General Electric
GHG	Green House Gas
GIIP	Good International Industry Practices
GoB	Government of Bangladesh
GRM	Grievance Redress Mechanism
GSA	Gas Supply Agreement
GT	Gas Turbine
GTG	Gas Turbine Generator
HP/IP/LP	High Pressure/Interm Pressure/ Low Pressure
HR	Human Resources
HRSG	Heat Recovery Steam Generator
HSD	High Speed Diesel
IFC	International Finance Corporation
ISO	International Organisation for Standardisation
JGFC	Jalalabad Gas Field Company Limited
JGTDSL	Jalalabad Gas Transmission and Distribution System Limited
L&FS	Life and Fire Safety
LII	Lahmeyer India International
LLA	Land Lease Agreement
LOTO	Lock-Out/ Tag-Out
MCB	Miniature Circuit Breaker
MPB	Main Plant Building
NEPC	First Northeast Electrical Power Engineering Co
NOC	No Objection Certification
NOx	Oxides of Nitrogen

ODS	Ozone Depleting Substances
OHSAS	Occupational Health and Safety Management System
PAF	Project Affected Family
PAP	Project Affected People
PGCB	Power Grid Company of Bangladesh Limited
PM	Particulate Matter
PPA	Power Purchase Agreement
PPE	Personnel Protective Equipment
PS	Performance Standards
PSMP	Power System Management Plan
QRA	Quantitative Risk Assessment
RFP	Request for Proposal
SCBPL II	Summit Bibiyana II Power Company Limited
SEP	Stakeholder Engagement Plan
SIMCPL	Summit Industrial and Mercantile Corporation (Pvt) Ltd
SOP	Standard Operating Procedure
SPS	Safeguard Policy Statement
ST	Steam Turbine
STG	Steam Turbine Generator
TBT	Tool Box Talk
TSS	Total Suspended Solids
WB	The World Bank
WHO	World Health Organisation

Environmental Resources Management (ERM) was commissioned by Summit Bibiyana II Power Company Limited (SCBPL II) to conduct an Independent Environmental, Health, Safety and Social Compliance Audit ("the Audit") of the Bibiyana II Power Plant (*hereinafter referred to as "the Project"*) in Bangladesh, which is currently under construction.

The proposed Project is the new 341 MW gas-fired Combined Cycle Power Station, which is being developed by SBPCL II by installing one Gas Turbine (GT), one Heat Recovery Steam Generator (HRSG) and one Steam Turbine (ST). Gas supply for the Project will be from Bibiyana Gas Field and will be supplied by the Gas Supplier. Power generated by the Project will be evacuated through an existing 230 kV transmission line of the Power Grid Company of Bangladesh (PGCB).

The Project Developer 'SBPCL II' was incorporated in Bangladesh on 21st December 2010, as a joint venture of Summit Industrial and Mercantile Corporation (Pvt.) Ltd. (SIMCPL) and GE Energy LLC, a wholly owned subsidiary of General Electric Company.

The Engineering, Procurement and Construction (EPC) contractor for the Project is a joint venture comprising the First Northeast Electrical Power Engineering Co. and Northeast China International Electric Power Corporation (herein referred to as 'the EPC Contractor').

ERM undertook the compliance audit between 17th September 2014 and 29th September 2014 with supplementary information provided as on 9th October 2014. The audit was based upon document review of data room materials and in-country visit to the Project site between 20th October and 23rd October 2014.

The Project is presently in the construction phase, for which full notice to proceed (FNTP) to the EPC Contractor was issued on 25th January 2013. It has been reported by the *SBPCL II* management that based on the current progress as well as development of associated facilities by other agencies (i.e. Switchyard, transmission line and gas pipeline), the simple cycle project commissioning will be completed by first quarter of 2015, whereas the combined cycle will be commissioned by end of 2015.

The EHS&S compliance audit was performed in the context of the IFC Performance Standards, the ADB Safeguard Policy Statement, industry standards and local regulatory requirements to identify gaps and to provide corrective actions in order to comply with the applicable standards.

The gap assessment with respect to applicable standards primarily focusses on the construction phase environmental and social management and monitoring plan (ESMMP) developed as part of the ESIA study, Project level

environmental, health, safety and social policies, procedures and plans as being developed by *SBPCL II* and the EPC contractor as well as their implementation on ground. Furthermore, the aspects related to the operation phase of the Project and linked management plans have been referred in order to provide the context of the Project's EHS&S management planning during the operation phase.

The assessment has been presented in Section 2 and 3 with a Corrective Action Plan (CAP) in Section 4 to address the identified gaps.

1 INTRODUCTION

1.1 BACKGROUND

Environmental Resource Management (ERM) was commissioned by Summit Bibiyana II Power Company Limited (SCBPL II) to conduct an Independent Environmental, Health, Safety and Social Compliance Audit ("the Audit") of the Bibiyana II Power Plant (*hereinafter referred to as "the Project"*) in Bangladesh, which is currently under construction. The Project is a 341MW natural gas fired combined cycle power plant (CCPP) having one Gas Turbine (GT), One Heat Recovery Steam Generator (HRSG) and One Steam Turbine (ST). The Project is located at Parkul Village in Aushkandi Union under Nabiganj Upazilla of Habiganj District, Bangladesh.

1.2 OBJECTIVES AND SCOPE OF WORK

The objective of this Audit is to undertake an environmental, health, safety and social (EHS&S) compliance review of the Project against the Applicable Standards (defined in Section 1.3), which are:

a) To assess the Project's compliance with the environment, health, safety and social (EHS&S) requirements of the audit framework;
b) To review the environmental and social impact assessment report and management plans prepared for the Project and effectiveness of implementation of mitigation measures and monitoring programmes at site;
c) To review the ecology/migratory impact, impact on the Kushiyara river, impact on the underlying ground water, dust emissions, traffic and transport management, health and safety, protection of labour force, during construction and operation phases of the Project;
d) To review the implementation of the resettlement action plan developed for the Project;
e) To review the company's existing management system, standard operating procedures (SOPs) and training in relation to EHS&S and identification of areas for improvement/ enhancement;
f) To review the health and safety records of site and compliance with respect to the site specific safety management system adopted by the Engineering, Procurement and Construction (EPC) contractor and the company; and
g) To prepare a corrective action plan (CAP) identifying the gaps/ issues, recommendations, time frame for implementation and priorities.

The scope of work includes:

- To review supporting documents related to EHS&S aspects, including ESIA study, Resettlement Action Plan report, Technical Project Report, necessary local governmental and regulatory approvals, public consultation records and social management plan, relevant extracts of the Engineering, Procurement and Construction (EPC) contract, relevant

health, safety and environmental (HSE) records, EHS management plans, subcontract agreements, etc.
- Complete a site reconnaissance to the Project and its associated facilities, which will include discussion with the Project Developer, the EPC contractor, workers and project affected people; and
- Preparation of a gap assessment report with a Corrective Action Plan (CAP) to address identified gaps.

1.3 COMPLIANCE AUDIT FRAMEWORK AND EVALUATION CRITERIA

The EHS&S compliance audit would be carried out and evaluated against the following criteria:

- Applicable Local and National environment, occupational safety, health and social legislations;
- IFC Performance Standards on Social and Environmental Sustainability (2012);
- ADB Safeguard Policy Statement (2009);
- IFC/WB Environment, Health and Safety Guidelines – General and for Thermal Power Plants (2007);
- Good International Industry Practices (GIIP) including elements of Environmental Management System (ISO 14001) and Occupational Health and Safety Management System (OHSAS 18001 or equivalent); and
- All requirements and mitigating or monitoring measures specified in the Environmental and Social Impact Assessment (July 2014 – 7th Draft) as well as Draft Resettlement Action Plan (July 2014 – 5th Draft).

1.4 APPROACH TO THE COMPLIANCE AUDIT

The Audit was broadly divided into four tasks:

- Document review;
- Site visit and consultation with Project Developer and EPC contractor;
- Generic community, project affected people (PAPs) and workers consultations during the site visit; and
- Reporting.

1.4.1 Document Review

ERM reviewed the provided documentation to evaluate the extent to which the potential EHS&S impacts of the Project have been assessed and management systems developed and the consistency of these assessments with the guidance prescribed in the Applicable Standards. This includes the following key documents:

- Environmental and Social Impact Assessment (ESIA) Report of the Project (July 2014 – 7th Draft);
- Project Site Social Compliance Audit Report prepared by BCAS and Environ (October 2014);

- Site Clearance Certificate covering Bibiyana I and II from Department of Environment (DoE) dated 29th May 2011 and its renewal dated 25th June 2014;
- Submission of Draft ESIA report to the DoE for EIA approval (10th August 2014);
- No Objection Certification (NOC) from Bangladesh Inland Water Transport Authority (BIWTA) for Jetty Construction (31st July 2014);
- Application for extension of license for Jetty use to BIWTA dated 28th August 2014;
- Overall Planning Drawing of the Power Plant (Drawing # SP322-ZZZ-BDR-003 dated 22nd May 2014);
- Gas Supply Agreement between Jalalabad Gas Transmission and Distribution System Limited (JGTDSL) and *SBPCL II* (May 2011);
- General Layout of Power Plant (Drawing # SP322-ZZZ-BDR-002 dated 5th July 2014);
- Basic Design Volume I – Overall Description, dated 29th March 2013 by EPC Contractor;
- EPC Contract between *SBPCL II* and The First Northeast Electric Power Engineering Corporation with China Energy Engineering Group Co., Ltd. (14th November 2012);
- Noise Emission Guarantee for Gas Turbine by General Electric Company;
- Acoustics Guarantee for Gas Turbine by General Electric Company;
- Basic Design Volume X – Description of Environment, dated 31st May 2013 by EPC Contractor;
- Layout Plan of Interconnecting Transformer;
- Layout Plans of Temporary Jetty for heavy lifts during construction phase (10th March 2013);
- Gas Pipeline Status Update by *SBPCL II* (September 2014);
- Presentation from EPC contractor during compliance audit (20th September 2014);
- Organisation chart of EPC Contractor;
- Records of water sampling and analysis (December 2012 to August 2014);
- Records of Bengali Workers living in EPC Contractor's Dormitory;
- Sample records of injury and illness log of the EPC contractor and its subcontractors' workforce;
- Sample records of incident investigation and reporting of the EPC contractor;
- Sample Bangladesh Staff Employment agreement of the EPC contractor;
- Monthly log of use of gas cylinders of EPC Contractor (May 2013 – August 2014);
- Daily record of workers engaged at site by the EPC Contractor (21st – 26th September 2014);
- Management Manual for Quality, Environment and Occupational Health and Safety of the EPC Contractor (Edition 1, 30th May 2013);
- Sample subcontractor agreement between the EPC contractor and M/s Vertical Promoter for garbage treatment of construction site (1st April 2014);
- Human Resources (HR) Policy and Procedures of Summit Group (September 2011);

- NOC from Fire Service and Civil Defence, Habiganj dated 1st August 2013;
- Sample set of Incident investigation and reports;
- Sample set of Injury and Illness Log;
- Primary medical examination reports;
- Induction training records;
- Project EHS Plan;
- Sample set of Weekly Site Inspection Checklist;
- Hazardous Material Inventory;
- Structural Integrity Reports;
- Vehicle Inspection checklist (Chinese Language);

Gaps in the existing documentation required to be in line with the Applicable Standards were identified and analysed. This included reviewing gaps in the:

- Identification of Project impacts;
- Assessment of impacts;
- Development of management and mitigation measures; and
- Development of management systems for implementation and monitoring.

Identification and assessment of potential Project impacts should be based on an understanding of the proposed components, methods and activities of the Project and on an understanding of the environmental and social context of the Project area. As such, ERM reviewed the description of the Project contained in the documentation and also the assessment of baseline social and environmental conditions in the Project area. (The site visit later provided an opportunity to identify any further environmental or social receptors and sensitivities, understand the context of the site, current status of the project activities, implementation of the management plans and mitigation measures and discussion with Project representatives etc.).

ERM also evaluated the methodology for the assessment of impacts (but did not redo any impact assessment work). The IFC standards and ADB Safeguard Policy Statement (SPS) require the assessment of potential impacts to be an 'adequate, accurate and objective evaluation and presentation of the issues'.

ERM also reviewed the management and mitigation measures proposed in the Draft ESIA and other supporting documentation. The appropriateness of these measures were evaluated with respect to the extent to which all documented and agreed mitigation measures are in line with the requirements of components of the Applicable Standards. Any further impacts not included in the documentation were also identified.

Where residual impacts after mitigation have been assessed in the ESIA, the adequacy of the proposed mitigation measures were evaluated against their ability to ensure residual impacts are contained within acceptable levels (i.e. compliance with the Applicable Standards).

ERM also reviewed available management plans and evaluated the extent to which they are consistent with international good practice. ERM evaluated the management plans against the IFC standards and ADB SPS to identify gaps and deficiencies.

1.4.2 Site Visit

ERM conducted the site visit and consultations between 20th September and 23rd September 2014. The site visit served several purposes:

- Allowed the inspection of the current status of the Bibiyana II Gas Power Project and its associated components;
- Enabled ERM to observe implementation of the mitigation measures and management plans pertaining to environment, health, safety and social aspects as delineated in the ESIA and HSE management system along with the findings made in Project Site Social Compliance Audit Report (prepared by BCAS);
- Enabled ERM to observe the Project site, resettlement colony and surrounding areas;
- Enabled ERM to identify environmentally and socio-economically sensitive receptors present in the surroundings of the Project area; and
- Enabled ERM to conduct some succinct and focussed review with the workers, PAPs and other local stakeholders on social aspects.

The material gaps between the Project's existing ESIA, Project Site Social Compliance Audit Report (prepared by BCAS), HSE management system and its implementation with respect to the requirements of the Applicable Standards are identified and described in this report. Recommendations on measures to address these gaps and assist the Project in aligning with the Applicable Standards are also provided in *Section 4*.

Table 1.1 Site Assessment and Consultations (20th to 23rd September 2014)

Date	Summary of Activities
20th September 2014	• Opening meeting with the Project Team of EPC Contractor; • Presentation by the EPC Contractor on current project status and implementation of the HSE systems; • Visit to the Construction Area of the Project with HSE team of the EPC Contractor; • Discussion with the *SBPCL II* Site Head to brief about key observations of Day 1.
21st September 2014	• Meeting with the Project Developer and EPC Contractor for co-ordination of Day 2 activities; • Formation of two teams to capture on-site activities and associated facilities; • Team 1: Visit to sub-station area, approach road, transmission line and resettlement area with the Project Developer; • Team 2: Visit to Plant area with HSE team of EPC contractor; • Review of HSE management documentation; • Discussion with the *SBPCL II* Site Head to brief about key observations of Day 2.
22nd September 2014	• Discussion with subcontractors and workers; • Visit to water treatment, sewage collection, canteen, workers'

Date	Summary of Activities
	accommodation provided within the construction site, site clinic; • Review of HSE management documentation; • Closing meeting with the EPC contractor in presence of Site Head of *SBPCL II* Project
23rd September 2014	• Discussion with *SBPCL II* Project Team; • Closing meeting with Project Management Team of Summit in Dhaka.

1.5 *LIMITATIONS*

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 visit and review of information made available to ERM. 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 focused on the Bibiyana II Gas Power Project, however, relevant EHS aspects of the proposed developments of Bibiyana I and III power projects, proposed adjoining to the site and associated facilities being developed taking into consideration these facilities as well have been covered to the extent that information was made available by *SBPCL II* staff and through site observations;
- 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 documents and records that were made available in Chinese language only and could not be reviewed, however, ERM tried to understand the content of various forms and formats made available during the documentation review at the site with the help of interpreters.

1.5.1 *Uses 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 delivers 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.

1.6 LAYOUT OF THE REPORT

The draft report is structured as under:

Section 1 (this section):	*Introduction and Background;*
Section 2:	*Brief Project Description and Context Setting;*
Section 3:	*Gap assessment to the Applicable Reference Framework;*
Section 4:	*Corrective Environmental and Social Action Plan*
Section 5:	*Conclusion*
Annex A:	*Overall Planning Drawing of the Power Plant*
Annex B:	*General Layout of Power Plant*
Annex C:	*Photo Documentation*

2 PROJECT DESCRIPTION

2.1 THE PROJECT

The Government of Bangladesh (GoB) has adopted the Millennium Development Goals and has targeted to provide electricity to all citizens by 2021. As per the assessment of power in FY2012, about 60% (including off-Grid Renewable Energy) of the total population of Bangladesh has access to electricity and per capita energy generation is limited to 292 KWh. Present electricity demand growth is 12% per annum and the Government expects that the power demand could be 19,701 MW in 2017 and 24,000 MW in 2030. With a view to reducing the gap of existing and future demand-supply situation and with the aim of providing quality and reliable electricity to people, the Government has given priority to the development of the power sector by increasing the generation capacity, and extending the transmission and distribution facilities. To this end, government has formulated a Power System Master Plan 2010 (PSMP 2010). Based on the directives of PSMP 2010, Bangladesh Power Development Board (BPDB or "the Board") has taken a number of steps to increase the power generation in an accelerated manner.

A Request for Proposal (RFP) was issued by Power Cell (the Power Division of the GoB Ministry of Power, Energy and Mineral Resources) on 3rd May 2010 (and subsequently amended on 2nd September 2010) for a sponsor to develop a 330-450 MW Combined Cycle Gas Technology (CCGT) power station at Bibiyana on a 'build, own and operate' basis. The RFP was signed by *SBPCL II* on 6th September 2010 and in May 2011 *SBPCL II* signed: Implementation Agreements (IAs) with the GoB and the Power Grid Company of Bangladesh (PGCB); Power Purchase Agreements (PPAs) with the BPDB; Land Lease Agreements (LLAs) with the BPDB; and Gas Supply Agreements (GSAs) with the Jalalabad Gas Transmission and Distribution System Limited (JGTDSL).

In addition, an Engineering, Procurement and Construction (EPC) contract was signed with a joint venture comprising the First Northeast Electrical Power Engineering Co. and Northeast China International Electric Power Corporation (herein referred to as 'the EPC Contractor') on 14th November 2012 and full notice to proceed (FNTP) was given on 25th January 2013.

The proposed Project is the new 341 MW gas-fired Combined Cycle Power Station, which is being developed by Summit Bibiyana II Power Company Limited (*SBPCL II*) by installing one Gas Turbine (GT), one Heat Recovery Steam Generator (HRSG) and one Steam Turbine (ST). Gas supply for the Project will be from Bibiyana Gas Field and will be supplied by the Gas Supplier (i.e. JGTDSL). Power generated by the Project will be evacuated through an existing 230 kV transmission line of the PGCB.

2.1.1 *Project Developer*

The project developer for the Bibiyana II Gas Power Project is Summit Bibiyana II Power Company Limited (*SBPCL II*), which was incorporated in Bangladesh on 21st December 2010, as a joint venture of Summit Industrial and Mercantile Corporation (Pvt.) Ltd. (SIMCPL) and GE Energy LLC, a wholly owned subsidiary of General Electric Company. SIMCPL is part of the Summit Group, an established financial entity and is experienced in the efficient management, operation and maintenance of similar facilities in Bangladesh. Summit Group is one of the largest Bangladeshi conglomerates and the industries under this conglomerate include communication, trading, energy, power and shipping.

2.1.2 *Project Description*

ERM has the following understanding of the Bibiyana II Gas Power Project and its associated facilities:

1. **Project Site and Location:** The Project Site is located adjacent to the southern bank of the Kushiyara River, at 91°39'37"E longitude and 24°38'18" N latitude. The Project Site is located approximately 3 km to the west of the Sherpur Bridge, approximately 45 km south-west of Sylhet (the district headquarters) and approximately 180 km north-west of Dhaka. Administratively, the Project Site is located in the village of Parkul is Aushkandi Union under Nabiganj Upazila of Habiganj district. The *SBPCL II* Power Plant will be served by natural gas from the Bibiyana gas field, which is located approximately 6.5 km to the west of the Project Site at Karimganj. The Project site can be accessed by Dhaka – Sylhet National Highway and by river transport along Kushiyara River.
2. **Plant Configuration:** The proposed Project is a combined cycle power plant with 341 MW power generation capacity and will consist of one 222 MW GT, one HRSG and one 119 MW ST. The GE 'PG 935 IFA' Gas turbine with hydrogen cooled generators will be installed. It will have Dry Low NOx (DLN) combustors with 18 stage axial compressors, 3 stage axial turbines and a common rotor. Other significant components of the Project to be installed include raw water intake and outfall, water treatment plant, cooling towers, generator switch gear, emergency diesel generating set etc.
3. **Fuel Supply:** As per the gas supply agreements, natural gas for the *SBPCL II* Power Plant will be supplied by JGTDSL from the Bibiyana gas field, which is operated by Jalabad Gas Field Company Ltd. (JGFC). The gas will be transmitted through a 20 inch high-pressure pipeline, which stretches from the Bibiyana gas-field at Karimganj up to the connecting point of the *SBPCL II* power plant. As per the GSA, maximum hourly quantity of gas supply will be 2,600 MSCF, assuming a Higher Heating Value of 950 Btu per SCF.
4. **Water Requirement:** The ESIA report states that the total anticipated water use during the construction phase is 80 m^3/day. Water will be pumped from the Kushiyara River and a deep tube well may be installed in the area and then treated to potable standards. During the operation

stage, the *SBPCL II* Power Plant will operate a closed-loop cooling water system. A volume of 26,238m^3 will be pumped from the adjacent Kushiyara River once during start-up for use in the cooling system unit. The water from the Kushiyara River will be pumped to the Project Site through a pumping station located approximately 15 m from the river bank; no barrage will be built. During operation due to evaporation losses there will be a need for replenishment of cooling water ('make-up' water), which will be abstracted from the Kushiyara River at a rate not exceeding 383 m^3/hr. In addition, during operation demineralised water will be required for use in the Heat Recovery Steam Generator (HRSG), as well as service water, fire-fighting water and potable drinking water. The total water requirement for various uses during the operational phase will be 10,500 m^3 per day.

5. **Land:** The Project Site for the power plant occupies an area of 11 acres. In order to provide adequate power infrastructure for the power plant construction as well as for power evacuation, construction laydown area, switchyard, sub-station, access road, gas pipeline are being developed by government entities, i.e. BPDB, PGCB and JGTDSL. These associated infrastructures are being developed by these entities and will also cater the need of future power plants i.e. Bibiyana I and III. The land area requirement of the associated facilities are as follows:
   a. Construction lay-down area (BPDB) : 14 acres
   b. Switch yard (PGCB) : 26 acres
   c. Access road (BPDB) : 4.20 acres
   d. Gas pipeline (JGTDSL) : 14.4 acres
   e. Transmission line towers (PCCB) : Not known
6. **Power Evacuation**: The electricity produced from the *SBPCL II* Power Plant will be transmitted to the PGCB switchyard adjacent to the Power Plant and from there it will be connected with the national grid by the PGCB through a high tension transmission line ('T-line'). According to the Request for Proposal documents, dated 2nd September 2010 and signed by *SBPCL II*, PGCB is responsible for construction and operation of the T-line. At present, the detailed route of the T-line has not been confirmed, it is understood that approximately 70 m of T-line will link the switchyard to the national grid. Furthermore, during the site visit, it has been reported by the Site In-charge that a total of 3 towers will be constructed to connect the substation with the already existing transmission line of PGCB.
7. **Jetty:** As part of the construction works, a pontoon jetty has been built solely for the construction phase of *SBPCL II* Power Plant, with a length of 40 m and a width of 20 m. The jetty is located to the north-west of the Project Site. Following completion of the construction phase the jetty will be dismantled. *SBPCL II* has taken NOC for construction of Jetty from the BIWTA, which was expired on 30th June 2014. It has been noted that an application for extension of the same for one more year was submitted by *SBPCL II* on 28th August 2014 and NOC is still awaited.
8. **Manpower:** SBPCL II presently has limited employees at site. SBPCL II has appointed NEPC as the EPC contractor for the construction stage. Presently there are 1,393 staffs and workers mobilised at the site, which includes NEPC Chinese employee and workers. NEPC directly employed

locals and NEPC subcontractors (presently 7) hired contractual workers. SBPCL II is still considering the modality for operation and maintenance, which is presently not firmed up. However, the ESIA report states that during the operation phase, manpower requirement will be about 40.

9. **Community:** Administratively, the site is located in the village of Parkul in Aushkandi Union under Nabiganj Upazila of Habiganj District. Three villages Parkul, Paharpur and Bongaon. No significant urban centre is located within the Project's Area of Influence (AoI); however it is noted that the Union Parishad Offices, markets, educational institutes and various religious centres (Mosques, Temples and Churches) are located within the Project area of influence. Sherpur, the village business centre, is located approximately 2.5 km to the east of the Project Site.
10. **Associated Facilities:** Associated Facilities (not being constructed or financed by *SBPCL II*) are as follows:
    a. Construction lay-down area of about 14 acres in the north of Bibiyana II Gas Power Plant for construction of temporary jetty and storage and fabrication of the power plant equipment – *currently being used for the erection and commissioning of Bibiyana II Gas Power Project and will be used for construction of Bibiyana I and III power plants;*
    b. Development of a switch yard for the installation of the electricity sub-station – *the construction work for the same is currently under progress*;
    c. Development of a 2 km long access road to connect the Proposed Development as well a potential future power plants (Bibiyana I Power Plant and Bibiyana III Power Plant) to the Dhaka-Sylhet (N2) highway – *road construction has been completed, however waiting for carpeting*;
    d. Development of a 8.8 km gas pipeline from Proposed Development, as well a potential future power plants (Bibiyana I Power Plant and Bibiyana III Power Plant), to the Bibiyana Gas Field at the Karimpur distribution point – *it has been reported that all line material is at site and stringing work has been completed, whereas welding work has been completed for about 6 km length. Civil works will start from the first week of October after the monsoon rains will stop and it is targeted to be completed by December 2014*;
    e. Development of 70 m transmission line from the switchyard to the nearest tower of the national grid – *construction work is in progress and it has been reported that it is likely to be completed by end of December 2014*.
11. **Proposed Developments in the vicinity:** In addition to the SBPCLII Power Plant, it is understood that the GoB is planning to undertake two additional power projects - Bibiyana I and III CCGT power projects, having a capacity of 300-450 MW each, located to the south and north-east of the Project Site respectively. The request for Expression of Interest (EOI) for the Bibiyana III was issued in July 2011; however, at this stage, a proposed date for construction of the Bibiyana I and III Power Plants is unknown.

12. **Environmental Permits:** The Project had received site clearance certificate from the DoE on the 29th May 2011. Same was renewed by the DoE on 25th June 2014 and is currently valid up to 28th May 2015. It has been noted that the Draft ESIA report has already been submitted to the DoE for necessary EIA approval on 10th August 2014. Decision on the same from the DoE is still awaited.

2.2 *CURRENT PROJECT STATUS*

The Project is presently in the construction phase, for which FNTP to the EPC Contractor was issued on 25th January 2013. Chronology of key mile stones achieved till date is as follows:

- GT/GTG placed on foundation on 29th April 2014;
- STG placed on foundation on 13th August 2014;
- Two gantry cranes in Main Plant Building (MPB) were placed on 19th August 2014;
- HP/IP/LP steam drums were placed on 28th August 2014;
- Electrical devices erection was started on 3rd September 2014;

Further to this current status of various construction activities as reported by the EPC contractor is as follows:

- MPB Device at 0.00m and Trench 90% completed;
- MPB Masonry 35% completed;
- MPB floors construction 54%completed;
- MPB steel structure 90% completed; Eighteen(18) fans were placed on MPB roof;
- 100t/50t Gantry crane erection is ongoing;
- GT/GTG erection is ongoing;
- STG erection started;
- Central Control Building (CCB) Foundation & Super Structure finished;
- CCB Masonry 52% completed
- Cable tray erection in CCB is ongoing;
- Demineralisation (DM) Plant Foundation & Super Structure finished;
- DM Plant Masonry 80% completed;
- DM Plant device & trench 98% completed;
- Cable tray in DM Plant is ongoing;
- DM Plant outside device Foundation 95%completed
- DM water Tank erection 85% completed;
- Firewall construction completed in transformer yard;
- Cooling Water (CW) pump house foundation construction finished;
- Cooling Tower Construction 30% completed;
- Multi-use pump house foundation finished;
- Multi-use pump house Super Structure 50% completed;
- Mechanical Agitating clarifier foundation 85% completed;
- Mechanical Agitating clarifier erection is ongoing;
- Clarified water storage basin foundation 12% completed;

- Chemical dosing/storage room: Foundation& super structure finished; Masonry 30% completed;
- Hydrogen Generating Station: Foundation 90% completed; Super-structure finished; Masonry 70% completed;
- CW treating plant: Foundation 95% completed; Super structure finished; Masonry 48% completed; Device erection is ongoing;
- HRSG Steel Structure Erection Finished;
- HRSG Module erection 50% completed;
- Main Stack Erection 90% completed;
- Bypass system 65% completed;
- Fabrication and erection of Mechanical Agitating clarifier 35% completed;
- Fabrication and erection of Sludge concentration tank 50% completed; and
- Plant area grounding 60% completed.

It has been reported by the *SBPCL II* management that based on the current progress as well as development of associated facilities by other agencies (i.e. Switchyard, transmission line and gas pipeline), the simple cycle project commissioning will be completed by first quarter of 2015, whereas the combined cycle will be commissioned by end of 2015.

This section reviews the EHS&S performance of the Project with respect to the Applicable Standards, as defined in *Section 1.3*. The findings are categorized as per the following definitions:

Table 3.1 IFC PS and ADB SPS Alignment Definitions

Rating	Definition
Aligned	Information available indicates that the Project fulfils the requirement and/or is aligned with intended outcome of the requirement.
Partially Aligned	Information available indicates that the Project partially fulfils the requirement and/or is partially aligned with intended outcome of the requirement.
Not Aligned	Information available indicates that the Project does not fulfil the requirement.
Insufficient Information for the assessment	There is insufficient information to make an assessment of the level of alignment.
Not Applicable	The requirements do not apply to the Project at the current time.

The gap assessment with respect to applicable standards primarily focusses on the construction phase environmental and social management and monitoring plan (ESMMP) developed as part of the ESIA study, Project level environmental, health, safety and social policies, procedures and plans as being developed by *SBPCL II* and the EPC contractor as well as their implementation on ground. Furthermore, the aspects related to the operation phase of the Project and linked management plans have been referred in order to provide the context of the Project's EHS&S management planning during the operation phase.

Table 3.2 Gap Assessment to the IFC Performance Standards (2012) and ADB Safeguard Policy Statement (2009) of the Project

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
1	**IFC PS 1: Assessment and Management of Environmental and Social Risks and Impacts** This section provides a high-level assessment of the adequacy of environmental and social management systems that have been put in place by *SBPCL II*, and reviews any gaps/ conformance aspects to its implementation with respect to the Project and its associated facilities/components. As a corporate entity, Summit Group has diversified assets across communication, trading, energy & power, and shipping.			
1.1	The client will establish and maintain an Environmental and Social Management System (ESMS) appropriate to the nature and scale of the project and commensurate with the level of social and environmental risks and impacts. The ESMS will incorporate the following elements: • Social and Environmental Assessment (SEA or EIA); • Management program; • Organisational capacity; • Training; • Community engagement; • Monitoring; and • Reporting.	Summit Group (Power) has a formal Environment, Health, Safety and Security (EHSS) Plan and Manual, which defines the scope for EHSS during the construction and operation phases of the Project. This defines the scope of EHSS Plan, which needs to be followed for development of project specific EHSS management system. Broadly the EHSS Plan and Manual covers the following components: **Environment** • Project Policy • Applicable Laws, Regulations and Permit Provisions • Organisation • General Project Information • Environmental Plan Requirements: o Water Supply and Waste Water Discharge Requirements o Storm Water Runoff Management o Hazardous Substance Management o Management of Waste o Environmental Emergency Planning o Noise Mitigation o Transportation and Traffic Mitigation o Air Pollution Control o Land and Water Resources Protection o Documentation and Reporting Requirements o Personnel Environmental Training o Oversight; and o Change Management **Health, Safety and Security** • Project Policy • Applicable Laws, Regulations and Permit Provisions	**Partially aligned**	In order to monitor the implementation of the EHS Plan developed for construction phase of the Project, *SBPCL II* should: • Form a CMT (as defined in the EHSS Plan and Manual) to oversee EHS compliance of the project; • Appoint a trained EHS Personnel for day to day monitoring of the EHS Plan implementation; • Review of all the records being maintained as part of EHS Plan by the EPC contractor; • Ensure that all the records should also be made available in local language/ English by the EPC contractor

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation

		• Organisation
		• General Project Information
		• Health, Safety and Security Plan Requirements:
		  o Risk and Hazard Analysis
		  o First Aid and Medical Facilities
		  o Accident/Incident Management
		  o Fire Prevention and Protection
		  o Housekeeping, Sanitation, Lockers and Dining Facilities
		  o Site and Work Area Rules and Regulations
		  o Security and Emergency Preparedness
		  o Waste Management
		  o Documentation and Reporting Requirements
		  o Oversight; and
		  o Change Management
		
		The EHSS Manual Scope further defines that during the construction/operation phase of the Project, the Contractor shall prepare, implement and enforce a Contract-specific health, safety and security program in the EHSS Plan and Manual to ensure compliance with Site requirements, Applicable Laws, ordinances, standards, directives, rules, regulations and other lawful orders governing Work on Site and on in-Country work areas. It further specifies that the Construction Management Team (CMT) is responsible for reviewing and proposing any changes to the EHSS Plan and manual. Subsequent to the EHSS Plan and Manual being placed into effect, the CMT is responsible for oversight of its execution by the contractor.
		
		In order to meet the Project requirements, the EPC Contractor has prepared an EHS Management Plan for the construction phase of Bibiyana II Project, which was first issued on 15th February 2013 and revised on 15th May 2014. The EHS Management Plan of the EPC Contractor broadly covers:
		• EHS Policy and Objectives
		• Project Specific Information
		• Roles and Responsibilities
		• Site EHS Management		

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		• Contractor Site EHS Activities; and • Project EHS Guidelines The EHS Plan also provides forms and formats need to be filled in order to maintain the records of activities defined in the EHS Plan. It has been noted that the EHS Plan prepared by the EPC Contractor was being reviewed and approved by the Owner's Engineer i.e. Lahmeyer International India (LII). However, during the site visit, it has been noted that at present there is no defined CMT for the Project with roles and responsibilities as well as site EHS Officer from the *SBPCL II* to monitor the implementation of the EHS Plan, which is being executed at site by the EPC Contractor. Majority of the records are being maintained in Chinese Language and not filled completely as defined in the forms and formats.		
1.2	**Policy:** The client will establish an overarching policy defining the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance. The client will communicate the policy to all levels of its organization.	*SBPCL II* is having an Environmental Policy and a Health and Safety Policy for the Project, both of which have been adopted by the company from 1st January 2012. Both the policies define the environment, health and safety objectives of the company, which are focussed towards commitment to the principle of sustainable development and continuous improvement on health and safety performance with a goal of zero incidents. *SBPCL II* is currently not having any social policy in place, which can define the objectives and principles to guide the Project for its social objectives, principles and performance indicators. It has further been noted during the site visit that the policies were neither been displayed at any place within the Project site nor been communicated with the Project staff. The EPC contractor is also having its own EHS Policy and Objectives, which is also being displayed at the site.	**Partially Aligned**	The policies should also be communicated/made available to stakeholders (both internal and external). Develop a social policy for the Project in line with the PS1 requirements.
1.3	**Identification of Risks and Impacts:**	In order to identify and mitigate the environmental and social impacts	**Aligned**	

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	The client will conduct a process of Social and Environmental Assessment that will consider in an integrated manner the potential social and environmental (including labour, health, and safety) risks and impacts of the project. The ESA should cover the project area of influence across the project lifecycle. **ADB SPS** Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks. Conduct an environmental assessment for each proposed project to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic (including impacts on livelihood through environmental media, health and safety, vulnerable groups, and gender issues), and physical cultural resources in the context of the project's area of influence. Assess potential trans-boundary and global impacts, including climate change. Use strategic environmental assessment where appropriate.	associated with the proposed project, following actions have been taken: • An Initial Environmental Examination (IEE) study was carried out to get the site clearance for the project and the TOR for EIA study, in line with the regulatory requirements in Bangladesh, was received from the DoE on the 29th May 2011. Same was renewed by the DoE on 25th June 2014 and is currently valid up to 28th May 2015. • On receipt of the site clearance certificate in 2011, an environmental and social impact assessment study was being carried out and the first draft of the same was come up in June 2011. The draft ESIA report further been updated based on the comments from the Project Owner as well as potential lenders to include various requirements as well as monitoring needs in the ESIA report. The 7th Draft of the ESIA Report came in July 2014. The environmental and social impact assessments provided in the ESIA report were reviewed against the Applicable Standards as part of the compliance audit. It was observed that the ESIA study has broadly captured majority of the EHS and Social impacts associated with the Project as well as associated components (based on available information) during the construction, operation and decommissioning phases of the Project. Key impacts identified due to the Project are: • Visual impacts • Impact on air quality • Impact due to Noise • Impact on surface water quality • Impact due to land acquisition and resettlement • Traffic induced impacts • Impact on biodiversity • Impact on soil quality • Impact due to waste generation • Social impacts • Transboundary impacts Furthermore, impacts due to off-site infrastructure (i.e. gas pipeline,		

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		transmission line and sand mining) were also assessed as part of the ESIA study based on the available information of these components, as gas pipeline and transmission line are not in the scope of the *SBPCL II* project. However, no assessment of impacts of approach road construction has been addressed in the ESIA report. It was further been noted during the site assessment that the approach road has been constructed by considering the high flood level of the Kushiyara River and a total of 5 culverts have been provided in about 2 km long approach road for proper drainage as well as animal movement from one site to the other side of the approach road. The ESIA has also provided the impact of flooding and climate change, based on the historical data of water level and meteorology on the Project. Quantitative impact assessments have been provided for air quality, noise, greenhouse gases in the ESIA report. The ESIA report has also provided an impact assessment of cumulative impacts due to the proposed Bibiyana I and III power projects with similar capacity. The ESIA document has provided an Environmental and Social Management and Monitoring Plan (ESMMP) for the Project, covering pre-construction, construction, operation and decommissioning phases of the Project. It further assigns broader level roles and responsibilities of *SBPCL II*/ EPC Contractor for implementation and monitoring of the mitigation measures. Specific observations on the ESIA Report against IFC/ADB requirements have been provided against each requirement in the subsequent sections of Table 3.2 and in Table 3.3 and Table 3.4.		
1.4	Establish Legal requirements for both social and environmental parameters - Applicable laws and regulations of the jurisdictions in which the project operates that pertain to social and environmental matters, including those	The ESIA Report has provided a detailed policy, legal and administrative framework for the Project, to address the requirements of local and national statutory requirements, national policies, and international legal obligations (treaties signed/ratified by Bangladesh) as well as the Equator Principles, the ADB Safeguard Policy Statement and the IFC Performance Standards, General EHS guidelines and sector	**Partially Aligned**	It should be noted that the legal requirements need to be periodically monitored and updated for all Project components. Specific recommendations given in

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	laws implementing host country obligations under international law, will also be taken into account.	specific guidelines for thermal power plants provided by WB/IFC. It has been reported that *SBPCL II* and the EPC contractor also maintain a legal register in order to check compliance with respect to applicable laws and regulations. However, the same were not made available for review. During the site visit and discussion with the EPC contractor, some non-compliances with respect to legal requirements were noted, which have been provided separately in Table 3.4.		Table 3.4 should be followed.
1.5	**Management Programs** Management of a programme (with defined desired outcomes as measurable events) to mitigate and implement improvement measures and actions that address identified social and environmental risks and impacts.	The ESIA document has provided an Environmental and Social Management and Monitoring Plan (ESMMP) for the Project, covering pre-construction, construction, operation and decommissioning phases of the Project. It further assigns broader level roles and responsibilities of *SBPCL II*/ EPC Contractor for implementation and monitoring of the mitigation measures. The terms of reference for ESIA study prepared by Bangladesh Centre for Advanced Studies (BCAS) mentions development of specific plans for construction and operation phases of the Project, which include: • SOPs for Safe Operations and Compliances • Occupational and Community Health and Safety Management Plan • Contractor Management Plan • Contract Labour and Labour Camp management plan • Emergency Preparedness and Response Plan • Pollution Prevention Plan • Hazardous Materials Management Plan • Resettlement Action Plan • Community Development Plan • Stakeholder Engagement Plan Information Disclosure, Consultation, and Participation • Community Grievance Redress Plan; and • Livelihood Restoration Plan It further states that the ESMP of the project will have provisions of routine monitoring, training schedules for operational staff, monitoring schedule, implementation schedule as well as follow-up of recommendations of monitoring/ inspection. However out of the above	**Partially Aligned**	The management programs mentioned in ESIA report required to be updated with defined action items, responsibilities, monitoring indicators and review/ audit mechanisms, in addition to incorporating additional management plans and actions/measures identified in this report.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		listed plans, only Resettlement Action Plan and Grievance Redress Plan were provided. Other plans have not been provided in the ESIA report. Furthermore, the ESIA also suggests development of following management plans: • Development of EHS Plan • Development of Public Relations Plan • Development of Emergency Response Plan • Development of formalised Grievance Procedures • Development of Avifauna Management Plan based on bird survey • Development of Transportation Plan It has been noted that an EHS Plan has already been developed by the EPC contractor and being rolled out for the construction phase of the Project. This also includes an emergency response plan for the on-site emergencies. However, other plans are yet to be drafted by the EPC contractor/ *SBPCL II*. It is understood the EPC contractor is also certified for GB/T 24001-2004 idt ISO 14001:2004 and GB/T 28001-2011 idt OHSAS 18001:2007, which are valid till 8th September 2017. However, the specific manuals and procedures were not available for review.		
1.6	Define organizational structure with well-defined roles, responsibilities and authorities	The EPC Contractor has provided a detailed organisational structure, with roles and responsibilities. Further to this, an EHS Organisation Structure has been provided in the EHS Plan, which includes Site Manager, Construction Manager, Site HSE Manager and 9 Safety Officers for different departments. The organisational structure of *SBPCL II* was not available for review. One Community Development Officer (CDO) was recently been appointed by *SBPCL II*. It has been reported during the closing meeting that one EHS Officer and one Community Liaison Officer (CLO) will be appointed within a month's time.	**Partially Aligned**	*SBPCL II* should develop an organisational structure for the construction and operation phase of the project with defined roles and responsibilities.
1.7	Training to employees and contractors	One key recommendation from the ESIA report is to provide training to	**Partially**	*SBPCL II* should arrange training

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	with direct responsibilities for activities related to the project's social and environmental performance	staff on ESMMP. However, no evidence of any such training was made available. Currently, the trainings are limited to the health and safety aspects, which are being provided by the EPC contractor. The details of the same are covered in S. No. 2.9 of this Table. No information on training of *SBPCL II* staff was made available.	**aligned**	for its staff and EPC contractor's EHS team on ESMMP requirements and responsibilities. Training needs of *SBPCL II* staff should be mapped and a training calendar should be developed, which shall be reviewed in a periodic interval by senior management.
1.8	**Emergency Preparedness and Response:** Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate impacts, the ESMS will establish and maintain an emergency preparedness and response system. The emergency preparedness and response activities will be periodically reviewed and revised, as necessary, to reflect changing conditions.	The ESMMP suggest the following measures need to be addressed by the SBPCL II in order to address the requirement of emergency response system: • Appoint a suitably qualified Emergency Coordinator(s). • Develop an Emergency Response Plan (ERP), covering all foreseeable emergencies. • The ERP should include: o what should be done and who should do it; o what equipment is required and where this will be located; o staff training requirements and inductions for new workers and site visitors; o a method for communication of the ERP to all workers and people arriving on-site; o an emergency contacts document which is maintained up to date; Most of the requirements as per the ESMMP plan for construction stage is yet to be implemented at site. EPC contractor has also not prepared the construction specific ERP. However, the EPC contractor has developed Emergency Preparation and Response Measures for the construction phase of the Project and it covers emergency response team with responsibilities. It has included emergencies such as fire, electrical shock, personal injury, food poising, large mechanical accident, drowning accident, radiation accident, other environmental pollution accidents. During document review it was	**Partially Aligned**	*SBPCL II* should develop an ERP for the Project and should appoint a suitably qualified Emergency Coordinator for the Project.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		observed that facility has not covered the specific emergencies related natural disaster such as earthquake, floods and heavy rain and heavy winds.		
1.9	**Monitoring and Review:** Establish procedures for monitoring and measurement of the effectiveness of the management programme. **ADB SPS** EMP Implementation: Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.	The ESIA report has provided an environmental and social monitoring plan for the Project during different phases of the Project with institution level roles and responsibilities and frequency of monitoring. The organisation structure of *SBPCL II* is currently not available. The roles and responsibilities should be further defined within the company.	**Partially Aligned**	The Project will need to ensure implementation of the environmental management and monitoring plans with development of in-house environmental monitoring systems with trained personnel. Furthermore, the implementation of EHS (and social) management systems and management plans will need to be adhered to by the contractors.
1.10	Provision for internal reporting as well as external reporting on action plans. Where appropriate, client will consider involving representatives from Affected Communities to participate in monitoring activities.	It has been noted that periodic internal and external reporting of environmental management and monitoring is required in the ESIA report. At present internal reporting of the EHS management is being done by the EPC contractor. The records are being maintained in Chinese language. It has been noted that there is no monitoring/ review of records being done by *SBPCL II*.	**Partially Aligned**	*SBPCL II* should set up a system of regular review of EHS performance of the EPC contractor and should ensure that copy of all monitoring records are available in local language/ English. All external reporting on EHS&S aspects should be done by *SBPCL II*.
1.11	**Stakeholder Engagement:** The client will develop and implement a Stakeholder Engagement Plan that is scaled to the project risks and impacts and development stage, and be tailored to the characteristics and interests of the Affected Communities. The client will provide Affected	The ESIA states that in compliance with IFC Performance Standard 1 and EP Principle 5, Stakeholder Consultations were undertaken throughout the ESIA. This was followed by consultations during the Project Site Social Compliance Audit Report (prepared by BCAS) to ensure accurate and timely information regarding the Proposed Development was shared with stakeholders including the Affected Communities and other interested parties. Public consultation has been carried out during different activities in	**Partially Aligned**	Consider preparing a detailed SEP with stakeholder profiling, key concerns, expectations, impact and influence, and risk rating of various stakeholder groups. It should include details on engagement strategy, disclosure, monitoring, reporting etc. The SEP should be subsequently updated with

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	Communities with access to relevant information on: (i) the purpose, nature, and scale of the project; the duration of proposed project activities **ADB SPS** Consultation: Carry out meaningful consultation with affected people and facilitate their informed participation. Ensure women's participation in consultation. Involve stakeholders, including affected people and concerned nongovernment organizations, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account. Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment. Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance	the project cycle, using different techniques such as large consultation/public meeting, small group meeting, informal meeting as per environmental social and procedures of BCAS. These consultations were conducted in the pre-project situation in 2008, during the ESIA in 2011 and after completion of draft ESIA & Project Site Social Compliance Audit Report (prepared by BCAS) , in 2014. A series of public discussion activities were undertaken by BCAS as part of designing a compensation package. These programmes included rapid appraisal and discussion with the PAPs and community leaders. The aim of the meetings was to inform the public about the project in general and in particular about the following: (i) Finalization of the project plan; (ii) Disclosure of Draft ESIA; (iii) SBPCL II design standards in relation to the applicable international standards; (iv) Health Impacts and their mitigation as part of the Environmental and Social Management and Monitoring Plan (ESMMP); (v) Measures taken to avoid public utilities and other social infrastructure such as school, hospital, roads, Kushiyara dyke, as well as to generate employment opportunities, and assist with the development of a small enterprise; (vi) Other impacts associated with Right Way of Alignment (RoW), Access Road, Switch Yards, T-line approach to minimize and mitigate the effects; (vii) Temporary lease (requisition) and acquisition details, proposed compensation packages and policies; (viii) Compensation for land, affected structures, and trees; and (ix) Any other compensation for any damages associated with the Project Development. For the current status please refer to S. No. 5.3 and 5.4 of Table 3.2		engagement records. It is recommended that SBPCL II and the EPC contractor should develop a Commitment Register as a part of their stakeholder engagement process in order to document the outcomes of public consultations and respond to local community expectations, and ensure that these are communicated back to stakeholders and updates provided.
1.12	*External Communications* Clients will implement and maintain a procedure for external communications that includes methods	Refer S. No. 5.4 of Table 3.2	**Partially Aligned**	Refer S. No. 5.4 of Table 3.2

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	to: (i) receive and register external communications from the public; (ii) screen and assess the issues raised and determine how to address them; (iii) provide, track, and document responses, if any; and, (iv) adjust the management program, as appropriate. **ADB SPS** Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders.			
2	**IFC PS 2 Labour and Working Conditions** SBPCL II presently has limited employees at site. SBPCL II has appointed NEPC as the EPC contractor for the construction stage. Presently there are 1393 staffs and workers mobilised at the site, which includes NEPC Chinese employee and workers. NEPC directly employed locals and NEPC subcontractors (presently 7) hired contractual workers. SBPCL II is still considering the modality for operation and maintenance, which is presently not firmed up. The present assessment therefore has limited itself to the construction stage; the operations stage related findings will be covered during subsequent assessments. Nonetheless potential issues for operations stage are being highlighted wherever required.			
2.1	*Human Resources Policies and Procedures:* A Human Resources policy which sets out its approach to manage employees consistent with the requirement of this PS.	SBPCL II presently does not have a dedicated HR Policy. However it was mentioned that SBPCL HR policy will be informed by the HR policy of its sponsor company SIMCL (Summit Industrial & Mercantile Corporation (Pvt.) Limited). It was reported that the plant is under construction phase which will likely achieve COD (Commercial Operation Date) by Nov/Dec 2015.	**Partially Aligned**	SBPCL II while finalising its HR policy should consider the following aspects for inclusion: • Roles and responsibilities associated with various positions need to be mentioned;

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		Prior to achieving COD, SBPCL will put in place HR Policy at the SBPCL level in alignment of the HR Policy adopted by SIMCL. HR Policy of SIMCL was made available for review. The review suggests that the following aspects are presently covered in the HR manual: • Job description; • Code of conduct; • Manpower planning; • Employee grading policy and structure; • Gratuity policy and other benefits; • Compensation and benefits like PF and Gratuity; • Promotion policy; • Bonus and other benefits; • Service code of conduct; • Accidental insurance/ compensation policy; • Leave Policy; • Probation policy; • Clearly articulated Grievance Redressal Policy and mechanism for the employees; • Training and Development; • Work place environment; • Non-disclosure, data and information handling etc.; These gaps have been discussed in the subsequent sections against the IFC PS 2 requirements as relevant and commensurate to the workforce on site.		• Non-discrimination policy should be mentioned; • HIV/ AIDS non-discrimination should also be spelt out; • Working with Suppliers and contractors and non-employee workers may also be referred to; • Non-tolerance of child labour and forced labour not only for employee, but for the non-employee workers if any • Anti- Sexual Harassment Policy may be explicitly captured; All contractors and sub-contractors within the consortium should be required to apply the principles of the SBPCL HR Policy document and also ensure that their internal procedures follow local and international standards.
2.2	The client will document and communicate to all employees and workers directly contracted, their working conditions and terms of employment, including entitlement to wages and benefits, hours of work, overtime arrangements and compensation etc.) where such	*SBPCL II* Joining letter for SBPCL II staffs positioned at site were reviewed. The joining letter clearly mentioned the roles and responsibility leave policy, probation, salary and other details. *NEPC*	**Partially aligned**	

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	agreements are respected. At the minimum comply with the national law.	NEPC own staffs and workers are governed by the NEPC HR policy and conditions for staffs working on international assignments. However, the same was not available for review. *NEPC locally contracted Staffs* The joining letters issued to the limited local contracted staffs could not be made available for review. • These (numbering 10 approximately) are mostly translators or EHS staffs who facilitate the various works on the site. • However, consultations with few of these staffs suggested that roles and responsibility, compensation amount, leave details, and the work period were covered in the joining letter. It could not be confirmed if aspects like insurance etc. were covered or not. *NEPC locally contracted workers* NEPC locally contracted workers are presently staffed in the construction labour camp especially constructed for the local workers (migrants). • Consultations with these workers suggested that they were directly sourced by NEPC and no contractor was involved. • It was also reported that they were not from local areas and travelled as far as 200-500 kms. • It was also informed that there was no contract agreement or any document specifying the terms and conditions of employment, wages, benefits, hours of work, or overtime arrangements. *NEPC hired subcontractor workers* NEPC signs a subcontractor agreement both for undertaking work at the site and supply of labour for NEPC. Discussions with the subcontractor and the workers suggested that no such document explaining terms and condition of employment are provided to the workers. Only the details pertaining to the attendance and payment are maintained by the subcontractor.		NEPC HR policy to comply with the provisions of SBPCL II HR policy. NEPC local staffs terms and conditions of employment to be put in compliance with SBPCL II HR policy. NEPC to provide contracts or clear terms and conditions highlighting the terms of employment. Or the same could be possibly hired through sub- contractors. Workers to be provided clear terms and conditions of employment.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		• The overtime is paid directly by NEPC. However it is only 1.5 times the normal wages. According to section 100 of the Bangladesh Labour Law (2006), the employer is required to pay the worker, overtime, double the rate of her/his usual wages. i.e. basic & dearness allowance, if any. • Leaves are provided one day per week. However almost all the workers consulted, reported working 7 days a week. The EPC contractor and sub-contractors mentioned that though there is provision for the same, workers don't avail to avoid deduction in wages; • There is no insurance provided for the workers, either by the EPC Contractor or the subcontractors. Review of the sub-contractor agreement and discussion with the subcontractors suggest that there is no insurance coverage being provided to the workers.		Overtime should be paid two-times of the usual wages.
2.3	The client will identify migrant workers and ensure that they are engaged on substantially equivalent terms and conditions to non-migrant workers carrying out similar work. **ADB SPS** In order to strengthen non-discrimination in a project, ADB requires that migrant workers are—or should be protected on an equal basis by national legislation, and that they have the same human rights as national workers.	*NEPC subcontractor managed migrant workers* It is understood that the approximately 150 workers hired by the sub-contractors qualify as migrants. • It was reported that there was no discrimination followed. These workers were brought in to fill the gap of skill set availability in the local area. • The subcontractors have arranged for their accommodation in the nearby areas with rented accommodation facilities. • However, the accommodation facilities could not be visited as the fact surfaced towards the completion of the audit (it was late in the evening coupled with the risks of the ongoing strikes in Bangladesh). The accommodation conditions will need to be verified during subsequent audit. *NEPC directly managed migrant workers* It was reported that as the construction activity is progressing, specialised skill sets are required (skilled workers like electricians etc.), which are not available locally and hence these migrant workers (from other parts of Bangladesh) were directly hired by NEPC.	**Partially Aligned**	NEPC to improve the conditions of the migrant workers- better accommodation and clearly articulated terms and conditions of

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		• The terms and conditions are not documented and hence it cannot be commented upon; • Informal discussions suggested that the wages are higher than the local workers, primarily due to specialised skill set • Compared to the facilities provided to the Chinese workers (at the site), the facilities provided to the Bangladesh workers are not adequate. Bangladesh has not ratified any of the four conventions on employment of migrant workers and hence, there is no specific national regulatory safeguard that governs their welfare.		employment (Please refer S. No. 2.4)
2.4	Where accommodation services are provided to workers covered by the scope of this Performance Standard, the client will put in place and implement policies on the quality and management of the accommodation and provision of basic services. This also includes the applicable requirements of the IFC Guidelines on Worker Accommodation.	*SBPCL II Accommodation* Presently limited SBPCL employees are housed at the accommodation facilities provided at the site. It serves as the office space, canteen as well as the accommodation space. A part of it is still under construction. The facilities provided are almost similar to the NEPC staffs and workers accommodation camp as discussed below. However the management is done by SBPCL-II employees and supporting staffs. *NEPC Chinese Employee and workers- Accommodation* The NEPC employees (Chinese) and workers (Chinese) are housed in separate accommodation camp inside the project boundary. Some of the facilities at the site include: • Depending upon the worker and the employee grade, 1 to 6 people are accommodated in each of the rooms; • Adequate sanitation facilities are provided for all. The toilets and washrooms are attached with room; however common bathroom and toilets are provided too especially for the shared rooms; • All the rooms are provided with Air conditioners; • Security facility common for the site is available at all the times; • Owing to the paucity of space, the rooms are not big; the size of the rooms is typically 10 ft by 12 ft. At the workmen level typically bunkers are provided.	**Partially Aligned**	

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		• Water is provided in the bathroom 24hr on all the days; • Prefabricated structures are used with cemented floors. • Electricity is provided in the rooms. Television is provided only in the common space like canteen but not in the individual rooms. • Cooking is not permitted inside the rooms; • Food is provided in the canteen at scheduled timings. Observations around the EPC Contractor worker facilities (Chinese staffs and workers) indicated that the provisions appeared adequate with respect to the main tenets of the *IFC Guidelines on Worker Accommodation* with respect to welfare, sanitation, health care facilities etc. *NEPC hired Direct workers- Accommodation* The accommodation facilities provided to the directly hired workers has certain issues which will need immediate correction. • There are 8 to 10 rooms in the camp. Each of these rooms is of variable sizes. All the rooms have bedding facility covering all sides of the room excluding the entrance. In some of the instances, there are bunkers too intended to double the capacity of the rooms. • All the workers were not in the rooms during the visit; however it was reported that the accommodation has been designed to accommodate 15-30 people in a room; however the room size (usually 20ftX 30 ft) are not suited to accommodate more than 6-8 people; • Electricity is provided in the room, with limited lighting and a single ceiling fan to meet the requirements of numerous workers in a single room; • The ventilation was also found to be limited to single window, which was usually kept closed owing to mosquitoes. Reportedly there is no insecticide spray in the rooms or in the lanes of the accommodation camp. There is also no proper drainage system. There is no proper solid waste collection or disposal system, even the kitchen waste is directly released in open;		Clear labour construction camp guidelines to be formulated and shared with SPCBL II to meet the IFC Guidelines on workers' accommodation. The guidelines should take into consideration observations highlighted in the report.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		• The lanes are narrow with no lighting in the lanes. There is a single narrow entry to these accommodations with no emergency exit; • The boundary of the camp facing the river is done with the help of tin sheds, with open spaces near the bottom, further increasing chances of movement of insects and snakes from the nearby area; The storage of firewood in the lanes further exposes the workers to health and safety risk. • There was no fire extinguisher in the construction camp; • The workers also reported that owing to suffocation inside the room, with limited ventilation, they are forced to keep the doors open or either sleep at the construction site in open; • Common sanitation and bathroom facilities are provided; • There are no storage space provided in the rooms, and the workers have to arrange for the same. Beds are provided; however the bedding is not provided and most of them sleep without bedding; • Mosquito nets or repellents are not provided and in cases where the workers have access to them, it is not used because of claustrophobic condition; • There is no common canteen facility or any kind of common space; no recreation facilities are available; • There are no women workers housed in the accommodation camp and none of the workers have come with their families.		
2.5	*Workers' Organizations* Where law recognizes worker's rights to form and join worker organizations of their choice without interference, and collectively bargain, the client will comply with the national law.	There is no collective bargaining agreement or any worker union at the site presently. As mentioned, presently most of the local workers are contractual workers with many of them working for the first time at the construction site.	**Aligned**	-
2.6	*Non-Discrimination and Equal Opportunity* Non-discrimination and equal opportunity: Employment decisions will not be made on the basis of personal characteristics unrelated to	SBPCL II presently does not hire any contractual workers at the site. There are limited direct staffs of SBPCL at site. All the workers are hired by NEPC directly or through its subcontractors. As reported by NEPC and two subcontractors (hired by NEPC) consulted during site visit no discrimination is followed in terms of	**Aligned**	SBPCL II should ensure that the principles on non-discrimination and equal opportunity are included in the HR Policy Statement and that the EPC Contractor abides by the same while engaging local sub-

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	job requirements. Job opportunities will be provided on the principles of equal opportunity and fair treatment. The principles of non-discrimination apply to migrant workers. **ADB SPS** Elimination of discrimination in employment and occupation The key four (4) steps identified by ADB as part of the CLS are: • Complaints committee • Challenging stereotypes of minorities • Occupational health and safety • Health insurance and social security • Encouraging minority groups/organizations • Protecting migrant workers	employment opportunity. The site management reported that in the initial stages, there had been concerns by the locals regarding employment of the outsiders; however in due course of time, the same has subsided.		contractor or contract workers.
2.7	*Grievance Mechanism* Grievance mechanism for workers where they can raise reasonable workplace concerns. **ADB SPS** Complaints committee There should be a mechanism within projects for the resolution of complaints of discrimination, harassment, or other working condition concerns	There is no formal on-site grievance mechanism for workers. • It was reported that there is a suggestion box put at the main gate, in which the workers are expected to put the grievance. • However, looking at the education level of the workers at the site, it is likely that the present system will not work. • There is no disclosure of any kind of grievance redress mechanism (GRM) to the workers, neither the same has been displayed at the site. Presently, the proposed grievance mechanism for the contractors is not available. Both SBPCL and NEPC reported that there are no labour cases or litigations that are presently ongoing in the national labour court.	**Partially Aligned**	The Project should establish channels for management and workers to communicate and for the workers to place their concerns as well as suggestions. The grievance process should be made accessible for construction workforce and should enable workforce to raise anonymous complaints. The grievance records should be properly documented, tracked and reviewed for redressal of the Grievances.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
2.8	**Protecting the Work Force:** *Child Labour* The client will not employ children in a manner that is economically exploitative or is likely to be hazardous or to interfere with the child's education, or be harmful to the child's development. All work of persons under the age of 18 will be subject to an appropriate risk assessment and regular monitoring of health, working conditions, and hours of work. . Effective abolition of child labour The ILO Minimum Age Convention, 1973 (No. 138) and its accompanying Recommendation (No. 146) set the goal of elimination of child labour, and the basic minimum age for employment or work (in developing countries at 14 years of age or the end of compulsory schooling, whichever is higher; and 15 or the end of compulsory schooling for developed countries). The Convention sets a minimum age of 2 years younger for "light work," i.e., 12 and 13 years, respectively; and a higher minimum age for dangerous or hazardous work (basically 18 years of age, but 16 in certain circumstances). *Forced Labour* The client will not employ forced labour, which consists of any work or service not voluntarily performed and that is extracted for an individual under threat of force or penalty. The client will not employ trafficked	The site management reported that there are no workers below 18 years of age presently employed at the site. It was also reported that the national ID card is checked for verification which also mentions the age of the workers. There is no other check undertaken for identifying if there are potential cases of child labourers at site. Bangladesh labour law, 2006 stipulates that anybody below 14 years would be classified as child, while the ones falling between 14 to 18 years are classified as adolescent and are not to be engaged in hazardous work. However in course of the site visit, some cases were identified which could be possibly below 14 years of age; however had documents mentioning age of 18 years. It is expected that such potential cases are identified and such cases not to be considered for any hazardous nature of work. There were no instances of forced labour observed at site.	**Aligned**	The EPC contractor's position on non-employment of child, forced or bonded labour has to be clearly stipulated more specifically to the sub-contractors and their associated workforce. There should be proper checks and verification systems in place for the workforce to ensure no cases of child labour or forced labour are not allowed within the site premises. Fines should be imposed on contractors on fudging of age data or presence of child labour at site. SBPCL II should take proactive steps in terms of identifying any potential cases of child labour working at site.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	persons. <u>Elimination of all forms of forced or compulsory labour</u> According the Forced Labour Convention, 1930 (No. 29), the ILO defines forced labour for the purposes of international law as "all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily". The other fundamental ILO instrument, the Abolition of Forced Labour Convention, 1957 (No. 105), specifies that forced labour can never be used for the purpose of economic development or as a means of political education, discrimination, labour discipline, or punishment for having participated in strikes.			
2.9	**<u>Occupational Health & Safety</u>** The client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, as far as reasonably practicable, the causes of hazards. In a manner consistent with good international industry practice, as reflected in various internationally recognized sources including the World Bank Group Environmental, Health and Safety Guidelines, the client will address areas that include the (i) identification of potential hazards to workers, particularly those that may be life-threatening;	Occupational health and safety of staff and workers are coordinated by the EPC Contractor's EHS Department. As per the EPC Contractor organisation structure NEPC's EHS department consists of HSE Manager and S/E surveillance, Fire Fight & Floor Controller, Field First Aid, Safe guarding DEP and Field Safe Guarding (30-40 persons). As informed by the site management at repent there are total 15 member of EHS personal available at site. The EPC Contractor is certified with GB/T 28001-2011 Occupational Health and Safety Management System from QAC and dated 09/09/2014 was available for ERM review. However manual was prepared in Chinese language and due to that ERM was not able to review the same. The First Aid Centre has a doctor for general shift and full time paramedical staff within the facility. One patient carrying ambulance is deployed within the facility to address any medical emergency. NEPC	**Partially Aligned**	NEPC should develop a site specific health and safety manual including SOPs and work permits required to protect the construction manpower (including subcontractors' personnel) from injuries. NEPC is to develop a work permit system to carry out non routine jobs at the construction site. Work permit system should be prepared for the activities related construction such work at height, electrical safety, Excavation, backfilling, lifting & Rigging, civil work etc.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	(ii) provision of preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) training of workers; (iv) documentation and reporting of occupational accidents, diseases, and incidents; and (v) emergency prevention, preparedness, and response arrangements. **ADB SPS** Special care needs to be taken in projects to ensure the health and safety of all workers, including members of minorities. In many cases, minority workers are unable to read safety instructions or to understand safety and health training given to other workers. Provide workers with safe and healthy working conditions including easily comprehensible safety information on-site training, provisions of Personal Protective Equipment etc.	also have a tie up with local hospitals in Sylhet which is about 40 km from the site premises. During our visit to first aid centre, ERM found out that Doctor is not holding any qualified medical course certificate to perform service as a medical officer and treat people on site. His educational background is 10th pass (Senior secondary School) and some experience of working as pharmacist in a pharmacy. Facility has not prepared formal register to record the Accident/Incident. Only register at first aid centre is used to include the general information related to the injured/ill worker. As informed, site has received only major injury where worker got five (5) stiches in the right hand. NEPC has developed an injury and illness log and Incident Investigation form. As informed, Investigation is done by the doctor and no proper route cause or corrective actions are being prepared so far to avoid similar accidents in future. Other aspects performed by NEPC EHS team include (a) safety induction trainings for contractor employees; (b) Weekly site safety inspections; (c) Monday tool box talks (TBT); (d) Fire drills. Documents pertaining to the EHS activities at the site were not available for ERM review. As informed by the site management, So far only one (1) fire drill conducted by NEPC and documents for the same was not available to review. ESMMP also identify Occupational Health and Safety related action items for construction stage. Actions items are followed, ▪ Notify local clinics and hospitals before commencement of construction works; ▪ Job specific medicals for all employees. ▪ EHS training and safety induction for all employees and 6 monthly updates. ▪ First aid kits and trained first aid practitioners on-site at all times. ▪ Access restrictions (barriers and signage) will be used to prevent		NEPC should also prepare a Job hazard analysis for all the construction activity and same should be communicated to all the workers. NEPC should prepare a pre-use inspection checklist (activity and equipment specific) and same should be performed and attach with every permit before starting of activity. *SBPCL II* should appoint trained EHS personnel to supervise occupational health and safety management by the EPC contractor during the construction phase of the project. On a routine basis, conduct train the trainer program to increase the knowledge of the safety department. NEPC should identify and recruit a qualified doctor to work at first aid centre NEPC should also prepare an Accident & Investigation register to include the information related to the accident. It should be maintained by EHS department.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		unauthorised access to the Project Site. ▪ Preparation of an EHS Plan for approval by *SBPCL II*, including: • EHS Policy and Objectives; • Appointment of qualified EHS specialist(s) who will be onsite throughout the construction project; • Project EHS rules; • Details of how rules and updates (if required) will be communicated to workers • Identification and risk assessment of hazardous activities and high risk areas; • Safe working methods for hazardous activities, including confined space working and working at heights; • Ensure all personnel are provided with all required PPE for the environment they are in and the tasks they are performing; • Implementation of a Lock-out Tag-out program; and • Reporting and investigation procedure for all severe and minor accidents, and near misses. • Ensuring all subcontractors (if any) sign and agree to the site EHS Plan. • Provide training for all subcontractors to ensure site procedures are fully understood and complied with. **Identification of potential hazards** The process of task specific hazard identification and recommendation to the identified hazard has not been prepared for construction activities and task specific job safety analysis/risk assessment were also not performed by the facility. NEPC conducts safety committee meetings at regular interval where respective department head share their EHS observation and complete the non -compliance within the time frame decided by the committee. **Provision of preventive and protective measures** Implementation of the control measures against the specific activities was observed to be not implemented at the site. As informed by the site		NEPC should start working against requirement under ESMMP plan for occupational and Health and Safety.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		management SOPs have been developed for confined space, Hot work, Electric work etc. Currently facility has only 'HOT' work permit system existing at the facility. HOT work permit was in Chinese language thus ERM was not able to review the permit and its effectiveness in terms of identification of hazards or risk associated with the task and the controls related to the same. HOT Work permits were also seen without any Job safety analysis as a supporting document to communicate the hazards associated with the particular activity to workers. Many places were observed where Engineering controls (substitution) to physical hazards were missing. Workers were also not aware of existence of any kind of HOT work permit at the facility. **Usage of PPEs** During site assessment it was observed that construction workers, supervisors were not equipped with mandatory and job specific PPEs at the site. In general, workers were provided safety helmets. During site walkthrough, it was observed that safety shoes were not provided to most of the workers. Workers were also requesting ERM during visit to arrange for safety shoe. They showed willingness to wear safety shoe. Most of the workers either wearing rubber shoe or sport shoes which are not fit for the construction activities. ERM has also reviewed the Contractor Agreement between NEPC and its sub-contractor where it is clearly mention that NEPC is responsible for providing the Safety Helmet, Safety Shoe and Safety Vest. Following are few observations were made during site visit; • Two (2) NEPC supervisor, Crawler Crane Operator, and Summit personnel were seen without safety shoes near jetty area ; • Two (2) workers involved in material transfer were identified without hand gloves; • One (1) worker was working at rebar bending area was identified		NEPC should identify all the activities related to construction and associated activities. Accordingly it should carry out hazard identification and risk assessment (HIRA) studies for all such activities and maintain HIRA register. HIRA register should include all the activity and related control measures. Same should be communicating to the contractor workers and employees. Once the above activity is completed, NEPC should then make specific SOPs based on the risk levels identified as an outcome

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		with damaged rubber shoes; • Two (2) workers identified working with Circular saw with damaged hand gloves. • One (1) worker was identified working at summit office in slippers and also without hand gloves. • One welder and its helper were also seen near summit office without proper mask to avoid inhalation of toxic fumes generated during welding activity. Instead of gas mask people were seen using cloth to tie around the face. • At least Twenty (20) workers were seen working inside the excavated place for cooling tower with naked feet. • One (1) NEPC contractor was seen involved in gas cutting activity without hand gloves; • One (1) security personnel working close to the clarifier tanks was identified with sport shoes instead of Safety shoes. • At least three workers were involved in civil work near boiler area were identified working without appropriate PPEs. • One (1) worker involved in working with circular saw without safety goggles. • Worker involved in cleaning of the utensils at the Chinese accommodation were also not provided with the hand gloves. **Training of workers** NEPC imparts induction training for a new joinees working within the premises. As informed by the site management, Induction training module is for 15 minutes and it covers the basic site safety. NEPC conducts the Induction training in local language. ▪ NEPC has not conducted any Job specific training related to construction activity such as work height, confined space, electrical safety, Scaffold safety, trainings on IMS procedure. ▪ NEPC has also not imparted the Emergency trainings related to first aid, fire-fighting. ▪ NEPC does not maintain the records for the training imparted at the site. ▪ NEPC is also not imparting training required under ESMMP.		of the above task. NEPC should carry out inspection for the potential hazards at the facility and provide the risk control as per the hierarchy of control. NEPC should train workers, Supervisor and employees on importance and usage of PPEs for different activities. NEPC should display PPE safety signage at the conspicuous location inside the premises. NEPC should organize PPE awareness program at the facility and involve the workers/supervisor to share the previous experience and issues related to using/non using the PPEs. NEPC should prepare a PPE program for the facility and program should cover the following essential elements: - Workplace Survey; - Selecting appropriate controls; - Training; - Maintenance; - Audit of the program. NEPC should also conduct a

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		Documentation and reporting of Accident & Incident NEPC has developed an Incident investigation report format. NEPC has not developed any reporting format to report near miss. Some sample accident investigation reports were reviewed and exhibited that the root causes are not being identified in details. NEPC has shown the readily available data for month of July 2014. Accident/Near miss/ Incident statistics were not maintained and evaluated. First Aid center is responsible to carry out accident investigation involving root cause analysis on its own with limited understanding on the safety front. As reported, there is not mechanism to report near miss. Incidents involving cut injury have been reported in last few months. Corrective action plans were not prepared for any of the accidents and learning lessons were also not prepared and shared with the employees. **Emergency Response Procedures** NEPC has not prepared the construction specific Emergency response plan. NEPC has prepared Emergency Preparation and Response measures and it covers emergency response team with Responsibilities. ERP plan has included emergencies such as fire, electrical shock, personal injury, food poising, Large mechanical accident, Drowning accident, radiation accident, other environmental pollution accident. During document review it was observed that facility has not covered the specific emergencies related natural disaster such as earthquake, floods and heavy rain and heavy winds.		survey for fitting and wearing of the PPE to the workers. NEPC should encourage workers to use PPEs by means of reward and recognition. NEPC to prepare a training module for job specific trainings and identify workers required to undergo job specific trainings. Conduct a training session for all the identified workers. NEPC should also conduct the first aid training with the help of qualified first aider and make sure that first aiders are available at all times at facility. NEPC should also refer to the ESMMP and conduct all the training to be incompliance with the requirements. NEPC to develop a standard operating procedure on incident investigation with roles and responsibilities. Safety department should facilitate the investigation and circulate the learning to the all the employees via meetings, pasting at boards on resting rooms etc.

<table>
<tr><th>S. No</th><th>Requirements</th><th>Observation/Gap</th><th>Level of Compliance</th><th>Recommendation</th></tr>
<tr><td></td><td></td><td></td><td></td><td>NEPC to start preparing the accident/ incident statistics for each and every area and start identifying the area of concerns and prepare an action plan to address the issues by mean of alternate work procedure, trainings, special attention to the high risk jobs, increase in number of supervisor for high risk jobs.

Review the emergency preparedness and response plan and include the necessary required emergencies and implement the same at the earliest.</td></tr>
<tr><td>2.10</td><td><u>Workers Engaged by Third Parties:</u>
The client will establish policies and procedures for managing and monitoring the performance of such third party employers in relation to the requirements of PS2. In addition, the client will use commercially reasonable efforts to incorporate these requirements in contractual agreements with such third party employers.</td><td>Presently, there are approximately 992 contract workers engaged at the construction site. There are 7 contractors presently hired by NEPC, the EPC contractor for the project. The contractual workers hired through different subcontractors as per NEPC records of 26th September 2014 are detailed below.

<table><tr><th>Subcontractor</th><th>Number of workers</th></tr><tr><td>Shotota Enterprise</td><td>231</td></tr><tr><td>Nation Trade</td><td>218</td></tr><tr><td>Jui Enterprise</td><td>209</td></tr><tr><td>Raisa Enterprise</td><td>91</td></tr><tr><td>Five Enterprise</td><td>45</td></tr><tr><td>Suhag Enterprise</td><td>189</td></tr><tr><td>BE Enterprise</td><td>9</td></tr></table></td><td>Not Aligned</td><td>SBPCL II will need to put in place a formal contractor management system to audit its contractors as well as those of the EPC contractor. The management system should include:

• Compliance checklist against the Applicable Standards;
• Criterion on contractor selection to minimize HSE or labour related risks and issues at the time of engagement;
• Monitoring and audit procedures; and

Further the EPC contractor and the</td></tr>
</table>

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		• The contract agreement does not presently mention the requirements of insurance etc. in the contract agreement; • Though the contract agreement stipulates the provision of safety shoes to be provided to the workers; however compliance to the same is limited.		sub-contractor should be made responsible for the insurance of the workers mobilised at the site.
3	**IFC PS 3: Resource Efficiency and Pollution Prevention** The Project is currently in the construction phase. The observations related to resource efficiency and pollution prevention are made here based on the available operational phase information provided in the ESIA report and other relevant documents. Further to this wherever feasible, information related to the construction phase has also been captured based on the information collected during the site visit and review of records being maintained by the EPC Contractor.			
3.1	During the design, construction, operation and decommissioning of the project (project life cycle), the client is to consider ambient conditions and apply pollution prevention and control technologies and techniques. **ADB SPS** Examine alternatives to the project's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed. Also consider the no project alternative.	It was reported by the EPC contractor that they are ensuring use of efficient construction equipment and machines during the construction stage, meeting the emission standards applicable in Bangladesh. Resource efficiency in terms of construction materials, water consumption, energy consumption etc. are part of the design of the Project. The Project consist of a combined cycle power plant based on the advanced class GE gas turbine PG935 IFA with hydrogen cooled generators and equipped with Dry Low NOx combustors with 18 stage axial compressors, 3 stage axial turbines and a common rotor. The guaranteed NOx emission from the gas turbine is less than 25 ppm. The ESIA report mentions that the treated wastewater discharge from the Plant will meeting the effluent guideline value of 3°C as provided in the EHS Guidelines by use of cooling towers in the system. Closure and decommissioning of the *SBPCL II* Power Plant may involve adverse impacts not perceived at this stage of the project. Therefore, the ESMMP details the requirement for a detailed decommissioning and rehabilitation plan prior to closure of the power plant. Such a plan might include: strict adherence to all appropriate waste management techniques, including the reuse and recycling of materials wherever possible; disposable of hazardous waste materials in a legal and responsible manner; remediation of soil and/or groundwater contamination (if applicable); and rehabilitation and enhancement of	**Aligned**	SBPCL II should ensure that all the ESMMP implementation requirements during construction phase are being clearly provided to the EPC contractor and implementation of mitigation measures along with records should be reviewed by EHS Officer of the SBPCL II. *SBPCL II* should undertake regular monitoring of air emissions; water consumption; wastewater discharge; collection, storage and disposal of solid and hazardous wastes etc. in line with the ESMMP, and apply pollution prevention and control technologies and techniques during the operation phase of the Project. *SBPCL II* should ensure that impacts associated with the decommissioning phase are assessed and addressed at least 1 to 2 years prior to eventual

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		terrestrial habitats within the power plants footprints.		decommissioning.
3.2	The client will refer to the EHS Guidelines or other internationally recognized sources, as appropriate, when evaluating and selecting resource efficiency and pollution prevention and control techniques for the project. **ADB SPS** Apply pollution prevention and control technologies and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines.	Alignment with respect to EHS General Guidelines has been presented in *Table 3.3*	**Partially Aligned**	
3.3	**Resource Efficiency:** The client will implement technically and financially feasible and cost effective measures for improving efficiency in its consumption of energy, water, as well as other resources and material inputs, with a focus on areas that are considered core business activities. **ADB SPS** Adopt cleaner production processes and good energy efficiency practices. Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of	The Project is based on cleaner fuel – natural gas and higher efficiency combined cycle system. Based on the information provided in the ESIA report, the GT will have gross efficiency of 33.46% and the combined cycle power plant will have efficiency between 52% to 60%. The cooling towers will have cycles of concentration (COC) of 6, which will reduce the cooling tower make-up requirement significantly.	**Aligned**	It is recommended that in the operational phase of the Project, *SBPCL II* should define and set sustainability goals for their performance, to track efficient use of resources and for their reduction in a phased manner, where possible.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	hazardous materials from their production, transportation, handling, and storage.			
3.4	*Greenhouse Gases:* The client will consider alternatives and implement technically and financially feasible and cost-effective options to reduce project-related GHG emissions during the design and operation of the project. For projects that are expected to or currently produce more than 25,000 tonnes of CO_2-equivalent annually, the client will quantify direct emissions from the facilities owned or controlled within the physical project boundary, as well as indirect emissions associated with the off-site production of energy used by the project.	In the ESIA report annual GHG emission estimation from the Project has been calculated using CEET model, created by IFC. Based on that the total annual CO_2 (equivalent) emission from the Project will be 1.012 million tons. Furthermore, the ESMMP states that *SBPCL II* need to develop a climate change adaptation policy including monitoring, measurement and corrective actions for: • Flood mitigation (safe access /egress during flood events / use of evacuation shelters); • Surface water quality monitoring to include ambient river temperature, where ambient water temperature is consistently (i.e. over 6 months) within 1.5°C of the temperature design limit of the *SBPCL II* Power Plant then adaptation measures should be actioned, including use of areas already allocated for potential adaptation plan; and • Monitor the banks of the Kushiyara River and address any significant increased erosion of the banks adjacent to or opposite to the Project Site by stabilisation methods	**Aligned**	*SBPCL II* should complete an annual GHG emission estimation based on the actual operations of the plant during the operational phase. *SBPCL II* should develop the climate adaptation policy and procedures in line with the requirements specified in the ESMMP.
3.5	*Water Consumption* The client shall adopt measures that avoid or reduce water usage so that the project's water consumption does not have significant adverse impacts on others. These measures include, but are not limited to, the use of additional technically feasible water conservation measures within the client's operations, the use of alternative water supplies, water consumption offsets to reduce total demand for water resources to within the available	It has been reported that the water consumption during the construction phase is about 80 m^3/day, which is sourced from the Kushiyara River as well as from a deep tubewell at site. The EPC contractor maintains log of water level of deep tubewell, however the same was not available for review. The *SBPCL II* Power Plant will operate a closed-loop cooling water system. A volume of 26,238 m^3 will be pumped from the river once during start-up for use in the cooling system unit. During operation there will be a need, due to evaporation losses, for replenishment of cooling water ('make-up' water) as well as other operational uses which will be abstracted from the Kushiyara River. As per the Water Balance Diagram provided by the EPC Contractor, daily water abstraction from	**Aligned**	

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	supply, and evaluation of alternative project locations.	the Kushiyara River will be about 10,500 m^3/day, which is equivalent to 0.1215 m^3/s. The COC for cooling towers has been considered as 6. Based on the water balance of the Project, all the treated water will be collected at Central Monitoring Basin (600 m3 capacity). About 120 m3/day of treated water will be utilised within the project premise for green area, whereas remaining 1,395 m^3/day of treated water will be discharged back to the Kushiyara River. According to river flow data from BWDB recorded between 1982 and 2013 at the Sherpur monitoring station (located close to the project site), on average the low flow of the Kushiyara river varies between approximately 2,100 m^3/s during the monsoon period and approximately 200 m^3/s during the dry season. During the period 1982-2013, the maximum flow was 3890 m^3/s recorded in May 1991 and the minimum flow was 43.30 m^3/s recorded in March 1984. An abstraction rate of 0.12 m^3/s comprises approximately 0.006% of the average low flow during the monsoon season and approximately 0.058% of the mean low flow during the dry season. The ESIA report has also calculated cumulative impact of water abstraction considering Bibiyana I and III plants will have similar capacity, and water consumption. The cumulative water requirements will not exceed 31,500 m^3/day (~ 0.36 m^3/s). Therefore, as a worst case scenario during the dry season the water abstraction would only comprise 0.35% of the total river flow.		
3.6	**Pollution Prevention:** To avoid release of pollutants or when avoidance is not feasible minimize or control the intensity or load of the release. To address potential adverse project impacts on existing ambient conditions, the client will consider relevant factors, including, for example • existing ambient conditions;	Baseline ambient air quality, noise, surface water and ground water monitoring were conducted as part of the EIA study. The results indicate that: • Baseline air quality monitoring was performed during March to May 2011, October 2011 and November 2013 – January 2014 at various locations within and close to the Project site. The results indicate that the particulate matter (SPM, PM10 and PM2.5) in the vicinity of the Project site are high throughout the year and regularly exceeding the National Ambient Air Quality Standards	**Partially Aligned**	*SBPCL II* should provide organisational arrangements, capacity development and training measures and performance indicators for effective implementation of the ESMMP already developed for the Project.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	• the finite assimilative capacity of the environment; • existing and future land use; • the project's proximity to areas of importance to biodiversity; and • the potential for cumulative impacts with uncertain and/or irreversible consequences. **ADB SPS** Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare an environmental management plan (EMP) that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter pays principle.	(Bangladesh) and IFC EHS Guidelines / WHO Guidelines, whereas gaseous pollutants (SO2, NO2 and CO) concentrations are well within the limits. • Surface water quality monitoring results of Kushiyara River indicates that the primary impact on water quality is during the monsoon season when silt is washed into the river and the Total Suspended Solids (TSS) and Turbidity of the river water increases significantly, relative to pre-monsoon concentrations. • Ground water quality monitoring results indicate that arsenic is present in the ground water above the WHO and Bangaldeshi standards. Furthermore, the results indicate exceedance of phosphorous, iron and oil and grease concentrations in the samples collected. The EPC contractor also conducts periodic monitoring of river water, ground water and treated water from water treatment plant. In order to evaluate the impact on ambient air quality due to the Bibiyana II Project as well as proposed Bibiyana I and III projects, air quality dispersion modelling studies were being carried out as part of the EIA study. Since the project is based on natural gas, which no sulphur content, primary pollutant from the stacks will be NOx. It has been noted that the guaranteed NOx emissions from the GT will be less than 25 ppm. The air quality modelling results indicate that emissions around Project Site during the operation of the *SBPCL II* Power Plant will remain much below the DoE standards except for PM10. However, exceedances of PM10 are considered to be due to fugitive dust generated at the Project Site (i.e. elevated baseline concentrations). The contribution of the *SBPCL II* Power Plant in respect of PM10 is negligibly small (<0.03%). The maximum predicted ground level concentrations of NOx and CO from the *SBPCL II* Plant were 8.59 µg/m^3 and 3.31 µg/m^3, respectively. The modelling results further indicate that the addition of two potential further power plants Bibiyana I and III Power Plants) with the assumed same emission parameters will lead to approximately a 50% increase of the predicted pollutant concentrations. Though these values for NOx and CO will be		

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		well within the DoE and IFC standards. The impacts on various environmental components have been addressed in the ESIA report and the ESMMP provides the mitigation measures and monitoring plan for construction and operation phases of the Project as well as broad level responsibilities for implementation of the mitigation measures.		
3.7	*Wastes:* To avoid and minimize generation of hazardous and non-hazardous waste materials as far as practicable. Where waste generation cannot be avoided, but has been minimized, the client will recover and reuse wastes, where wastes cannot be recovered or reused, the client will treat, destroy and dispose of in an environmentally sound manner. If the generated waste is considered hazardous, the client will explore commercially reasonable alternatives for its environmentally sound disposal, considering the limitations applicable to its trans-boundary movement. **ADB SPS** Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, waste generation.	The EPC contractor has engaged a DoE approved waste management company "M/s Vertical Promoter" for collection and disposal of kitchen wastes (including waste food, bones, waste vegetables, waste fruits and etc. Food wastes); Hazardous wastes (including waste batteries. waste fluorescents, waste Mercury thermometers, waste medicines and etc.); other wastes (including any waste tiles. waste ceramics. soils, washroom waste and any other wastes which is difficult to recycling). During the site visit, it was observed that general housekeeping of the site is satisfactory. The EPC contractor has reported that 6 personnel have been engaged by them for the general housekeeping. All the waste collected being segregated prior to the collection by the waste management contractor. It has further been noted that for sanitary waste, a septic tank has been constructed on the back side of the canteen facility. The EHS Officer informed that septic tank level is being checked in a regular interval and once the tank is filled about 80%, the waste management contractor collects the sewage and dispose it off to the treatment facility located in Sylhet. The ESMMP provides the mitigation and monitoring measures for waste management during the construction and operation phases of the Project. It has been noted that the mitigation measures for the construction phase are being adhered by the EPC contractor. The HSE Department of the EPC Contractor maintains the record of all the waste being sent out from the site. The records are being maintained in Chinese language and hence details could not be verified.	**Aligned**	The EPC contractor should maintain the records of hazardous and non-hazardous waste being generated, segregated, stored and disposed off from the site in English Language and all the fields of the record formats should be filled. Same shall be reviewed by the *SBPCL II* EHS Officer in a regular interval. Develop the waste management plan for the operation phase of the Project.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
3.8	*Hazardous Materials Management:* The client will avoid or, when avoidance is not possible, minimize and control the release of hazardous materials. In this context, the production, transportation, handling, storage, and use of hazardous materials for project activities should be assessed. The client will consider less hazardous substitutes where hazardous materials are intended to be used in manufacturing processes or other operations. **ADB SPS** Avoid the use of hazardous materials subject to international bans or phase outs.	The Project will not be involved in manufacturing, trade and use of chemicals and hazardous materials which are subjected to the international bans or phase outs due to their high toxicity to living organisms, environmental persistence and potential for bioaccumulation. During the construction phase, hazardous materials being stored at site are diesel and gas cylinders (oxygen, acetylene, propane). The EPC contractor maintains the inventory of the all the hazardous material being stored at site. Specific onsite observations have been provided in Table 3.4. The ESIA report provides the inventory of key hazardous materials (natural gas, fuel oil, transformer oil, chlorine, sulphuric acid and caustic soda) with their likely storage quantities.	**Partially Aligned**	Develop a hazardous materials management plan/ SOPs Refer Table 3.4, S. No. 3 to 5 to address the legal non-compliances
3.9	*Pesticide Use and Management:* Formulate and implement an integrated pest management (IPM) and or integrated vector management (IVM) approach to pest management. **ADB SPS** Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.	The ESIA report specifies that EPC Contractor will be required to put in place a programme aimed at reducing the risk of occurrence of vector-borne diseases among construction personnel. This needs to include elimination of potential insect breeding sites and provision of preventive medication, where applicable. It has been noted during the site assessment that the EPC contractor is not having an IPM and/or IVM plan for pest and vector management at present for the Project.	**Partially Aligned**	The EPC contractor needs to develop a Standard Operating Procedure (SOP) for Pest Management for construction phase of the Project.
4	**IFC PS 4: Community Health, Safety and Security**			
4.1	The client will evaluate the risks and impacts to the health and safety of the Affected Communities during the project life-cycle and will establish preventive and control measures consistent with good international industry practice (GIIP), such as in the	The ESIA report provides key community health, safety and security impacts in the form of nuisance created due to the road/ river traffic and suggests for development of a traffic and transport management plan for the Project. It has further been noted in the EHS Plan of the EPC contractor that there is a need to develop a traffic and transport management plan for	**Partially aligned**	*SBPCL II* should develop an emergency response plan into a consolidated document with: • Identification of, including risks associated with all project components; • Key community and

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) or other internationally recognized sources.	the project. However, no further details were available about the detailed traffic and transport management plan and its implementation on ground. In addition, no emergency response plan that identifies offsite risks, hazards, disasters and mitigation measures taken thereof has been developed for the Project, such as traffic impacts, workers influx and accommodation. The ESMMP for construction phase states that for emergency response: Appoint a suitably qualified Emergency Coordinator(s) and develop an Emergency Response Plan (ERP), covering all foreseeable emergencies, for approval by *SBPCL II*. However, no action has been taken on the same.		environmental sensitivities (such as village settlements, ponds, etc.) and the potential of offsite consequences along with mitigation measures; • A common communication and emergency response process flow for onsite emergencies as well as their communication to authorities offsite; • Disclosure to communities in the vicinity of the project on the emergency readiness of the company in case of any incidents.
4.2	*Infrastructure and Equipment Design and Safety:* The client will design, construct, operate, and decommission the structural elements or components of the project in accordance with GIIP, taking into consideration safety risks to third parties or Affected Communities.	The Project Developer reported that the Project will design, construction and operation all the structural components of the Project in accordance with applicable Bangladeshi statutory requirements and international standards, as applicable. It has been reported that HAZOP studies have been conducted for the Plant design. However, these were not being made available and reviewed as part of the compliance audit scope. The ESIA states that the potential exists for project-specific impacts and 'domino effects' that require further assessment in a detailed, site-specific, quantitative risk assessment (QRA) in order to arrive at an 'As-Low-As-Reasonably-Practicable' (ALARP) situation through site specific mitigation and management measures. As the current H&S management system does not refer to the hazards associated with decommissioning phase, associated safety risks to third parties or Affected Communities are currently not identified.	**Partially Aligned**	Conduct a detailed QRA for the Project based on actual design and formulate an emergency response plan.
4.3	*Hazardous Materials Management and Safety:*	Refer 3.8 of this table	**Partially Aligned**	Refer 3.8 of this table

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	The client will avoid or minimize the potential for community exposure to hazardous materials and substances that may be released by the project.			
4.3	*Community Exposure to Disease:* The client will avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases, and communicable diseases that could result from project activities. The client will avoid or minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent project labour.	The ESMMP states that the EPC contractor will be required to put in place a programme aimed at reducing the risk of occurrence of vector-borne diseases among construction personnel. This needs to include elimination of potential insect breeding sites and provision of preventive medication, where applicable. This further requires: • Regular check of workplace personnel's health by designated medical team. • Informing the workplace personnel of possible symptoms of diseases they might be exposed to and approaching on-site medical team as the necessity arises. It has been noted that adequate provisions have been made within the site for wastewater, garbage collection and disposal.	**Aligned**	
4.4	Informing affected community about potential risks and impacts from the project activities in a culturally appropriate manner, including collaborating with the community and government agencies in their efforts to respond effectively to emergency situation. **ADB SPS** Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks to the health and safety of local communities.	As mentioned in the ESIA report, public consultation were carried out during different activities in the project cycle, using different techniques such as large consultation/public meeting, small group meeting, informal meeting by the ESIA consultant. These consultations were conducted in the pre-project situation in 2008, during the ESIA Study stage in 2011 and Project Site Social Compliance Audit Report (prepared by BCAS) in 2014.	**Partially Aligned**	Undertake specific communication on health hazards and mitigation measures on an ongoing basis against new activities and associated health and safety risks to the local community.
4.7	**Security Personnel** • Client to assess risks to those within and outside the project site from the	At the construction site, security services have been provided by private companies, namely SIS and Nation Trade. The security staff doesn't carry any weapon. Community consultations did not indicate any	**Aligned**	SBPCL II should ensure any future security arrangements shall comply with PS4 requirements. The SBPCL

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	security arrangements provided; • Providing training on rules of conduct, handling of security equipment to all the security personnel; • Provide a grievance mechanism for the community to raise concerns about security arrangements; • Ensure that any unlawful or abusive acts by the security are investigated appropriately.	issues regarding the existing security arrangements. The security arrangements for operation phase of the Project are currently not known. It was also reported that with the growing industries in the area, police post may be requested with the administration in future.		II Grievance Mechanism should include security within its scope.
5	**IFC PS 5: Land Acquisition and Involuntary Resettlement** The components of the overall project that have resulted in land acquisition comprise: • **SBPCL II Power Plant**; • **A switchyard** for the installation of an Electrical Sub-station (constructed by PGCB); and A gas Pipeline (8.8 km long) from the Bibiyana Gas Field at the Karimpur distribution point, to the Proposed Development (constructed by BPDB); • **A 2 km long access road** to connect the Proposed Development to the Dhaka-Sylhet (N2) highway (constructed by BPDB);Access road (2 km); and • **Gas pipeline** (8.8 km). The main plant is located on 11 acre single crop agricultural land which is the main component of the project. SBIPCL II has received this land from BPDB for 22 years under a Land Lease Agreement (LLA). SBPCL II is responsible for all kinds of development (land filling, machinery setting and electricity production) related to power generation. The report only considers the land and associated impacts pertaining to SBPCL II plant which is located on the 11 acres of land in Parkul village, while the associated facilities are to be developed by the parties identified in the table below from their own financial sources. Due to land acquisition no physical displacement has occurred. In total 31 PAHs were affected (14 landowners, 6 sharecroppers and 11 agricultural labourers) by economic displacement.			
5.1	The project will consider feasible alternative project designs to avoid or at least minimize physical or economic displacement, while balancing environmental, social, and financial	The ESIA report mentions that the Project Site has been selected by the Bangladesh Power Development Board (BPDB) after consultation with the local population. There are two other projects (Bibiyana I and Bibiyana III), for which the land acquisition has been done simultaneously. The switchyard and the transmission line too are	**Aligned**	

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	costs and benefits, paying particular attention to impacts on the poor and vulnerable. **ADB SPS** Screen the project early on to identify past, present, and future involuntary resettlement impacts and risks. Determine the scope of resettlement planning through a survey and/or census of displaced persons, including a gender analysis, specifically related to resettlement impacts and risks	supposed to be for all the three projects (including the two proposed projects). In order to minimize the displacement of the local population, and the number of PAPs, the following issues were taken into consideration in site and route selection: • Selection of a site which primarily occupied agricultural land (single crop) with a limited number of above-ground structures present; • To minimize the number of PAPs and the extent of the socio-economic impact of the planned development, the proposed Project Site will occupy a significant amount of Khas (state owned) land; and • To minimize the social impact of the gas pipeline, the proposed route will take the shortest distance possible and avoid populated areas. Land for this project has been acquired by the BPDB. The Government has granted the lease of this land to the project sponsor SBPCL II – for the total period of 22 years for installation and generation of power. The acquisition of land for the main plant by BPDB was implemented as per the Acquisition Act of 1982, and at the time of leasing the land to SBPCL II by the Government there were no outstanding issues or unresolved encumbrances resulting from the acquisition process.		
5.2	*Compensation and benefits for Displaced persons:* • Client to provide unavoidable displaced PAPs with compensation for loss of assets at full replacement cost to help them restore their standards of living or livelihoods; • Where livelihood is land-based or collectively owned, the client will offer land-based compensation where feasible;	***Compensation*** • As per the existing legislation, the valuation of assets including land was conducted by the District Land Acquisition Officer (DLAO). The value of land was determined based on an average of every land transaction, registered for a certain period (usually over the last two years), within the *mouzas* (Village/ hamlet) in which the project site is located. • Replacement values for trees/crops, houses and other immovable structures were established as a result of discussions with the neighbouring communities, local community leaders and	**Aligned** **Ongoing imple-mentation to be worked upon**	

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	• The client will provide opportunities to PAPs to derive appropriate development benefits from the project. **<u>ADB SPS</u>** Pay compensation and provide other resettlement entitlements before physical or economic displacement. Implement the resettlement plan under close supervision throughout project implementation	merchants selling construction materials and seedlings. • Compensation amounts for land, houses and immovable structures included a 50% premium. • The land prices were negotiated between the Government and the affected land owners based on the market price plus 50% premium per decimal1 of land. • The compensation amount for land was then communicated to, and agreed with, the PAPs. Compensation for landowners relating to the 11 acre main plant started in November 2010 and was completed December 2013. In some cases land compensation was delayed due to lack of land documents for acquired land and disputes over ownership among the family members of the landowners. Now all landowners, have received their land compensation amounts from SBPCL II ***Market Rate*** • Market surveys based on secondary sources of information (i.e. local notaries and neighbouring communities) were also carried out in order to establish, inter alia, replacement values for the assets affected by the project. • The compensation amount for land was established based on the market analysis of previous land sales and also discussions held with community leaders and neighbouring communities unaffected by the project, as well as PAPs. ***Development benefits*** SBPCL II reported that it will implement a Corporate Social Responsibility (CSR) plan which includes: • a commitment to construct a hospital building/ clinic in the local area; • set up 5 tube wells in and around the project area as a part of the community development plan • make book donations to a local school and library;		

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		• The PAPs will receive training on establishing small enterprise. This group will benefit from credit or training (business planning, marketing, inventory and quality control) to expand their business and to diversify their income sources. • Promote local enterprises by procuring goods and services for the project from local suppliers. • Arranging the involvement of the local NGOs specializing on economic development of poor/vulnerable people and micro-crediting with the help of project sponsors for enterprise development. The NGOs will act as the third party monitoring the implementation of this corrective action plan (CAP) including livelihood restoration plan. Some of the observations regarding developmental benefits proposed to be shared with the community and PAFs are as follows: • However these activities are still in the planning stages and yet to be implemented. SBPCL II has recently appointed a CDO who will be responsible for overseeing the implementation of the activities mentioned above. • A livelihood restoration plan, specially targeting the PAFs (with special emphasis to affected families, and women headed households – 5 identified) is however presently missing. • The stakeholder consultations pertaining to ongoing communication with PAFS is presently not being recorded (the records are limited to consultations undertaken during the social compliance audit evaluation survey by BCAS). • Though employment opportunity as contractual workers at the construction site is being provided; however formalised recording is not being undertaken presently.		Some of the activities which may be considered by SBPCL II are as follows: • Preparation of the Livelihood restoration plan; • Documentation of the stakeholder engagement records; • Maintaining proper records of the employment and vendor opportunity provided to the PAFs and the local community

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
5.3	Facilitate informed participation of all PAFs in decision and entitlement making resettlement processes. Consultation to continue through the implementation, monitoring and evaluation of payment and resettlement. **ADB SPS** Carry out meaningful consultations with affected persons, host communities, and concerned nongovernment organizations. Inform all displaced persons of their entitlements and resettlement options. Disclose a draft resettlement plan, including documentation of the consultation process in a timely manner, before project appraisal, in an accessible place and a form and language(s) understandable to affected persons and other stakeholders.	Based on the review of the ESIA, and the supporting documents, and the limited consultations during the site visit it can be assessed that the PAFs were involved in the decision making and entitlement making. • A 100% questionnaire-based census was carried out on the PAPs during which information on the project activities was disseminated and the nature of impact and compensation issues were discussed. • During the sample-based socio-economic survey which had covered 204 households within the impact zones, dissemination of information on the project activities was also carried out. Among 204 households 60 households were surveyed in September-October 2013 as part of the data validation process. The General Manger and the site head for the project has been directly communicating with the PAFs and undertaking visits to the resettlement site and meeting other PAFs. It was mentioned that the newly appointed CDO will now be responsible for continued stakeholder engagement with the affected communities. It is important that these consultations are properly recorded. The CDO is also supposed to monitor and facilitate any pending compensation.	**Aligned**	• Continued engagement and resettlement monitoring by CDO.
5.4	*Grievance Mechanism: & Stakeholder Assessment* Client to establish grievance mechanism consistent with PS 1 to address concerns raised by PAPs **ADB SPS** Establish a grievance redress mechanism to receive and facilitate resolution of the affected persons' concerns.	A grievance mechanism through a Joint Committee for Community Relations (JCCR) is proposed to address the grievances related to the resettlement and compensation. The Joint Committee will include members from the District Administration, local Government officials and village elected representatives. • Presently the JCCR is not formed. The GRM will need to be formally disclosed, with provision for reporting, tracking, monitoring, closure etc. • Presently informal system of GRM is operational with no documentation. The existing stakeholder assessment is not detailed.	**Partially Aligned**	• Establishment of a formal GRM for the PAFs and the community; SBPCL II should consider preparing a detailed SEP with stakeholder profiling, key concerns, expectations, impact and influence, and risk rating of various stakeholder groups. It should include details on engagement strategy, disclosure, monitoring, reporting etc. The SEP should be subsequently updated with

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
				engagement records.
5.5	Resettlement Planning and Implementation: Client to carry out a census survey for socio-economic baseline data. Cut-off date for eligibility to be established and information regarding the same to be disseminated in project area.	***Census survey:*** • A census of PAPs was carried out in 2010-2011 for the previous project configuration. For the SBPCL II Power Plant project, project site social compliance audit report was undertaken by BCAS which takes into consideration the current proposed configuration of the project for SBPCL II. ***Cut-off date*** According to the Acquisition and Requisition of Immovable Property Ordinance, 1982, of Bangladesh, a cut-off date for any acquisition or requisition is considered as the date when the DC issues the first notice whereupon no further construction can take place in the designated area. A similar process was followed for the various project components. ***Resettlement site:*** There was no resettlement owing to the SBPCL II Power Plant.	**Aligned**	
5.6	If the project causes loss of income or livelihood, regardless of whether or not the affected people are physically displaced, the client will need to provide compensation for or entitlements for those with recognizable rights, claims as well as those without legal rights.	A total 11 acres of land was acquired under SBPCL II Power Plant project. Total of 14 landowners lost some or all (1 owner only) of their agricultural land due to this project. There were also 6 sharecroppers and 11 day agricultural labourers are also affected by the project. All these households were surveyed to determine their livelihoods, assets and the extent to which they would be affected (physical or economic displacement or both). The PAPs (and hence project-affected households) were identified and grouped into eight categories as follows: o PAPs residing on their own land (land owners – legal title holders); o PAPs occupying the Government Khas land (Khas land is the Government land that can be granted for temporary use, typically	**Partially Aligned**	SBPCL II should ensure payment of compensation to sharecroppers in line with the Corrective Action Plan (CAP) and records should be maintained.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		on a lease basis); o Landowners of crop (agricultural) land; o PAPs who cultivate Khas land; o PAPs who lease land for cultivation for a certain period of time; o Share Croppers who do not own land; o Users (tenants) of Khas land and landowners; and o Agricultural day labourers. The entitlement for all these groups has been captured in the Project Site Social Compliance Audit Report (prepared by BCAS). However the payment for the following to which SBPCL II has agreed for, has not been implemented: o Compensation for sharecropper as safety net program. Sharecroppers are proposed to receive Tk. 5,000 each o Compensation for Khas land cultivator as safety net program (they have no legal document of the land but they cultivated the land for long period, 30-40 years). Khas land cultivators are proposed to receive Tk. 10,000 each.		
5.7	The client to collaborate with government agency to achieve outcomes as per PS 5. If permitted by the government, the client will implement and monitor its plan and procedures established in 5.16 and 5.17.	The BPDB, PGCB and JGTDSL, which are all governmental bodies and state entities, have been acquiring the land for SBPCL II under the Acquisition and Requisition of Immovable Property Ordinance, 1982. Resettlement actions, will be undertaken by the Government, acting with the assistance of, and continuing input from, SBPCL II to ensure alignment with ADB and Government requirements. In line with this, SBPCL II has agreed to pay separately for Sharecroppers and khas land cultivators.	**Aligned**	
6	**IFC PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources**			
6.1	Assess significance of project impacts on all levels of biodiversity as an integral part of social and environmental assessment process.	The ESIA Report states that : • The Project Site primarily comprises agricultural land and does not have any statutory designations or ecological protection status. • There is no statutory designated area situated within the Project AoI.	**Partially Aligned**	Conduct six monthly construction phase monitoring of terrestrial and aquatic organisms of the area.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		• One fish sanctuary, one river dolphin habitat and one densely populated area were located close to the approved 9 sand mining sites for the Project by the district administration, which were not considered for the project due to the ecological and social sensitivities. • The Project AoI is rich in faunal diversity; ecological surveys carried out in September and October on fauna and flora, and fisheries in selected parts of the River Kushiara in the vicinity of the Project Site and AoI. The ESMMP states that during the construction phase, there is a need of six monthly populations monitoring of terrestrial and aquatic organisms of the area, which has not been carried out.		
6.2	*Modified Habitat:* The client should minimize impacts on modified habitat (areas managed for agriculture, forest plantations, reclaimed coastal zones and reclaimed wetlands) and implement mitigation measures as appropriate.	The Project Site primarily comprises agricultural land and does not have any statutory designations or ecological protection status. The following macro ecosystem types have been identified within the Project AoI: • cultivated land; • roadside vegetation; • exotic wood plantation; • local species; • homestead vegetation; and • wetland areas. The ESMMP suggest the following measures for protection of terrestrial and aquatic habitat: • Boundary fencing of the Project Site area will ensure wildlife choose alternative routes. • Provision of landscaped areas, where possible, around and within the Project Site using indigenous species to supply habitat for terrestrial and riparian species and improve aesthetics. • Construction workers will be prohibited from felling trees, hunting wildlife and fishing in the vicinity of the project site. • Provision of appropriate treatment plants for liquid and other wastes and/or facilities which allow the collection and storage of	**Aligned**	It is recommended to develop greenbelt within the project boundary in line with the greenbelt development plan after completion of the construction activities.

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		harmful and hazardous wastes in safe containers to minimize potential pollution impacts on the Kushiyara River. During the site visit, it has been observed that site fencing is provided by the EPC contractor and adequate provisions for solid and hazardous waste collection and storage and sewage collection have been made within the site. The collection and disposal of the same is being managed by subcontracting M/s Vertical Promoter – a DoE approved waste management company.		
6.3	*Natural Habitat:* The client will not significantly convert or degrade natural habitats, unless (i) no other viable alternatives within the region exist for development of the project on modified habitat; (ii) consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and, (iii) any conversion or degradation is mitigated.	The Project footprint area is already modified due to human interference (agricultural activity) and hence natural habitat is not present.	**Not Applicable**	
6.4	*Critical Habitat:* In areas of critical habitat, the client will not implement any project activities unless all of the following are demonstrated: • No other viable alternatives within the region exist for development of the project on modified or natural habitats that are not critical;	The ESIA report states that there is no area, declared as an ecologically critical area, situated within the Project AoI. Furthermore, amongst the nine potential sand mining areas approved the district administration, three sites were not being considered for sand mining due to ecological reasons, which include: • A fish sanctuary (conservation site) was located approximately 1 km downstream of potential mining Site (west of Monumukh Settlement). • A River Dolphin habitat site (locally called 'Shusuk') was identified near the Hatidigi. Through consultation with the local people and the fisheries study it was found that, although the site has not been declared as conservation site by the Fisheries Department, River Dolphin are visible in a large numbers at this site. • Another site located adjacent to the village of Paharpur, the most	**Aligned**	

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
		populated area of the nine sites, where the local residents heavily rely on fishing for their livelihood.		
6.5	*Invasive Alien Species:* The client will not intentionally introduce any new alien species (not currently established in the country or region of the project) unless this is carried out in accordance with the existing regulatory framework for such introduction.	The ESMMP suggests that the greenbelt should be developed by using native species. However, there is no provision provided for control of invasive alien species.	**Partially Aligned**	Include an invasive alien species management plan in the ESMMP for the construction and operational phases
6.6	**Management of Ecosystem Services:** Where a project is likely to adversely impact ecosystem services, as determined by the risks and impacts identification process, the client will conduct a systematic review to identify priority ecosystem services. With respect to impacts on priority ecosystem services of relevance to Affected Communities and where the client has direct management control or significant influence over such ecosystem services, adverse impacts should be avoided.	The ESIA states that the Project is not likely to affect ecosystem services.	**Aligned**	
6.7	**Sustainable Management of Living Natural Resources and Supply Chain:** Clients who are engaged in the primary production of living natural resources, including natural and plantation forestry, agriculture, animal husbandry, aquaculture, and fisheries, will: Commit to applying good international industry operating principles, management practices, and technologies.	The Project does not require any primary production of living natural resources including natural and plantation forestry, agriculture, animal husbandry, aquaculture and fisheries, etc.	**Not applicable**	-
7	**IFC PS 7: Indigenous Peoples and IFC PS 8: Cultural Heritage:** The ESIA does not indicate any form of social sensitivities or project associated impact on the Indigenous or ethnic groups' parts of the community as a result of the			

S. No	Requirements	Observation/Gap	Level of Compliance	Recommendation
	project nor does it indicate any form of impact on local cultural heritage.			

Table 3.3 Gap Assessment to the IFC General EHS Guidelines and Thermal Power Plants

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
1	**Environmental**				
1.1	**Air Emissions & Ambient Air Quality**				
1.1.1	Projects with significant sources of air emissions should prevent or minimize impacts by ensuring that: • Emissions do not result in pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards by applying national legislated standards, or WHO Air Quality Guidelines • Guideline suggests emission at 25 percent of ambient quality guidelines and standards to allow additional, future sustainable development in the same airshed • Estimate by the use of baseline air quality assessments and atmospheric dispersion models	**Emissions Offsets Approach** Projects should minimise incremental impacts by achieving emissions values outlined in the EHS Guidelines for Thermal Power (or national requirements depending on which is more stringent). Where these emissions values result nonetheless in excessive ambient impacts relative to local ambient air quality regulatory standards (or in their absence, other international recognized standards or guidelines, including World Health Organization guidelines), the project should explore and implement site-specific offsets that result in no net increase in the total emissions of those pollutants	• Baseline air quality monitoring was performed during March to May 2011, October 2011 and November 2013 – January 2014 at various locations within and close to the Project site. The results indicate that the particulate matter (SPM, PM10 and PM2.5) in the vicinity of the Project site are high throughout the year and regularly exceeding the National Ambient Air Quality Standards (Bangladesh) and IFC EHS Guidelines / WHO Guidelines, whereas gaseous pollutants (SO2, NO2 and CO) concentrations are well within the limits. • The air quality modelling results indicate that emissions around Project Site during the operation of the *SBPCL II* Power Plant will remain much below the DoE standards except for PM10. However, exceedances of PM10 are considered to be due to fugitive dust generated at the Project Site (i.e. elevated baseline concentrations). The contribution of the *SBPCL II* Power Plant in respect of PM10 is negligibly small (<0.03%). The maximum	**Aligned**	It is suggested to perform the air quality dispersion modelling study with updated stack characteristics.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			predicted ground level concentrations of NOx and CO from the *SBPCL II* Plant were 8.59 µg/m^3 and 3.31 µg/m^3, respectively. • The modelling results further indicate that the addition of two potential further power plants Bibiyana I and III Power Plants) with the assumed same emission parameters will lead to approximately a 50% increase of the predicted pollutant concentrations. Though these values for NOx and CO will be well within the DoE and IFC standards. • The air quality dispersion modelling study was performed considering main stack height as 50 m and stack diameter as 3.0 m which has now been modified to 70 m and 7.0 m, respectively. • It has further been noted that the ESIA report has considered exit velocity as 25 m/s as against the design exit velocity of 20 m/s. • Considering the increase in the stack height and diameter and reduction in the exit velocity of the flue gas, the overall impact prediction will change slightly. However, it can't be confirmed theoretically.		
1.1.2	Projects located within or next to areas established as	-	• Not applicable	**Not Applicable**	-

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
	ecologically sensitive (e.g. national parks), should ensure that any increase in pollution levels is as small as feasible, and amounts to a fraction of the applicable short-term and annual average air quality guidelines or standards as established in the project-specific environmental assessment.				
1.1.3	*Point Sources* Emissions from point sources should be avoided and controlled according to good international industry practice (GIIP) applicable to the relevant industry sector	• The primary emissions to air from the combustion of fossil fuels or biomass are sulphur dioxide (SO_2), nitrogen oxides (NO_X), particulate matter (PM), carbon monoxide (CO), and greenhouse gases, such as carbon dioxide (CO_2). • Depending on the fuel type and quality, mainly waste fuels or solid fuels, other substances such as heavy metals (i.e., mercury, arsenic, cadmium, vanadium, nickel, etc.), halide compounds (including hydrogen fluoride), unburned hydrocarbons and other volatile organic compounds (VOCs) may be emitted in smaller quantities.	• Emissions from point sources of the Project will be from the main stack of combined cycle power plant, which will have the stack height as 70 m, stack diameter as 7.2 m and exit velocity as 20 m/s for better dispersion of pollutants. • The by-pass stack connected with the gas turbine will have 45 m height and 6.5 m diameter. • The ESIA report and Basic Environmental Design document of the Project mentions that the Plant will have a continuous emission monitoring system (CEMS) for monitoring of NOX, O2, SOX, CO, particulate, Temperature & pressure, Humidity, Pressure and flue gas flow. • The fuel composition states that there will be no sulphur content in the natural gas. • The NOx emission guarantee	**Aligned**	

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			provided by the gas turbine manufacturer is 25 ppm.		
1.1.4	*Stack Height* The stack height for all point sources of emissions, whether 'significant' or not, should be designed according to GIIP.	-	Stack height for the main stack and bypass stack have been provided higher than the DoE guidelines for stack height.	**Aligned**	-
1.1.5	*Ozone Depleting Substances (ODS)* No new systems or processes should be installed using CFCs, halons, 1,1,1-trichloroethane, carbon tetrachloride, methyl bromide or HBFCs. HCFCs should only be considered as interim / bridging alternatives as determined by the host country commitments and regulations.	-	The EHSS Plan and Manual of Summit Power specifies that no ozone depleting substances (as defined by the 1987 Montreal Protocol) shall be brought onto the Plant Sites or incorporated into the Plant. No information on the use of ODS at construction site/ monitoring of the same by *SBPCL II* is currently available.	**Insufficient Information**	*SBPCL II* should ensure that no new systems or processes should be installed using CFCs, halons, 1,1,1-trichloroethane, carbon tetrachloride, methyl bromide or HBFCs. HCFCs should only be considered as interim / bridging alternatives as determined by the host country commitments and regulations.
1.1.6	*Mobile Sources – Land-based* Similar to other combustion processes, emissions from vehicles include CO, NOx, SO2, PM and VOCs. Emissions from on-road and off-road vehicles should comply with national or regional programs.	-	Emissions from mobile sources are mainly during the construction phase of the Project. It has been reported the EPC contractor that vehicle inspection is being done as per the vehicle inspection checklist. However same could not be verified due to language constraint. Furthermore, no monitoring records of tailpipe emissions were made available for review.	**Insufficient Information**	EPC Contractor and *SBPCL II* should ensure that emissions from on-road and off-road vehicles should comply with national or regional programs and limits.
1.1.7	*Greenhouse Gases (GHGs)* GHGs may be generated from direct emissions from facilities within the physical project boundary and indirect	• Carbon dioxide is emitted from the combustion of fossil fuels. Recommendations to avoid, minimize, and offset emissions of carbon dioxide from new and existing thermal power	Refer S. No. 3.4 of Table 3.2.	**Aligned**	Refer S. No. 3.4 of Table 3.2.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
	emissions associated with the off-site production of power used by the project. Recommendations for reduction and control of greenhouse gases include carbon financing and host of other approaches in the guideline.	plants have been provided in the guideline.			
1.1.8	*Monitoring* Emissions and air quality monitoring programs provide information that can be used to assess the effectiveness of emissions management strategies. The air quality monitoring program should consider the following elements: • Monitoring parameters • Baseline calculations • Monitoring type and frequency • Monitoring locations • Sampling and analysis methods	Emissions guidelines are described in Table 6 of the guidelines. Emissions levels for the design and operation of each project should be established through the EA process on the basis of country legislation and the recommendations provided in this guidance document, as applied to local conditions. Emissions from a single project should not contribute more than 25% of the applicable ambient air quality standards to allow additional, future sustainable development in the same airshed.	*Refer S. No. 1.1.1 of Table 3.3*	**Aligned**	The hotspots identified based on the re-modelling study shall be used for monitoring design during operation phase of the Project.
1.2	**Energy Conservation**				
1.2.1	*Applicability and Approach* • Energy Management Programs • Energy Efficiency • Process heating • Process cooling	**Energy Consumption and Efficiency** Use of higher energy conversion efficiency technology of the same fuel type / power plant size than that of the country/region average. New facilities should be aimed to be in top quartile of the country/region average of the same fuel type and power plant size.	Refer S. No. 3.3 of Table 3.2	**Aligned**	

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
	• Compressed air systems				
1.3	**Wastewater and Ambient Water Quality**				
1.3.1	*Wastewater Management* • Industrial Wastewater • Sanitary Wastewater • Emissions from Wastewater Treatment Operations • Residuals from Wastewater Treatment Operations • Occupational Health and Safety Issues in Wastewater Treatment Operations	Effluents from thermal power plants include thermal discharges, wastewater effluents, and sanitary wastewater Recommended water treatment and wastewater conservation methods are discussed in Sections 1.3 and 1.4, respectively, of the General EHS Guidelines. In addition, recommended measures to prevent, minimize, and control wastewater effluents from thermal power plants are provided in the guidelines. Sewage and other wastewater generated from washrooms, etc. are similar to domestic wastewater. Impacts and management of sanitary wastewater is addressed in Section 1.3 of the General EHS Guidelines.	Refer S. No. 3.5 of Table 3.2	**Aligned**	
1.3.2	*Monitoring:* A wastewater and water quality monitoring program with adequate resources and management oversight should be developed and implemented to meet the objective(s) of the monitoring program. The wastewater and water quality monitoring program should consider the following elements: • Monitoring parameters • Monitoring type and frequency	Effluent guidelines are applicable for direct discharges of treated effluents to surface waters for general use. Guideline values include: pH = 6-9; TSS = 50 mg/l; O&G = 10 mg/l; Total residual chlorine = 0.2 mg/l; Total Chromium = 0.5 mg/l; Copper = 0.5 mg/l; Iron = 1.0 mg/l; Zinc = 1.0 mg/l; Lead = 0.5 mg/l; Cadmium = 0.1 mg/l; Mercury = 0.005 mg/l; Arsenic = 0.5 mg/l; and Temp = EIA study to determine.	• Surface water quality monitoring results of Kushiyara River indicates that the primary impact on water quality is during the monsoon season when silt is washed into the river and the Total Suspended Solids (TSS) and Turbidity of the river water increases significantly, relative to pre-monsoon concentrations. • Ground water quality monitoring results indicate that arsenic is present in the ground water above the WHO and Bangaldeshi standards. Furthermore, the	**Aligned**	Water and wastewater quality monitoring should be conducted as per the ESMMP during construction and operation phases of the Project.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
	• Monitoring locations • Data quality		results indicate exceedance of phosphorous, iron and oil and grease concentrations in the samples collected. • Periodic monitoring of surface and ground water quality is being conducted by the EPC contractor as well.		
1.4	**Water Conservation**				
1.4.1	Water conservation programs should be implemented commensurate with the magnitude and cost of water use. These programs should promote the continuous reduction in water consumption and achieve savings in the water pumping, treatment and disposal costs.	Water conservation measures may include water monitoring/management techniques; process and cooling/heating water recycling, reuse, and other techniques; and sanitary water conservation techniques.	The *SBPCL II* Power Plant will operate a closed-loop cooling water system. A volume of 26,238 m^3 will be pumped from the river once during start-up for use in the cooling system unit. During operation there will be a need, due to evaporation losses, for replenishment of cooling water ('make-up' water) as well as other operational uses which will be abstracted from the Kushiyara River. As per the Water Balance Diagram provided by the EPC Contractor, daily water abstraction from the Kushiyara River will be about 10,500 m^3/day, which is equivalent to 0.12 m^3/s. The COC for cooling towers has been considered as 6. Based on the water balance of the Project, all the treated water will be collected at Central Monitoring Basin (600 m3 capacity). About 120 m3/day of treated water will be utilised within the project premise for green area, whereas remaining 1,395 m^3/day of treated water will be discharged back	**Aligned**	

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			to the Kushiyara River.		
1.4.2	The essential elements of a water management program involve: • Identification, regular measurement, and recording of principal flows within a facility; • Definition and regular review of performance targets, which are adjusted to account for changes in major factors affecting water use (e.g. industrial production rate); • Regular comparison of water flows with performance targets to identify where action should be taken to reduce water use. • Water measurement (metering) should emphasize areas of greatest water use. Based on review of metering data, 'unaccounted' use– indicating major leaks at industrial facilities– could be identified.		*SBPCL II* has plans to implement the water monitoring and management system in the operation phase, which have been identified in the environmental monitoring plan of the Project.	**Aligned**	
1.5	**Hazardous Materials Management**				
1.5.1	Applicability and Approach	Hazardous materials stored and used at combustion facilities include solid, liquid,	See 3.6 in Table 3.2	**Partially Aligned**	See 3.6 in Table 3.2

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
		and gaseous waste-based fuels; air, water, and wastewater treatment chemicals; and equipment and facility maintenance chemicals (e.g., paint certain types of lubricants, and cleaners).			
1.5.2	*General Hazardous Materials Management* • Hazard Assessment		During site walkthrough, HSD storage shed floor was observed with HSD spillage on ground during transfer from 200 litre drum. Rainwater was also seen accumulated on floor of the HSD storage shed. ERM interviewed workers involved in transferring HSD drums into the storage shed and they have communicated the general procedure of cleaning of HSD spill to ERM where they have mentioned 'After any spillage on the floor worker will clean the surface using water and water containing HSD will go into the out of the Storage shed'. It was also noted that there is no drainage provided to the Storage shed and storage shed was also having an opening from where rain water can enter inside the storage shed.	**Not Aligned**	Ensure that spillage kit is available at the HSD storage area. Provide drainage system to the HSD storage shed to collect the rain water and waste water generated after floor cleaning. Prepare a procedure for the HSD loading & unloading and spill control and trained workers for the same. Prepare a list of the authorised person and same should be pasted outside the storage shed area and access control system to be implemented.
1.5.3	*Management Actions* • Release Prevention and Control Planning • Occupational Health and Safety • Process Knowledge and Documentation				
1.5.4	*Preventive Measures* • Hazardous Materials Transfer • Overfill Protection • Reaction, Fire, and Explosion Prevention				
1.5.5	*Control Measures* • Secondary Containment (Liquids) • Storage Tank and Piping Leak Detection • Underground Storage Tanks (USTs)	Spill prevention and response guidance is addressed in Sections 1.5 and 3.7 of the General EHS Guidelines. In addition, recommended measures to prevent, minimize, and control hazards associated with hazardous materials storage and handling at thermal power plants include the use of double-walled containers for fuel oil storage etc.			
1.5.6	*Management of Major Hazards* • Management Actions • Preventive Measures • Emergency Preparedness and Response • Community Involvement				

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
	and Awareness				
1.6	**Waste Management**				
1.6.1	• Applicability and Approach • General Waste Management • Waste Management Planning • Waste Prevention • Recycling and Reuse • Treatment and Disposal	Recommended measures to prevent, minimize, and control the volume of solid wastes from thermal power plants have been presented in the guidelines.	See 3.7 in Table 3.2	**Partially Aligned**	See 3.7 Table 3.2
1.6.2	*Hazardous Waste Management* • Waste Storage • Transportation • Treatment and Disposal • Commercial or Government Waste Contractors • Small Quantities of Hazardous Waste • Monitoring				
1.7	**Noise**				
1.7.1	• Applicability • Prevention and Control • Noise Level Guidelines • Monitoring	Principal sources of noise in thermal power plants include the turbine generators and auxiliaries; boilers and auxiliaries, such as reciprocating engines; fans and ductwork; pumps; compressors; condensers; precipitators, including rappers and plate vibrators; piping and valves; motors; transformers; circuit breakers; and cooling towers. Thermal power plants used for base load operation may operate continually while smaller plants may operate less frequently but still pose a significant source of noise if located in urban areas.	The ambient noise monitoring conducted as part of the ESIA study indicate that noise levels within the power plant complex and at boundary are meeting the applicable standards. The EPC contractor has guaranteed noise levels of 85 dB(A) at 1 m from the equipment. Noise levels at the boundary of the project complex are guaranteed to be no more than 75 dB(A) during the daytime and 70 dB(A) at night. It has been reported that the EPC contractor will provide necessary acoustic treatment as per	**Aligned**	

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
		Noise impacts, control measures, and recommended ambient noise levels are presented in Section 1.7 of the General EHS Guidelines. Additional recommended measures are presented in the guideline. Noise propagation models may be effective tools to help evaluate noise management options such as alternative plant locations, general arrangement of the plant and auxiliary equipment, building enclosure design, and, together with the results of a baseline noise assessment, expected compliance with the applicable community noise requirements	contract to meet the near and far field noise standards. Further it has been noted that noise contours for the plant has already been completed by the EPC for plant design, however the same was not available for review. The guaranteed levels are in compliance with the IFC EHS guidelines.		
1.8	**Contaminated Land**				
1.8.1	• Applicability and Approach • Risk Screening • Interim Risk Management • Detailed Risk Assessment • Permanent Risk Reduction Measures • Occupational Health and Safety Considerations		Potential sources of land contamination during the construction and operation phases of the Project will be solid and liquid wastes handling, disposal of sludge and hazardous materials spillage. No significant observations of potential soil and groundwater impact were observed during the site visit.	**Aligned**	
2	**Occupational Health and Safety (OHS)**				
2.1.1	• Integrity of Workplace Structures • Severe Weather and Facility Shutdown • Workspace and Exit • Fire Precautions • Lavatories and Showers • Potable Water Supply	The following Occupational health and safety impacts are of particular concern during operation of thermal power plants: • Non-ionizing radiation • Heat • Noise • Confined spaces • Electrical hazards	Occupational health and safety during the construction phase will be ensured by the EPC contractor, which will need to develop the management system for this for pre-construction, construction and commissioning. **Integrity of Workplace Structures:**	**Partially Aligned**	It is suggested that compliance with respect to the H&S plans during construction and operation phases need to be monitored by Summit as well as by independent third party expert on quarterly basis. Ensure that all the structural at the

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
	• Clean Eating Area • Lighting • Safe Access • First Aid • Air Supply • Work Environment Temperature	• Fire and explosion hazards • Chemical hazards • Dust	During the site visit, concrete structure at the cement storage area at the batching plant was seemed to be disturbed and gaps were seen between this concrete layer and the surrounding ground level. Cracks were also seen at the Laboratory rooms on the wall. Discussions with the civil engineer could not be held to get their feedback on this aspect. It perceived that cracks are formed due to heavy loading of the material on the floors and material adjacent to the walls. **Severe Weather and Facility Shutdown** NEPC has not developed any Standard Operating Procedures (SOPs) for project or process shut-down and similarly no mock drills have been conducted to familiarize employees with the steps to be taken in case of Severe weather and Facility Shutdown. **Fire Precautions** Facility has provided the fire extinguisher at the construction site to extinguish fire at its incipient stage. During site walkthrough, it was observed that most of the hot works were not provided with the fire extinguisher or fire blanket.		facility are free from any damaged or crack wherever poor workmanship is observed, site management should take appropriate actions. Initiate the Process for developing the procedure for severe weather condition and it's affect to the operation and also conduct mock drills to practice fail safe process shutdowns in line with the procedure and test the effectiveness of the SOP. Facility should prepare a monthly inspection schedule for fire extinguisher. Ensure the inspection schedule is being followed at the site for fire extinguisher. NEPC is to prepared a NO Smoking policy and communicate the same to the workers. Adequate number of drinking water station to be installed at the facility. Water quality checks should be performed on routine basis. NEPC is to prepare a site specific traffic management plan and

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			Fire extinguisher provided at the compressed gas cylinder storage area, LPG cylinder storage area and HSD storage areas were identified non-operational. During site walkthrough, it was observed that NEPC employees are smoking inside the offices and throughout the site there is no strict adherence to the 'NO SMOKING' within the premises. **Portable Water supply** During site walkthrough, ERM has observed Two (2) places where drinking water facility was provided. Adequate supply of chilled water was not provided for the purposes of drinking. **Safe Access** NEPC has not segregated the passageways for pedestrians and vehicles within premises for easy, safe, and appropriate access. Heavy vehicle movement consist of Crane, Cement mixers truck, Forklift etc. were seen inside the construction site. Crawler cranes were also seen working near the boiler and STG area where construction workers seen walking under the boom.		prepare a separate walkways and heavy vehicular movement area needs to be identified. First aid boxes to be installed at conspicuous location within the construction site and it should be maintained with the minimum required medicine under the local regulation. It is recommended to implement the LOTO system. Ensure that the LOTO procedure is in place and implementation of the LOTO is ensured by training employees of Maintenance (Mechanical and Electrical) department. It is recommended to strengthen the hot work permit system and if required then please train people on various HOT work activities.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			First Aid First aid boxes were only available at first aid center. First aid boxes were not provided at the construction site close to the workers. First aid boxes were also not equipped with required content as prescribed under local regulatory requirements. Ambulance provided at the first aid center was identified without first aid box and mobile stretcher. Ambulance fuel tank was almost close to the empty bar in the level indicator. It may develop an emergency while transporting the patient to the nearest hospital. **Electrical Hazards** During site walkthrough, frayed insulation and exposed cable joints were observed near clarifier tanks. It was also observed that facility has no system related to Lock-out/Tag Out (LOTO) system in place to take precaution against accidental charging of the equipment's or distribution panels. Welding machines were identified with Sub-standard earthing. **Fire and explosion hazards** During site walkthrough, compressed gas cylinders (O_2) were observed to be is use without securing it with chain.		

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			One instance was observed were hot work was going at the HRSG area and LPG & oxygen cylinder were stored underneath the area without any protection against falling of hot spatters.		
2.2	**Communication and Training**				
2.2.1	• OHS Training • Visitor Orientation • New Task Employee and Contractor Training • Basic OHS Training • Area Signage • Labelling of Equipment • Communicate Hazard Codes		The EPC contractor is responsible for conducting OHS training for all the NEPC employees and contractors. **OHS Training, Visitor Orientation, New Task Employee and Contractor Training** As informed by Site management, NEPC safety department carries out trainings related to basic safety induction (15 minutes module) for all the new contractor workers. During site walkthrough, One (1) welder working at clarifier tanks was interviewed and he explained that he has not undergone any job specific safety training. Basic site orientation training was not covering all site specific basic hazards, site specific hazards, and safe work practices, emergency procedures for	**Partially Aligned**	NEPC should identify trainings related to the construction activities. NEPC should prepare the training matrix and prepare a job specific training modules. NEPC should prepare training schedule and conduct the training for all the workers. The key EHS classroom based training includes risk assessment, environmental aspects and impacts analysis; environmental awareness; permit to work and lock-out/tag-out; control of asbestos; working at height; fire protection; and personal protective equipment (PPE). NEPC should prepare visitor orientation and same should not be limited to the general safety rules, hazards at construction site, emergency exit routes, muster

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			natural disaster, and site-specific hazard. NEPC is not conducting any new task special training for the construction workers at the site. During site walkthrough, ERM interviewed workers involved in hot work in confined space. Worker has communicated that no training related to the confined space or any other job specific training being imparted at the site. **Visitor Orientation**: Facility has not developed any system for visitor OHS orientation before entering into the site. Only visitor muster is available at the security check point which is the only source to count visitors during any emergency at muster points. **Area Signage** Facility is yet to provide safety signage across the premises so as to ensure that these are easily understood by workers, visitors and the general public as appropriate. **Labelling of Equipment** Facility is yet to provide with appropriate labelling of vessel that		points etc. Facility should display the safety posters all around site for various activities work at height safety, Electrical safety, excavation safety, housekeeping, lifting activities, Personal Protective Equipment's etc. Ensure that all areas are assessing to identify hazards and appropriate hazard signage to be posted in vicinity of the area. Ensure that all vessels are appropriately labelled for the substances stored with their emergency actions against different scenarios like Fire, Spill etc. Develop the Hazard Coding System and same should be displayed at the identified locations. Ensure addressing this in the existing emergency preparedness and response procedure.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			may contain substance that are hazardous as a result of chemical or toxicological properties. e.g. High Speed Diesel storage tanks are not labeled. Similarly piping systems that contain hazardous substances have not been labeled with the direction of flow and contents of the pipe. **Communicate hazard codes** Facility is yet to develop the hazard coding system at the facility to communicate emergency to workers and the outsiders.		
2.3	**Physical Hazards**				
2.3.1	• Rotating and Moving Equipment • Noise • Vibration • Electrical • Eye Hazards • Welding / Hot Work • Industrial Vehicle Driving and Site Traffic • Working Environment Temperature • Ergonomics, Repetitive Motion, Manual Handling • Working at Heights • Illumination	**Heat Hazard** Occupational exposure to heat occurs during operation and maintenance of combustion units, pipes, and related hot equipment. Recommended prevention and control measures to address heat exposure at thermal power plants are presented in the guidelines. **Noise Hazards** Noise sources in combustion facilities include the turbine generators and auxiliaries; boilers and auxiliaries, such as diesel engines; fans and ductwork; pumps; compressors; condensers; precipitators, including rappers and plate vibrators; piping and valves; motors; transformers; circuit breakers; and cooling towers. Recommendations for reducing noise and vibration with additional recommendations to prevent, minimize, and	**Rotating and Moving Equipment** During site walkthrough, conveyors at the batching pant, Electrical motor with transmission belt were observed without machine guarding to its rotating part. **Noise** NEPC is not conducting noise level surveys for its high noise exposure areas. During site visit, it was observed that contractors and employees in many such areas were working without noise protection gears. Signage related to noise protection were also not visible in the potential high noise area such as DG set area, batching plant	**Partially Aligned**	Facility should provide machine guarding to the identified machines at earliest. Identify all other rotating machine at the site and same should be included in the Pre checks. Facility should display poster s and signage to noise hazard. NEPC should consider following recommendation; Access control system to be established at all the electrical distribution panel and control should be given to the authorised personal.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
		control occupational noise exposures in thermal power plants are presented in the guideline. **Electrical Hazards** Energized equipment and power lines can pose electrical hazards for workers at thermal power plants. Recommended measures are presented in the guideline.	area etc. **Electrical** Following observation were made with respect to the electrical system at the site: Local Distribution electrical panel at the construction site were identified without any access control. Portable electrical boxes used at the summit office construction area were identified damaged exposed cables and without any local Miniature Circuit Breaker (MCB). Welding cable was observed to be burnt due to frayed insulation and same was observed to be in use at the clarifier. Same incident was not investigated by the facility to identify route cause. Naked wires were seen directly inserted into the plugs at the NEPC contractor workers dormitory. Grinding machine placed at the contractor shed was not provided with the ON/OFF knob. Local Distribution boxes at the crusher house and DM plant area were identified with paper pasted which was obstructing the view of the		All damaged portable electrical boxes should be taken out immediately from use and replace the same with the new one. Pre-sue inspection to be used for welding activity and replace the damaged or non- operation thing. Damaged electrical cable and cable joints should be avoided to use and replaced with the new one or else cable joints should be prepared with industrial lugs. All electrical panels should be provided with the shed to protect against rain water entering into the panels. It is recommended to prepare a cable route map for each area and it should be pasted neat to the area. Electrical Cables should be passed from any of the metallic structure and wherever it is necessary to take Should be only routed through non-metalic protection. Flexible electrical cable should only be passing through ramp protection to avoid damage on the roads. Earthing should be provided to all the DGs. Two (2) separate phase and

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			operator. Earthing to the DG set were identified missing near the Boiler area and Phase and Body earthing were not checked for the DG set available at the batching plant. Electrical distribution panel were placed at the construction site without any protection against rainwater. At least three (3) instances were observed where water was accumulated on the top of the electrical panel it was going inside the electrical panel. It may give away spark in case of water enters into the receptacles. Electrical flexible cables were seen trailing and laid on the ground and it was passing also passing from the access roads. It was also observed that electrical cables were passing through scaffold structure. Which was posing an electrocution hazards Some of the electrical cables were also seen submerged into the water and heavy vehicles were also seen passing form the same route which were also damaging the cables. **Welding/Hot Work** During document review, It was identified that HOT work procedure		body earthing should be provided to the DG sets. It is recommended to review the 'HOT' work procedure and make necessary changes. Safety precautions such as stand-by fire extinguishers, stand-by fire watch, fire blanket, screen protection etc needs to be provided at every HOT work activity. NEPC to establish traffic management plan and communicate the traffic management plan to the workers. Impart extensive trainings on the work at height safety. All the scaffold should be inspected and constructed under guidance of the scaffold engineer. All scaffolds should undergo inspection procedure and only Green Tag scaffold should be used at the site. All the work at height activities should prepare a Job Hazard Analysis before starting activities and implement the corrective actions to complete the job safely. Identify the activities wherein work at height is required, based on the

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			only talks about HOT work permit. It does not talk about hot work safety precautions, roles and responsibilities, area identification for hot work etc. During site walkthrough, welding and gas cutting activities were observed near cooling tower. Safety precautions such as stand-by fire extinguishers, stand-by fire watch were not available at the activity area. No work permit was present in location for this job. **Industrial Vehicle Driving** NEPC has not established a traffic management plan for the traffic control inside the facility premises. Operators of the material handling equipment, fuel tankers, and cranes, cement mixer were identified to be driving at speed exceeding the stipulated speed limit. There is no separate demarcation for pedestrians and the vehicles plying inside the facility. During site walkthrough. ERM interviewed excavator driver and asked for the relevant heavy vehicle driving license and found that the driver was not carrying the same. ERM could not confirm his eligibility in driving the heavy vehicle. **Working at height** NEPC has conducted for small session on how to wear safety belts and		risk assessment conducted and consider making visual displays which can provide information to the personnel about the various conditions during which the work at height related precautions needs to be taken and also trigger the requirement for obtaining requisite work permit and also involvement of the onsite safety officers. It is also recommended to strengthen the supervision team for work at height activities.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			pictures were available for that session, However implementation was noted to be deficient based on the observations made at site. Personnel were observed to be working at height at various parts of the plant involving various contractor personnel. Some of these personnel were not even adhering to the basic protection required i.e. wearing and anchoring the full body safety harness. Some representative observations made during the site assessment are as below: • A supervisor was observed at the standing on the edge of the first floor construction of cooling tower area without horizontal lifeline and proper working platform. • Sub-standard Scaffold was observed to be constructed at clarifier area. • One worker was identified involved in painting activity at clarifier area at around 3 meter without working platform. He was also observed to be overreaching to the job area. • At least five (5) workers were observed involved in rebar caging activity and all the workers were not equipped with any fall protection.		

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			• Scaffold provided at the waste water tanks area was not provided with any access. • Most of the scaffolds constructed at the facility were not provided any protection at the base inform of base plate to transfer the vertical load. Scaffolds were also not provided with any inspection tag/ safe use tag. • A temporary ladder was prepared by welding two rebar roads and rebar cut outs as rungs for use at the site. No SWL load was tested for the ladder.		
2.4	**Chemical Hazards**				
2.4.1	• Air Quality • Fire and Explosions • Corrosive, oxidizing, and reactive chemicals • Asbestos Containing Materials (ACM)	**Fire and Explosion Hazard** Thermal power plants store, transfer, and use large quantities of fuels; therefore, careful handling is necessary to mitigate fire and explosion risks. In particular, fire and explosion hazards increase as the particle size of coal is reduced. Fire and explosion prevention management guidance is provided in Section 2.1 and 2.4 of the General EHS Guidelines. Additional recommended measures are presented in the guideline. **Chemical Hazards** Thermal power plants utilize hazardous materials, including ammonia for NO_X control systems, and chlorine gas for treatment of cooling tower and boiler water. Guidance on chemical hazards management is provided in Section 2.4 of the General EHS Guidelines. Additional, recommended	The ESIA report has identified potential hazards such as fire and explosions, and associated with hazardous chemicals. The hazard and risk assessment do not cover consequence analysis of chlorine storage. SPBCL II has confirmed that ACM will not be used for the Project construction.	**Partially Aligned**	Consequence analysis of chlorine storage should be included as part of the risk assessment.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
		measures are presented in the guideline.			
2.4.2	Personal Protective Equipment (PPE)		NEPC has defined Safety shoes, Safety helmet and Safety Vest as mandatory PPEs. NEPC has not prepared a PPE matrix for all the activities at the construction site. Specific observations related to the PPE non-compliance have been already discussed in S. No. 2.9 of Table 3.2.	**Partially Aligned**	This can be addressed in an OHS plan, and include training on the importance of PPE use, and PPE maintenance.
2.4.3	Special Hazard Environments • Confined Space • Lone and Isolated Workers	**Confined Spaces** Specific areas for confined space entry may include coal ash containers, turbines, condensers, and cooling water towers (during maintenance activities). Recommend confined space entry procedures are discussed in Section 2.8 of the General EHS Guidelines.	Facility has not identified the confined spaces around the site and no training has been imparted on the confined spaces so far. During site walkthrough, workers were also requesting to conduct a session on confined space. NEPC has not developed any procedure for confined space. Confined spaces were also not provided with artificial ventilation.	**Not Aligned**	NEPC should developed a procedure and impart training on the same to confined space entrants and supervisor. NEPC should identify the confined space and install signage. All confined spaces work /activity needs to be evaluated prior to the job and artificial ventilation requirement needs to discuss at the time permit issuance.
3	**Community Health and Safety**				
3.1	Water Quality and Availability		Refer S. No. 3.5 and 3.6 of Table 3.2	**Aligned**	There is a need to conduct surface water monitoring at water intake and outfall locations.
3.2	Structural Safety of Project Infrastructure		It has been reported that structural stability inspection and certification will be followed on a periodic basis.	**Aligned**	-
3.3	**Life and Fire Safety (L&FS)**				
3.3.1	• Applicability and		These aspects are covered in hazard	**Partially**	Engage a suitably qualified

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
	Approach • Specific Requirements for New Buildings • L&FS Master Plan Review and Approval • Specific Requirements for Existing Buildings • Other Hazards		and risk assessment in ESIA study as well as HSE management system of the EPC contractor. It is further to be noted that the ESIA report mentions it does not comprise a site-specific Hazard and Risk Assessment for the proposed SBPCL II Power Plant. Instead, it provides guidelines to undertaking risk assessment and formulating an emergency response plan (ERP) for the development project. The potential exists for project-specific impacts and 'domino effects' that require further assessment in a detailed, site-specific, quantitative risk assessment (QRA) in order to arrive at an 'As-Low-As-Reasonably-Practicable' (ALARP)situation through site specific mitigation and management measures. It was reported that life and fire protection measures such as preventive mechanism / system alarms, portable fire extinguishers as well as fire hydrants will be provided as part of the Project. Fire training of construction workers will be done. Fire alarms and Public Address System (PAS) will be installed.- Commentary is provided elsewhere in the report on emergency planning and response.	**Aligned**	professional to undertake a Life and Fire Safety (L&FS) review of the facility after commissioning. Conduct a detailed QRA for the Project based on actual design and formulate an emergency response plan.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
3.4	Traffic Safety	Operation of a thermal power plant will increase traffic volume, in particular for facilities with fuels transported via land and sea, including heavy trucks carrying fuel, additives, etc. The increased traffic can be especially significant in sparsely populate areas where some thermal power plants are located. Prevention and control of traffic-related injuries are discussed in Section 3.4 of the General EHS Guidelines.	During the construction phase of the Project, traffic movement will be outside the plant area for material carrying heavy vehicles and within site for construction activities. It has been noted that EPC contractor has developed a framework for traffic and transportation management. However, as specified in the EHS Plan as well as in the ESMMP, no site specific traffic and transportation management plan has been developed for road and rive traffic.	**Partially Aligned**	The EPC contractor shall develop a traffic and transportation management plan taking into consideration workers and community safety.
3.5	Transport of Hazardous Materials • General Hazardous Materials Transport • Major Transportation Hazards		The ESIA report states that fuel oil, transformer oil, chlorine, sulphuric acid are hazardous chemicals in respect of their transportation, storage and use which are to be considered as major accidental hazard (MAH) and ESMMP provides preventive and control measures for safe transportation.	**Aligned**	*SBPCL II* should ensure that transport of hazardous chemicals follows the Applicable Standards.
3.6	Disease Prevention • Communicable Diseases • Vector-Borne Diseases		The ESMMP states that the EPC contractor will be required to put in place a programme aimed at reducing the risk of occurrence of vector-borne diseases among construction personnel. This needs to include elimination of potential insect breeding sites and provision of preventive medication, where applicable. This further requires: • Regular check of workplace personnel's health by designated medical team.	**Aligned**	In order to increase awareness amongst the workers and employees, *SBPCL II* is recommended to conduct health awareness drives and medical camps in the neighbouring areas. These include typical disease vectors such as malaria, sexually transmitted diseases etc.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
			• Informing the workplace personnel of possible symptoms of diseases they might be exposed to and approaching on-site medical team as the necessity arises. It has been noted that adequate provisions have been made within the site for wastewater, garbage collection and disposal.		
4	**Construction and Decommissioning**				
4.1	Environment • Noise and Vibration • Soil Erosion • Air Quality • Solid Waste • Hazardous Materials • Wastewater Discharges • Contaminated Land		ESIA of the Project addresses the impacts during construction phase of the Project and provides mitigation measures in the ESMMP. Closure and decommissioning of the *SBPCL II* Power Plant may involve adverse impacts not perceived at this stage of the project. Therefore, the ESMMP details the requirement for a detailed decommissioning and rehabilitation plan prior to closure of the power plant. Such a plan might include: strict adherence to all appropriate waste management techniques, including the reuse and recycling of materials wherever possible; disposable of hazardous waste materials in a legal and responsible manner; remediation of soil and/or groundwater contamination (if applicable); and rehabilitation and enhancement of terrestrial habitats within the power plants footprints.	**Aligned**	*SBPCL II* should ensure that impacts associated with the decommissioning phase are assessed and addressed at least 1 to 2 years prior to eventual decommissioning.

S. No	Requirement under IFC General EHS Guideline	Requirement under IFC Thermal Power Plants Guideline	Observation/Gap	Level of Compliance	Recommendation
4.2	Occupational Health and Safety issues • Over exertion • Slips and falls • Work in heights • Struck by objects • Moving Machinery • Dust • Confined Spaces and Excavations • Other Site Hazards	-	Refer S. No. 2.9 of Table 3.2	**Partially Aligned**	Refer S. No. 2.9 of Table 3.2
4.3	Community Health and Safety issues • General Site Hazards • Disease Prevention • Traffic Safety	-	Refer S. No. 4.1 of Table 3.2	**Partially Aligned**	Refer S. No. 4.1 of Table 3.2

Table 3.4 Key Regulatory Compliance and Gap Assessment

S. No	Regulatory Requirement	Finding /Observation	Compliance Rating	Implication
1	**EIA Approval under Environmental Conservation Rules, 1997**			
1.1	EIA Approval	• Site clearance certificate was received from the DoE on the 29th May 2011. Same was renewed by the DoE on 25th June 2014 and is currently valid up to 28th May 2015. • On receipt of the site clearance certificate in 2011, an environmental and social impact assessment study was being carried out and the first draft of the same was come up in June 2011. The draft ESIA report further been updated based on the comments from the Project Owner as well as potential lenders to include various requirements as well as monitoring needs in the ESIA report. The 7th Draft of the ESIA Report came in July 2014. • Draft ESIA report was submitted to the DoE by letter dated 10th August 2014. EIA approval is currently awaited.	**Aligned**	Include the EIA approval conditions in the ESMMP for implementation.
2	**NOC from Bangladesh Inland Water Transport Authority**			
2.1	Construction and operation of temporary jetty	NOC from BIWTA was received for construction of RCC Jetty on 31st July 2013, which was expired on 30th June 2014. Application for extension of NOC was submitted to BIWTA on 28th August 2014, and it is still awaited. The permission was given by BIWTA for construction of RCC jetty, whereas *SBPCL II* had constructed a temporary jetty.	Not Aligned	Ensure to get the extension for use of temporary jetty at the earliest.
3.	**The Bangladesh Petroleum Act,1934 and The Petroleum Rules, 1937; as amended till 1989**			
3.1	**License for HSD Storage:** **Section 7 of Petroleum Act, 1934**: No licence is required for transport or storage class II petroleum if the total quantity in his possession at any one place does not exceed 2000 litters and none of it contained in a receptacles exceeding in capacity.	During site walkthrough, it was observed that facility at present stores Class 'B' petroleum product at HSD Storage area near to the jetty area. As informed by the site management, Facility is having a MS tank of around 22,000 litres capacity to store the HSD at site. Site management were not able to communicate the exact quantity of the HSD stored at the site. It was observed that Class 'B' petroleum products is stored in one place which is more than two thousand litres (2000 ltrs.) therefore it is in non-compliance with the Petroleum act & Rules.	**Not Aligned**	Obtain a valid license under Petroleum Act and Rules at the earliest.

S. No	Regulatory Requirement	Finding /Observation	Compliance Rating	Implication
	Rule 90 of The Petroleum Rules, 1937; as amended till 1989: Save as provided in section 7, 8 and 9 of the Act and by Rule 109 no one shall store any petroleum except under a licence granted under these rules:			
3.2	**Restriction on delivery and despatch of petroleum** **Rule 29(03) of The Petroleum Rules, 1937; as amended till 1989:** No person shall deliver any petroleum in bulk to any vessel or vehicle used for the transport of petroleum in bulk by water or by land unless such vessel or vehicle is licensed under these rules.	During document review, ERM has asked for records pertaining to the HSD vendor license, approved vehicle license etc. from NEPC to review and documents were not readily available for ERM review.	**Not Aligned**	Ensure that records pertaining to the vendor license and vehicle license are available with NEPC.
3.3	**Precautions against fire:** **Rule 91(04) of The Petroleum Rules, 1937; as amended till 1989:** an adequate supply of dry sand or earth together with the necessary implements for its convenient application, or other efficient means of extinguishing petroleum fires, shall always be kept in every installation and in or adjacent to every storage shed.	During site walkthrough, it was observed that HSD storage shed was provided with three (3) sand buckets, four (4) ABC Dry powder stored pressure type fire extinguisher and Two (2) trolley mounted Dry powder fire extinguisher were available outside the HSD Storage area. All four (4) ABC Dry powder stored pressure type fire extinguisher were not pressurized and unfit for the first aid fire-fighting. Three (3) Sand buckets were also empty and filled with dry sand to use in case of fire. It was noted that first aid fire-fighting equipment's are not inspected on regular basis for fitness which is leading to the above mentioned consequences at the site.	**Not Aligned**	Ensure that all first aid fire- fighting equipment's are inspected on routine basis (recommended: monthly inspection practice to be followed). All first aid fire-fighting equipment should be equipped with inspection card. Prepare an inspection check points for fire extinguisher and Sand bucket and include the same in monthly inspection schedule. Train the workers working around and at the HSD storage area on first aid fire-fighting. Fire-fighting instructions in English and language understood by majority of the worker should be displayed at the HSD storage Shed.

S. No	Regulatory Requirement	Finding /Observation	Compliance Rating	Implication
3.4	**Cleanliness of installation or storage shed:** **Rule 93 of The Petroleum Rules, 1937; as amended till 1989:** The ground in the interior of an installation, and the protected area surrounding any storage shed or installation, shall be kept clean and free from all inflammable material, waste vegetation and rubbish. **Drainage:** **Rule 94(01) of The Petroleum Rules, 1937; as amended till 1989:** All enclosures surrounding tanks or buildings belonging to an installation or storage shed shall be kept drained and no water shall be allowed to accumulate in the enclosure.	During site walkthrough, HSD storage shed floor was observed with HSD spillage on ground during transfer from 200 litre drum. Rainwater was also seen accumulated on floor of the HSD storage shed. ERM interviewed workers involved in transferring HSD drums into the storage shed and they have communicated the general procedure of cleaning of HSD spill to ERM where they have mentioned 'After any spillage on the floor worker will clean the surface using water and water containing HSD will go into the out of the Storage shed'. It was also noted that there is no drainage provided to the Storage shed and storage shed was also having an opening from where a rain water can enter inside the storage shed.	**Not Aligned**	Ensure that spillage kit is available at the HSD storage area. Provide drainage system to the HSD storage shed to collect the rain water and waste water generated after floor cleaning. Prepare a procedure for the HSD loading & unloading and spill control and trained workers for the same. Prepare a list of the authorised person and same should be pasted outside the storage shed area and access control system to be implemented.
3.5	**Marking of capacity of tanks:** **Rule 99 of The Petroleum Rules, 1937; as amended till 1989:** The capacity in litres of every tank in an installation shall be conspicuously marked on the tank.	It was observed that HSD storage tank was not marked with total capacity of the receptacle in litres on the body/surface of the tank.	**Not Aligned**	Ensure that HSD storage shed is conspicuously marked with capacity and capacity of the tank is to be calculated and marked according to the nature of the petroleum proposed to be stored therein leaving margin for air-space prescribed in the Rules. Provide the warning and hazard communication signage's around storage shed.
3.6	**Testing of tanks:**	During document review, testing reports for the HSD storage tanks	**Not**	Ensure that HSD storage tanks are tested

S. No	Regulatory Requirement	Finding /Observation	Compliance Rating	Implication
		were not available for ERM review.	**Aligned**	by competent third party and report for the same should be readily available for review.
	Rule 101(01) of The Petroleum Rules, 1937; as amended till 1989: Storage tanks or other receptacles for the storage of petroleum in bulk other than well-head tanks, after being placed in a final position and before being brought into use, shall unless they were in use before the 1st. April 1937, be tested by water pressure by the licensee in the presence of an Engineer accepted as qualified for the purpose by the licensing authority.			
3.7	**Earthing of tanks:** Rule 102 of The Petroleum Rules, 1937; as amended till 1989: All tanks or other receptacles for the storage of petroleum in bulk other than well-head tank or tanks or receptacles of less than 45,000 litres capacity containing class III petroleum, shall be electrically connected with the earth in an efficient manner by means of not less than two separate and distinct connections placed at opposite extremities of such tank or receptacle. The roof and all metal connections of such tank or receptacle shall be in efficient electrical contact with the body of	During site walkthrough, it was observed that HSD tank was not equipped with proper earthing connection to remove the static charge from the system.	**Partially Aligned**	Ensure that efficient two separate and distinct connections placed at opposite extremities of tank earthing connections are provided to the tanks. Ensure that earthing maintained at the facility is included in the preventive maintenance schedule and records for the same should be maintained in prescribed format.

<table>
<tr><th>S. No</th><th>Regulatory Requirement</th><th>Finding /Observation</th><th>Compliance Rating</th><th>Implication</th></tr>
<tr><td></td><td>such tank or receptacle.</td><td></td><td></td><td></td></tr>
<tr><td>4</td><td>LPG Gas Rules, 2004</td><td></td><td></td><td></td></tr>
<tr><td>4.1</td><td>License Requirement:

Rule 14(02) of LPG Gas Rules, 2004: No person is allowed to store LPG without License.</td><td>During site walkthrough, it was observed that facility is using LPG (Propane) cylinder for gas cutting set. Facility at present using following quantities of the LPG cylinders;

<table><tr><th>Department</th><th>Name of the Material</th><th>Quantity of the Cylinders stored in August,2014</th><th>Total Quantities of the cylinders used from May 2013 to till date</th></tr><tr><td>Pilling Team</td><td>Propane</td><td>01</td><td>12</td></tr><tr><td>Electrical Team</td><td>Propane</td><td>01</td><td>02</td></tr><tr><td>Piping Team</td><td>Propane</td><td>-</td><td>02</td></tr><tr><td>HRSG department</td><td>Propane</td><td>20</td><td>153</td></tr><tr><td>Welding department</td><td>Propane</td><td>01</td><td>03</td></tr><tr><td>Civil department</td><td>Propane</td><td>08</td><td>52</td></tr><tr><td>GT department</td><td>Propane</td><td>14</td><td>55</td></tr><tr><td>Logistic department</td><td>Propane</td><td>66</td><td>421</td></tr><tr><td>Purchasing department</td><td>Propane</td><td>01</td><td>14</td></tr><tr><td>Comprehensive department</td><td>Propane</td><td>21</td><td>227</td></tr></table>
It was noted that facility at present not holding valid license to store LPG cylinders</td><td>Not Aligned</td><td>Obtain a valid license under LPG Gas rules at the earliest.</td></tr>
<tr><td>4.2</td><td>Identification of danger:

Rule 07(01) & 07(03) of LPG Gas Rules, 2004: Any person handling LPG for various purposes including storage, transport, refuelling etc. needs to have awareness identification of LPG,</td><td>During site walkthrough, ERM interviewed some workers involved in hot work at the site to gain a better understanding on the procedures for Hot work activities. Workers showed very little understanding on the hazard and emergency measures associated with LPG.</td><td>Partially Aligned</td><td>Provide training on various topics such as LPG handling and Storage, emergency measures, LPG cylinder and its parts etc.</td></tr>
</table>

S. No	Regulatory Requirement	Finding /Observation	Compliance Rating	Implication
	characteristics and potential danger from that, valves of the cylinder and vessel, safety devices, valve protection guard and cap, emergency measures arising out of LPG.			
4.3	**Protection from fire:** **Rule 09 of LPG Gas Rules, 2004**: Smoking, lighting a candle or carrying any article with potential to catch fire in the storage, recycling, or handing area, LPG transporting vehicle is prohibited. **Rule 10(01) of LPG Gas Rules, 2004:** No person is allowed to light fire or facilitate another person in lighting fire near the LPG storage area.	During site walkthrough, it was observed at many workers and contractors were smoking inside the construction site and cigarette buds where also observed near to the LPG storage area at Boiler Area. At one instance, welding work was going at the boiler area and spatters were falling on the storage shed where oxygen (O_2) and LPG cylinder stored together and walkway. Welding work was identified without proper HOT work permit and surrounding area was also not protected by means of fire blanket. Fire extinguisher placed at the oxygen storage area was also not pressurized and fit for use in case of any localized fire.	**Partially Aligned**	Ensure that all the Hot works are mandatory to go through the permit system. Standard Operating Procedure (SOP) for HOT work with Roles and responsibilities to be prepared and communicate the same to the workers. Job Hazard Analysis (JHA) for HOT work to be prepared and circulate to all contractors. Dedicated team for HOT work permit issuance and monitoring of the HOT work related safety compliance to be deployed at the site.
4.4	**Labelling of Cylinders:** **Rule 61(01) of LPG Gas Rules, 2004:** Every cylinder shall be labeled with the name of the gas and the name and address of the person by whom the cylinder was filled with gas. **Rule 61(02) of LPG Gas Rules, 2004:** All the LPG cylinders should be pasted with warning symbol and warning statement	During site walkthrough, it was observed that LPG cylinders used at site were not provided with label and warning sign & statement.	**Not Aligned**	Ensure that LPG cylinders are marked with name of the gas and the name and address of the person by whom the cylinder was filled with gas. Following things to be displayed at the cylinder storage area; (a) Highly inflammable; No Smoking; (b) Do not change the colour of this cylinder; (c) No flammable material should be stored in the close vicinity of this cylinder or in the same room in which it is kept.

<table>
<tr><th>S. No</th><th>Regulatory Requirement</th><th>Finding /Observation</th><th>Compliance Rating</th><th>Implication</th></tr>
<tr><td></td><td></td><td></td><td></td><td>(d) Gas cylinder should not be kept horizontally;
(e) No oil or similar lubricant should be used on the valves or other fittings of this cylinder;
(f) Please look for the next date of test, which is marked on a metal ring inserted between the valve and the neck of the cylinder, and if this date is over, do not accept the cylinder for filling.</td></tr>
<tr><td>4.5</td><td>Fire- fighting equipment:

Rule 71 (01) of LPG Gas Rules, 2004: Each LPG storage premises should keep adequate numbers of fire extinguisher and fire-fighting equipment.

Rule 71 (02) of LPG Gas Rules, 2004: All fire-fighting equipment needs to be kept ready at all times.

Rule 71 (03) of LPG Gas Rules, 2004: The workers working in the premises should have expertise on using fire-fighting equipment.</td><td>During site walkthrough and Document review, it was observed that LPG storage area was identified with unfit fire extinguisher and workers were also not trained on how to use fire extinguisher.</td><td>Not Aligned</td><td>Ensure that all first aid fire -fighting equipment is fit for use and workers are trained on using fire extinguisher as a first aid to mitigate the fire at its incipient stage.</td></tr>
<tr><td>5</td><td>Gas Cylinder Rules,1991</td><td></td><td></td><td></td></tr>
<tr><td>5.1</td><td>License requirement:

Rule 39 of Gas Cylinder Rules, 1991: As specified under Rule 39, no person is allowed to fill or store cylinder without license.</td><td>During site walkthrough, ERM observed compressed gas cylinders (Oxygen (O2), Acetylene) were stored and used at the site for various activities. Following table shows the quantity of the cylinder being used at the site.

Oxygen Cylinder:
<table><tr><th>Department</th><th>Name of the Material</th><th>Quantity of the Cylinders</th><th>Total Quantities of the</th></tr></table></td><td>Not Aligned</td><td>Discuss the licensing requirement with government agency and obtain the license at earliest.</td></tr>
</table>

S. No	Regulatory Requirement	Finding /Observation				Compliance Rating	Implication
				stored in August,2014	***cylinders used from May 2013 to till date***		
		Pilling Team	Oxygen	01	58		
		Electrical Team	Oxygen	04	14		
		Piping Team	Oxygen	-	02		
		HRSG department	Oxygen	78	528		
		Welding department	Oxygen	04	17		
		Machinery Department	Oxygen	-	01		
		Civil department	Oxygen	56	466		
		Comprehensive department	Oxygen	106	940		
		GT department	Oxygen	44	144		
		Purchasing department	Oxygen	01	49		

Acetylene Cylinder:

Department	***Name of the Material***	***Quantity of the Cylinders stored in August,2014***	***Total Quantities of the cylinders used from May 2013 to till date***
Pilling Team	Acetylene	-	02
HRSG department	Acetylene	04	24
Machinery Department	Acetylene	-	01
Civil department	Acetylene	14	254
GT department	Acetylene	-	03
Comprehensive department	Acetylene	-	86

At present, site has not applied for license for storing compressed

S. No	Regulatory Requirement	Finding /Observation	Compliance Rating	Implication
		gas cylinder on site therefore it is in non-compliance with Gas Cylinder Rules.		
5.2	**Storage conditions of Cylinders:** **Rule 20(01) of Gas Cylinder Rules,1991**: Cylinders shall be stored in a cool, dry, well ventilated place under cover, away from boilers, open flames, steam pipes or any potential sources of heat and such place of storage shall be easily accessible. **Rule 20(05) of Gas Cylinder Rules, 1991**: Cylinders shall not be stored under conditions, which will cause them to corrode. **Rule 20(07) of Gas Cylinder Rules, 1991:** Empty cylinders shall be segregated from the filled ones and care shall be taken that all the valves are tightly shut. **Rule 20(04) of Gas Cylinder Rules, 1991:** Cylinders containing flammable gases and toxic gases shall be kept separated from each other and from cylinders containing other types of gases by an adequate distance or by a suitable partition wall.	During site walkthrough, it was observed that compressed gas cylinders were stored in a cage and exposed to the direct sun light and Rain water. It was also noted that compressed gas cylinder storage area was identified without proper segregation of the filled and non-filled compressed gas cylinders.	**Partially Aligned**	Ensure that compressed gas cylinders are stored in a cool, dry, well ventilated place under cover, away from, open flames, or any potential sources of heat and such place of storage shall be easily accessible. Ensure that proper segregation of filled and non- filled gas cylinders is maintained at the site. Every storage area should also paste with signage's for filled and non-filled cylinders.

4 CORRECTIVE ACTION PLAN

Based on the independent EHS&S Compliance Audit of the Bibiyana II Gas Power Project during the construction phase, a Corrective Action Plan (CAP) (*Table 4.1*) has been prepared by prioritising the key issues and recommendations from the gap assessment.

The CAP has been organized to include the following:

- Description of the recommendation;
- Reference to the findings in the report;
- Significance;
- Responsibility and Resources;
- Deliverables; and
- Timelines for completion.

Table 4.1 Corrective Action Plan for the Bibiyana II Gas Power Project

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
1	**PS 1: Assessment and Management of Environmental and Social Risks and Impacts**						
1.1	Form a Construction Management Team (CMT) to oversee EHS compliance of the Project during construction phase	Table 3.2, S. No. 1.1	High	SBPCL II	Project Cost	CMT Formation	Within 1 month of 'date of deal closure'[1] or November 2014, whichever is earlier
1.2	Appoint a trained EHS Personnel for day to day monitoring of the EHS Plan and ESMMP implementation	Table 3.2, S. No. 1.1, 2.9	High	SBPCL II	Project Cost	EHS Officer for the Project	Within 1 month of date of deal closure or November 2014, whichever is earlier
1.3	• Ensure that all the records should also be made available in local language/ English by the EPC contractor • Review of all the records being maintained as part of EHS Plan by the EPC contractor;	Table 3.2, S. No. 1.1, 1.10, 3.7	High	SBPCL II and EPC Contractor	EPC Contract	Records Review and Corrective Actions	Within 2 months of date of deal closure or December 2014, whichever is earlier
1.4	Display and communicate environment and health and safety policies of the company	Table 3.2, S. No. 1.2	High	SBPCL II	Project Cost	Disclosure of company policies	Within 1 month of date of deal closure or December 2014, whichever is earlier
1.5	Develop a social policy of the Project with defined objectives, principles and performance indicators.	Table 3.2, S. No. 1.2	Medium	SBPCL II	Project Cost	Social Policy	Within 3 months of date of deal closure
1.6	Develop and maintain legal register for all the Project components	Table 3.2, S. No. 1.4	Medium	SBPCL II and EPC Contractor	EPC Contract	Legal Register for Construction	Within 4 months of date of deal closure for construction phase and quarterly review
			Low	SBPCL II	Project Operation Budget	Legal Register for Operation Phase on Combined Cycle basis	Within 3 months prior to the operation phase and half yearly review
1.7	Comply with the findings (not aligned) and recommendations	Table 3.4, S. No. 2 to 5	High	SBPCL II and EPC Contractor	Project Cost and EPC Contract	Legal compliance	Within 2 months of date of deal closure or December 2014, whichever is earlier
1.8	Update the ESMMP with defined action items, responsibilities, monitoring indicators and review/ audit	Table 3.2, S. No. 1.5,	High	SBPCL II	Project Cost	Updated ESMMP	Within 2 months of date of deal closure or

[1] Date of deal closure has been assumed the date on which the lender/s give/s assurance to SBPCL II for providing project finance.

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
	mechanisms	1.9					December 2014, whichever is earlier
1.9	Develop an organisational structure for the construction and operation phase of the Project with defined roles and responsibilities	Table 3.2, S. No. 1.6	High	SBPCL II	Project Cost	Organisation Structure – Construction	Within 2 months of date of deal closure or December 2014, whichever is earlier
			Low	SBPCL II	Project Operation Budget	Organisation Structure – Operation on Combined Cycle basis	3 months prior to the operation phase
1.10	Training of SBPCL II Staff and EHS team of EPC Contractor on ESMMP	Table 3.2, S. No. 1.7, 2.9	High	EPC Contractor	EPC Contract	Training Calendar (Construction)	Within 2 months of date of deal closure or December 2014, whichever is earlier
			Low	SBPCL II	Project Operation Budget	Training Calendar (Operation)	Within 2 months of Combined Cycle Operation
1.11	Mapping of training needs of SBPCL II Staff and development of training calendar	Table 3.2, S. No. 1.7	High	SBPCL II	EPC Contract	Training Calendar	Within 2 months of Combined Cycle Operation
1.12	Develop an emergency response plan into a consolidated document with: • Identification of, including risks associated with all project components; • Key community and environmental sensitivities (such as village settlements, ponds, etc.) and the potential of offsite consequences along with mitigation measures; • A common communication and emergency response process flow for onsite emergencies as well as their communication to authorities offsite; • Disclosure to communities in the vicinity of the project on the emergency readiness of the company in case of any incidents.	Table 3.2, S. No. 1.8, 4.1 and 4.6	Medium	SBPCL II	Project Operation Budget	Emergency Response Plan for Operation Phase	1 month prior to the date of Combined Cycle Operation
1.13	Review the emergency preparedness and response plan and include the necessary required emergencies and implement the same at the earliest.	Table 3.2, S. No. 1.8, 2.10	High	EPC Contractor	EPC Contract	ERP for construction phase	Within 1 month of date of deal closure or December 2014, whichever is earlier

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
1.14	Appoint a suitably qualified Emergency Coordinator for the Project	Table 3.2, S. No. 1.8	Medium	SBPCL II	Project Cost	Emergency Coordinator for the Project	Within 2 months of date of deal closure or January 2015, whichever is earlier
1.15	Develop a Commitment Register as a part of stakeholder engagement process in order to document the outcomes of public consultations and respond to local community expectations, and ensure that these are communicated back to stakeholders and updates provided.	Table 3.2, S. No. 1.11	High	SBPCL II EPC Contractor SBPCL II	Project Cost EPC Contract Project Operation Budget	Commitment Register (Construction) Commitment Register (Operation)	Within 2 months of date of deal closure Within 2 months of date of Combined Cycle Operation
1.16	Consider preparing a detailed SEP with stakeholder profiling, key concerns, expectations, impact and influence, and risk rating of various stakeholder groups. It should include details on engagement strategy, disclosure, monitoring, reporting etc. The SEP should be subsequently updated with engagement records.	Table 3.2, S. No. 1.12, 5.4	High	SBPCL II	Project Cost	Updated SEP for the Project	Within 3 months of date of deal closure
2.	**PS 2: Labour and Working Conditions**						
2.1	SBPCL II while finalising its HR policy may consider the following aspects for inclusion: • Roles and responsibilities associated with various positions need to be mentioned; • Non-discrimination policy should be mentioned; • HIV/ AIDS non- discrimination should also be spelt out; • Working with Suppliers and contractors and non-employee workers may also be referred to; • Non-tolerance of child labour and forced labour not only for employee, but for the non-employee workers if any • Anti- Sexual Harassment Policy may be explicitly captured; All contractors and sub-contractors within the consortium should be required to apply the principles of the SBPCL HR Policy document and also ensure that their internal procedures follow local and international standards.	Table 3.2, S. No. 2.1	High	SBPCL II	Project Cost	HR Policy and Procedures	Within 3 months of date of deal closure
2.2	• HR Policy of the EPC contractor should comply with	Table 3.2,	High	EPC	EPC Contract	HR Policy and	Within 2 months of date

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
	the provisions of SBPCL II HR Policy. • EPC contractor's local staffs terms and conditions of employment to be put in compliance with SBPCL II HR policy. • The EPC contractor to provide contracts or clear terms and conditions highlighting the terms of employment. Or the same could be possibly hired through sub-contractors. • Workers to be provided clear terms and conditions of employment.	S. No. 2.2		Contractor		Procedures of EPC Contractor	of deal closure or December 2014, whichever is earlier
2.3	Improve the conditions of the migrant workers- better accommodation and clearly articulated terms and conditions of employment	Table 3.2, S. No. 2.3	High	EPC Contractor	EPC Contract	Improved workers' accommodation	November 2014
2.4	Clear labour construction camp guidelines to be formulated and shared with SPCBL II. The guidelines should take into consideration observations highlighted in the report.	Table 3.2, S. No. 2.4	High	EPC Contractor	EPC Contract	Labour construction camp guidelines	Within 1 month of date of deal closure or November 2014, whichever is earlier
2.5	Ensure that the principles on non-discrimination and equal opportunity are included in the HR Policy Statement and that the EPC Contractor abides by the same while engaging local sub-contractor or contract workers.	Table 3.2, S. No. 2.6	High	SCBPL II	Project Cost	HR Policy of SCBPL II	Within 3 months of date of deal closure
2.6	The Project should establish channels for management and workers to communicate and for the workers to place their concerns as well as suggestions. The grievance process should be made accessible for construction workforce and should enable workforce to raise anonymous complaints. The grievance records should be properly documented, tracked and reviewed for redressal of the Grievances.	Table 3.2, S. No. 2.7	High	SCBPL II EPC Contractor	Project Cost EPC Contract	Grievance redressal mechanism	Within 1 month of date of deal closure or November 2014, whichever is earlier
2.7	The EPC contractor's position on non-employment of child, forced or bonded labour has to be clearly stipulated more specifically to the sub-contractors and their associated workforce. There should be proper checks and verification systems in place for the workforce to ensure no cases of child labour or forced labour are not allowed within the site premises.	Table 3.2, S. No. 2.8	High	EPC Contractor	EPC Contract	HR Policy and Procedures of EPC Contractor	Within 1 month of date of deal closure or November 2014, whichever is earlier
2.8	Develop a site specific health and safety manual including	Table 3.2,	High	EPC	EPC Contract	SOPs for EHS	Within 1 month of date of

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
	SOPs and work permits required to protect the construction manpower (including subcontractors' personnel) from injuries.	S. No. 2.9		Contractor		Plan	deal closure or November 2014, whichever is earlier
2.9	Develop a work permit system to carry out non routine jobs at the construction site.	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	SOP for work permit system	Within 1 month of date of deal closure or November 2014, whichever is earlier
2.10	Prepare a Job hazard analysis for all the construction activity and same should be communicated to all the workers.	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	Job hazard analysis	Within 1 month of date of deal closure or November 2014, whichever is earlier
2.11	Prepare a pre-use inspection checklist (activity and equipment specific) and same should be performed and attach with every permit before starting of activity.	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	Activity and equipment specific checklist	Within 1 month of date of deal closure or November 2014, whichever is earlier
2.12	Conduct train the trainer program to increase the knowledge of the safety department.	Table 3.2, S. No. 2.9	Medium	EPC Contractor	EPC Contract	Training Records	Within 2 months of date of deal closure
2.13	Recruit a qualified doctor to work at first aid centre	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	Qualified doctor at site clinic	Within 2 months of date of deal closure
2.14	Prepare an Accident & Investigation register to include the information related to the accident.	Table 3.2, S. No. 2.9	Medium	EPC Contractor	EPC Contract	Accident & investigation register	Within 1 month of date of deal closure or November 2014, whichever is earlier
2.15	Carryout hazard identification and risk assessment (HIRA) for all construction and associated activities and preparation of SOPs	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	HIRA Register and SOPs	Within 2 months of date of deal closure or December 2014, whichever is earlier
2.16	Carry out inspection for the potential hazards at the facility and provide the risk control as per the hierarchy of control.	Table 3.2, S. No. 2.9 Table 3.3, S. No. 2.1.1 (OHS)	High	EPC Contractor	EPC Contract	Risk control measures	Within 1 month of date of deal closure or November 2014, whichever is earlier
2.17	Provide training to workers, supervisors and employees on importance and usage of PPEs for different activities and organize PPE awareness program.	Table 3.2, S. No. 2.9 Table 3.3, S. No. 2.1.1 (Training)	High	EPC Contractor	EPC Contract	Training Calendar	As per Training Calendar
2.18	Prepare a PPE program for the facility and program should cover the following essential elements: • Workplace Survey; • Selecting appropriate controls;	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	PPE Implementation Program	Within 1 month of date of deal closure or November 2014, whichever is earlier

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
	• Training; • Maintenance; • Audit of the program.						
2.19	Prepare training modules for job specific trainings and identify workers required to undergo job specific trainings.	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	Training modules	Within 2 months of date of deal closure or December 2014, whichever is earlier
2.20	Conduct the first aid training with the help of qualified first aider and make sure that first aiders are available at all times at facility.	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	First aid trainings	Within 2 months of date of deal closure or December 2014, whichever is earlier
2.21	Develop a standard operating procedure on incident investigation with roles and responsibilities.	Table 3.2, S. No. 2.9	High	EPC Contractor	EPC Contract	Incident investigation SOP	Within 2 months of date of deal closure
2.22	Start preparing the accident/ incident statistics for each and every area and start identifying the area of concerns and prepare an action plan to address the issues by mean of alternate work procedure, trainings, special attention to the high risk jobs, increase in number of supervisor for high risk jobs.	Table 3.2, S. No. 2.9	Medium	EPC Contractor	EPC Contract	Statistical analysis of accident/ incident data and corrective action	Within 2 months of date of deal closure and monthly update of the same
2.23	SBPCL II will need to put in place a formal contractor management system to audit its contractors as well as those of the EPC contractor. The management system should include: • Compliance checklist against the Applicable Standards; • Criterion on contractor selection to minimize HSE or labour related risks and issues at the time of engagement; • Monitoring and audit procedures; and Further the EPC contractor and the sub-contractor should be made responsible for the insurance of the workers mobilised at the site.	Table 3.2, S. No. 2.10	High	SCBPL II	Project Cost	Contractor Management System	Within 2 months of date of deal closure or December 2014, whichever is earlier
3	**PS 3: Resource Efficiency and Pollution Prevention**						
3.1	Ensure that all the ESMMP implementation requirements during construction phase are being clearly provided to the EPC contractor and implementation of mitigation measures	Table 3.2, S. No. 3.1	High	SBPCL II and EPC Contractor	EPC Contract (Construction)	ESMMP implementation	As defined in ESMMP during construction phase

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
	along with records should be reviewed by EHS Officer of the SBPCL II.			SBPCL II	Project Operation Budget		
3.2	Undertake regular monitoring of air emissions, water consumption, wastewater discharge, solid and hazardous waste disposal, noise levels, in line with the ESMMP	Table 3.2, S. No. 3.1	Low	SBPCL II	Project Operation Budget	ESMMP implementation	As defined in ESMMP during operation phase
3.3	Ensure that impacts associated with the decommissioning phase are assessed and addressed prior to eventual decommissioning.	Table 3.2, S. No. 3.1 Table 3.3, S. No. 4.1	Low	SBPCL II	Project Operation Budget	ESMMP for decommissioning phase.	1 to 2 years prior to eventual decommissioning.
3.4	Complete an annual GHG emissions estimation based on the actual operations of the Project during the operational phase.	Table 3.2, S. No. 3.4 Table 3.3, S. No. 1.1.7	Low	SBPCL II	Project Operation Budget	GHG estimation and reporting.	Annually, after one year of COD
3.5	Develop the climate adaptation policy and procedures in line with the requirements specified in the ESMMP.	Table 3.2, S. No. 3.4	Low	SBPCL II	Project Operation Budget	Climate Change Adaptation Policy	Within 12 months of COD (Plant Operations
3.6	Provide organisational arrangements, capacity development and training measures and performance indicators for effective implementation of the ESMMP already developed for the Project.	Table 3.2, S. No. 3.6	High	SBPCL II	Project Operation Budget	Capacity building and setting up of performance indicators	1 month prior to COD
3.7	Develop a Waste Management Plan for operation phase.	Table 3.2, S. No. 3.7 Table 3.3, S. No. 1.6	Low	SBPCL II	Project Cost	Waste inventory and disposal options.	3 months prior to start of Combined Cycle Operation
3.8	Develop a Hazardous Materials Management (HMM) Plans.	Table 3.2, S. No. 3.8 Table 3.3, S. No. 1.5	High	EPC Contractor	EPC Contract	HMM Plan. – Construction phase	Within 2 months of date of deal closure or December 2014, whichever is earlier
			Low	SBPCL II	Project Operation Budget	HMM Plan – Operation Phase	3 months prior to start of Combine Cycle Operation
3.9	• Ensure that spillage kit is available at the HSD storage area. • Provide drainage system to the HSD storage shed to	Table 3.3, S. No. 1.5.2	High	EPC Contractor	EPC Contract	Spillage management plan	Within 1 month of date of deal closure or December 2014, whichever is earlier

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
	collect the rain water and waste water generated after floor cleaning. • Prepare a procedure for the HSD loading & unloading and spill control and trained workers for the same. • Prepare a list of the authorised person and same should be pasted outside the storage shed area and access control system to be implemented.						
3.10	Develop a Standard Operating Procedure for Pest Management for the Project.	Table 3.2, S. No. 3.9	Medium	SBPCL II	Project Operation Budget	Standard Operating Procedure for Pest Management.	Within 3 months of COD
3.11	Develop a Standard Operating Procedure on the use of Ozone Depleting Substances (ODS), with the focus being on no new systems or equipment use ODS.	Table 3.3, S. No. 1.1.5	Medium	SBPCL II	Project Operation Budget	Standard Operating Procedure on the use of Ozone Depleting Substances.	Within 3 months of COD
3.12	Ensure that emissions from on-road and off-road vehicles should comply with Schedule 6 (Standards for emissions from motor vehicles) of the *Environmental Conservation Rules, 1997 of GoB*.	Table 3.4, S. No. 1.1.6	Medium	SBPCL II and EPC Contractor	EPC Contract	Compliance checks of on-road and off-road vehicles.	Within 2 months of date of deal closure or December 2014, whichever is earlier (with quarterly monitoring)
3.13	Ensure no use of asbestos containing material is specified in the design of the Project.	Table 3.4, S. No. 2.4.1	High	SBPCL II	-	Written confirmation that no asbestos will be used in the Project development from newly purchased materials.	Within 1 month of date of deal closure
3.14	Conduct air quality dispersion modelling study with updated stack characteristics in the design	Table 3.3, S. No. 1.1.1	Medium	SBPCL II	Project Cost	Updated air quality dispersion modelling	Within March 2015

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
4	**PS 4: Community Health, Safety and Security**						
4.1	Conduct a detailed QRA for the Project based on actual design and formulate an emergency response plan.	Table 3.2, S. No. 4.2	Medium	SBPCL II	Project Operation Budget	Quantitative Risk Assessment and Emergency Response Plan	3 months of COD
4.2	Develop a traffic management and logistics plan taking into consideration community safety	Table 3.3, S. No. 3.4, 3.5	High	EPC Contractor	EPC Contract	Traffic management plan.	Within 1 month of date of deal closure or November 2014, whichever is earlier
4.3	Undertake specific communication on health hazards and mitigation measures on an ongoing basis against new activities and associated health and safety risks to the local community.	Table 3.2, S. No. 4.4	Medium	SBPCL II	Project Operation Budget	Communication on health hazards and mitigation measures.	Within 3 months of COD
4.4	Engage a suitably qualified professional to undertake a Life and Fire Safety (L&FS) review of the facility prior to commissioning and develop a Corrective Action Plan to address any identified deficiencies / gaps between the facility and the requirements of the WBG General EHS Guidelines.	Table 3.3, S. No. 3.3.1	Medium	SBPCL II	Project Operation Budget	Life and Fire Safety Review and Corrective Action Plan	1 month prior to the commissioning of combined cycle
4.5	Ensure any future security arrangements shall comply with PS4 requirements. The SBPCL II Grievance Mechanism should include security within its scope.	Table 3.3, S. No. 4.5	Low	SBPCL II	Project Operation Budget	Compliance check against PS4 requirement.	1 months of COD
5	**PS 5: Land Acquisition and Involuntary Resettlement**						
5.1	Ensure: • Preparation of the Livelihood restoration plan; • Documentation of the stakeholder engagement records; • Maintaining proper records of the employment and vendor opportunity provided to the PAFs and the local community	Table 3.2, S. No. 5.2	Medium	SBPCL II	Project Cost	Livelihood restoration plan and stakeholder engagement	Within 3 months of date of deal closure (and periodic review)
5.2	Continued engagement and resettlement monitoring by CDO.	Table 3.2, S. No. 5.3	Medium	SBPCL II	Project Cost	Resettlement monitoring reports	Within 3 months of date of deal closure (and periodic review)
5.3	Establishment of a formal GRM for the PAFs and the community;	Table 3.2, S. No. 5.4	Medium	SBPCL II	Project Cost	GRM for PAFs	Within 3 months of date of deal closure (and periodic review)
5.4	Consider preparing a detailed SEP with stakeholder profiling, key concerns, expectations, impact and influence,	Table 3.2, S. No. 5.4	Medium	SBPCL II	Project Cost	Updated SEP for the Project	Within 3 months of date of deal closure (and

S. No	Measures and/or Corrective Actions	Reference in ESDD Report	Significance	Responsibility	Funding Source	Deliverable	Suggested Timelines for Completion*
	and risk rating of various stakeholder groups. It should include details on engagement strategy, disclosure, monitoring, reporting etc. The SEP should be subsequently updated with engagement records.						periodic review)
5.5	SBPCL II should ensure payment of compensation to sharecroppers in line with the resettlement action plan and records should be maintained.	Table 5.2, S. No. 5.6	Medium	SBPCL II	Project Cost	Records of compensation payment	After finalisation of CAP
6	**PS 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources**						
6.1	Conduct six monthly construction phase monitoring of terrestrial and aquatic organisms	Table 3.2, S. No. 6.1	High	SBPCL II	Project Cost	Terrestrial and aquatic organism monitoring	As defined in ESMMP during construction phase
6.2	Develop greenbelt within the project boundary.	Table 3.2, S. No. 6.2	Low	SBPCL II	Project Cost	Greenbelt Development	After completion of construction activities.
6.3	Include an invasive alien species management plan in the ESMMP for the construction and operational phases	Table 3.2, S. No. 6.5	Medium	SBPCL II and EPC Contractor	EPC Contract	Invasive alien species management plan.	Within 2 months of date of deal closure

*Note: * Timeline for completion of specific action need to be reviewed by the Potential Lender/s*

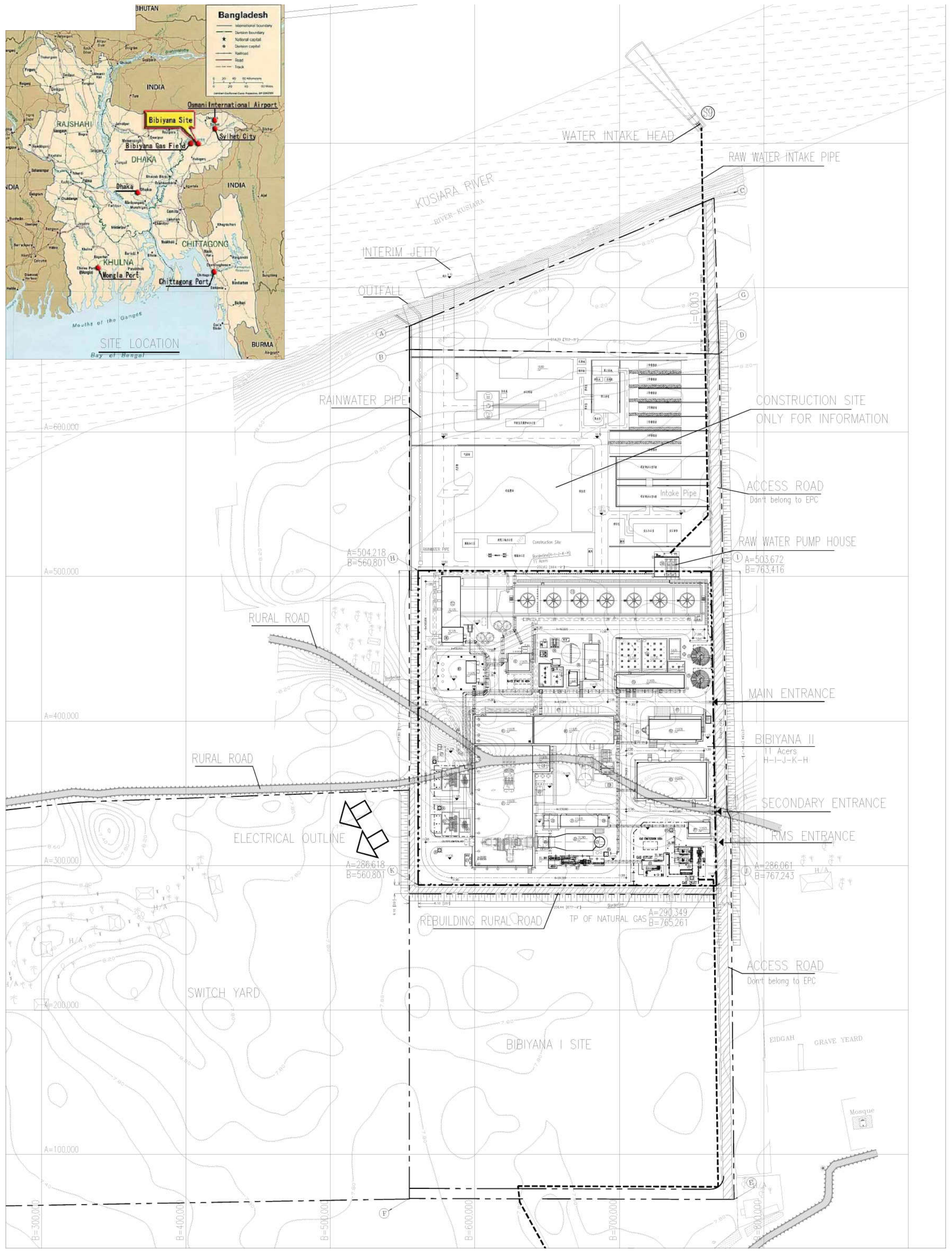
5 CONCLUSION

The construction activities are in full swing at site and majority of the observations based on site assessment and documents review related to health and safety are linked with the implementation of the on-site environment, health and safety management plan by the EPC contractor as well as adherence with the already developed ESMMP from the ESIA study. In addition to that ERM found a number of gaps (non-alignment and/or partial alignment with respect to the applicable standards requirement) in the EHS&S compliance audit of the Project. Addressing these gaps would allow the Project to be in general compliance with the Applicable Standards.

Furthermore, given the nature of the Project, ERM recommends that the implementation of the CAP should be monitored on a quarterly basis during the construction phase up to commissioning followed by half yearly monitoring for at least two consecutive years of operation. In order to ensure the same, SBPCL II need to retain qualified and experienced external experts to verify its monitoring information, including the implementation of the CAP as well as the ESMMP during construction and operation stages of the Project.

Annex A

Overall Planning Drawing of the Power Plant



MAIN BUILDING LIST 本期建构筑物一览表

No. 编号	NAME 建(构)筑物名称		AREA(m^2) 占地面积	KKS	NOTE 备 注
J1	STEAM TURBINE & GAS TURBINE ROOM	主厂房	3781.5	1 0UMA	including Air compressor room and Central lube oil storage&purification room 包含空压机房和润滑油存储及处理室
				1 0UMB	
J2	HEAT RECOVERY STEAM GENERATOR	余热锅炉区	629.2	1 0UHA	
J3	MAIN STACK	烟囱	96.5	1 1UHN	
J4	CONDENSATE WATER TANK	凝结水箱	27.0	1 0UGD	on the roof of Central lube oil storage&purification room
J5	HRSG AUXILIARY PUMP HOUSE & DIESEL GENERATOR ROOM	锅炉辅助间	230.0	1 0UHV	
J6	REGULATING AND METERING STATION (RMS)	供气支站	2232.2		
J7	RMS DORMITORY & RMS CONTROL ROOM	供气支站宿舍及控制室	150.0		
J8	BYPASS STACK	旁路烟囱	116.0	1 2UHN	
J9	OIL TANK	储油罐	23.6		
J10	CEMS	燃气检测间	56.4		
J11	DIESEL GENERATOR ROOM	柴油机房	95.0		
J12	FUEL GAS FRONT MODULE	燃气前置模块	228.3		
J13	STEAM BOILER(FOR FUEL GAS HEATING)	蒸汽锅炉(天然气加热用)	107.8		
J14	H2/CO2/N2 BOTTLE LAYOUT REGION	气瓶存置场地	38.5		
J15	INTERMITTENT BLOWDOWN PIT	定排坑	9.0		
H1	D.M. PLANT AREA	化水车间	1844.6	1 0UGC	
H2	CW CHLORINATION BUILDING	循环水加药间	259.5	1 0UQC	
H3	HYDROGEN GENERATING STATION	制氢站	879.8	1 0UTG	
H4	DM WATER TANK	除盐水箱			
S1	INDUCED DRAFT COOLING TOWER(IDCT)	机械通风冷却塔	2752.8	1 0URB	nearby the pump house is the standby cell
S2	CW PUMP HOUSE	循环水泵房	1208.7	1 0URE	
S3	MULTI-USE WATER PUMP HOUSE	综合水泵房	300.0	1 0UGA	
S4	CLARIFIED WATER STORAGE BASIN	清水池	531.5	1 0UGN	
S5	MECHANICAL AGITATING CLARIFIER	机械搅拌澄清池	245.4	1 0UGL	
S6	WASTE WATER TREATMENT PLANT	污水站	1240.0	1 0UGU	
S7	EMERGENCY OIL SUMP	事故事故油池	38.5	1 0UBH	
S8	RAW WATER PUMP HOUSE	取水泵房	281.7	1 1UPC	near the Construction Site 靠近施工场地
S9	WATER INTAKE HEAD	取水头部	12.0	1 1UPH	in the KUSIARA river KUSIARA河里
S10	CW CONTROL ROOM	循环水控制室	156.45		
D1	ST GENERATOR TRANSFORMER	汽机主变压器	1201.0	1 1UBF	
D2	GT GENERATOR TRANSFORMER	燃机主变压器		1 2UBF	
D3	ST UNIT TRANSFORMER	汽机高压厂用变压器		1 1UBE	
D4	GT UNIT TRANSFORMER	燃机高压厂用变压器		1 2UBE	
D5	LIGHTNING ROD	避雷针	15.0		
U1	CENTRAL CONTROL BUILDING & ADMINISTRATION BUILDING	集控楼&行政办公楼	760.0	1 0UCA	
U2	DORMITORY & CANTEEN	值班宿舍&食堂	625.0	1 0UYB	
U3	WORKSHOP & STORE BUILDING	检修车间&材料库	1296.0	1 0UYX	
U4	GUARDHOUSE	警卫室	30.0	1 0UYF	
U5	FIRE TRUCK PARKING	消防车库	60.0	1 0UYQ	
U6	PIPE SUPPORT	综合管架	807.0	1 0UYZ	
U7	CARPARKING(INCLUDE COVERED)	停车位	375.0	1 0UZD	24 units

0 50m 100m
scale

COORDINATE LIST OF DEFERENT CORNER

A. E=668302.956 N=2725768.961
B. E=668301.318 N=2725752.893
C. E=668521.971 N=2725835.239
D. E=668514.198 N=2725727.451
E. E=668463.741 N=2725144.439
F. E=668240.257 N=2725168.458
G. E=668516.363 N=2725759.274

BIBIYANA II
H. E=668291.503 N=2725600.046
I. E=668492.964 N=2725578.448
J. E=668474.159 N=2725361.617
K. E=668268.891 N=2725383.623

CAPTION 说明:

1. PROJECT SCALE: 344.908MW (NET) GAS FIRED COMBINED CYCLE POWER PLANT, ALL COMMON SYSTEM ARE DESIGNED AS ONE UNITS.
   项目规模：344.908MW 燃气联合循环发电厂，所有公用系统按照一套344.908MW设计.
2. THE SITE TOPOGRAPHICAL SURVEY WAS PROVIDED BY SUMMIT.
   本图地形图由SUMMIT公司提供.
3. COORDINATE SYSTEM: THE SAME TO THE CONTOUR MAP; ELEVATION SYSTEM: PWD.
   本图坐标系统与地形图统一，高程系统为PWD.
4. HIGHEST FLOOD LEVEL (1988)= 10.135M PWD, THE FINAL SITE LEVELING ELEVATION IS 10.135+1=11.135M, THE BUILDING INDOOR ELEVATION IS 11.135+0.5=11.635M.
   历史最高洪水位是10.135mPWD，室外地坪最终标高为10.135+1=11.135m，室内零米标高11.635m.

DETAIL DESIGN

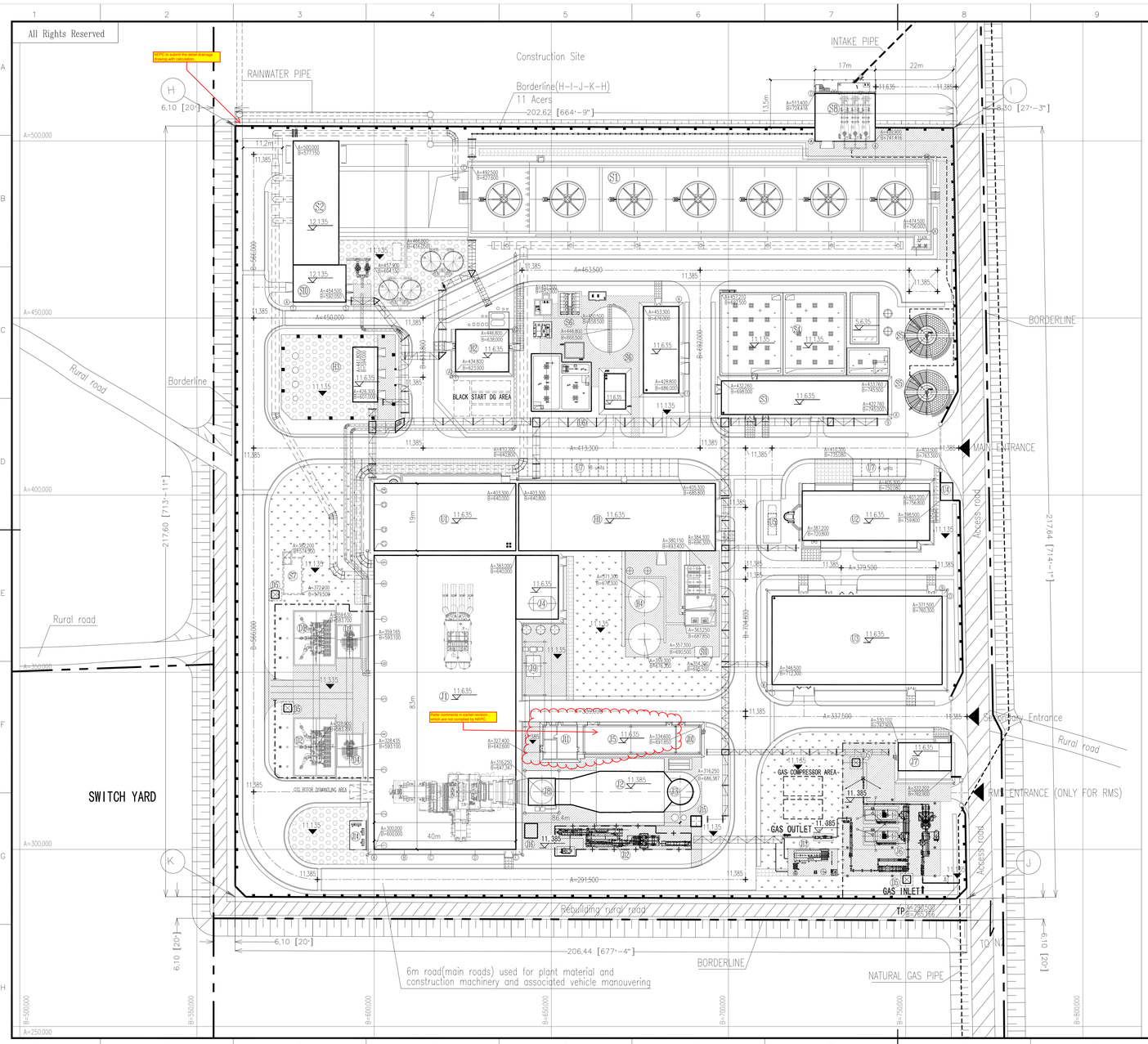
OVERALL PLANNING DRAWING OF POWER PLANT

1:1500
2014-5-22
FA05611C

SP322 44-FA05611S-Z-03 SP322-ZZZ-BDR-003 B

Annex B

General Layout of Power Plant



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J6	REGULATING AND METERING STATION (RMS)	供气关站	2232.2		
J7	RMS DORMITORY & RMS CONTROL ROOM	供气关站宿舍及控制室	150.0		include two duty room
J8	BYPASS STACK	旁路烟囱	116.0	1 2UHN	
J9	OIL TANK	储油箱	23.6		
J10	CEMS	烟气检测间	56.4		
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J13	STEAM BOILER(FOR FUEL GAS HEATING)	蒸汽锅炉(天然气加热用)	107.8		
J14	H2/CO2/N2 BOTTLE LAYOUT REGION	气瓶布置场地	38.5		
J15	INTERMITTENT BLOWDOWN PIT	定排坑	9.0		
J16	EFFLUENT STORAGE POOL FOR TURB&CPRSR WASHING	废水坑	15.0		
H1	D.M. PLANT AREA	化水车间	1844.6	1 0UGC	
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H4	DM WATER TANK	除盐水箱			
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S1	INDUCED DRAFT COOLING TOWER(IDCT)	机械通风冷却塔	2752.8	1 0URB	nearby the pump house is the standby cell
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U7	CARPARKING(INCLUDE COVERED)	停车位	375.0	1 0UZD	24 units

LEGEND

SYMBOL 图样	NAME 名称
	BUILDING & CONSTRUCTION
	UNDERGROUND BUILDING
	INTEGRATE TRUSS
turning road radius 15m / road elevation 11.385	ROAD
11.135	OUTDOOR ELEVATION
11.635	INDOOR ELEVATION
	RAINWATER DITCH
	CIRCULATING WATER PIPE
	BORDERLINE
	WALL (BY BRICK)
	FENCE
	DRAINS AND SUMP FOR BUILDING
	SIDEWALK
	CONCRETE GROUND
	GRAVEL GROUND
	SLOPE

N (TRUE NORTH) A (PLANT NORTH)
0 10 20 30m
scale

LAHMEYER INDIA — LAHMEYER INTERNATIONAL (INDIA) PVT. LTD. CONSULTING ENGINEERS, INDIA

THIS APPROVAL STATUS SHALL NOT RELIEVE THE CONTRACTOR FROM HIS CONTRACTUAL OBLIGATIONS.

STATUS		
	1	Approved
X	2	Approved subject to incorporation of comment/modifications as noted. Resubmit revised drgs./docs after incorporating the comment
	3	Not approved. Resubmit revised drgs/ Docs. Incorporating comment/Modifications, as noted, for approval.
	4A	For information only withoct any comments
	4B	For information only with comments. Rresubmit revsied dgs/docs

Date: 18.07.2014 — Transmittal Ref.LII/13006/MECH/EPCC/0320

CAPTION 说明:

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CIVIL STRUCTURE	王振钧	2014.7.5							
HYDRAULIC STRUCTURE	陈磊	2014.7.5							
ENVIRONMENTAL PROTECTION	朱军	2014.7.5							
HVAC	陈士成	2014.7.5							
MECHANICAL	陈伟东	2014.7.5	E	2014.7.5	according to comments of LII	XIAO,HH	CHEN,J	CHEN,W	
ELECTRICAL	李铁建	2014.7.5	D	2014.4.16	according to comments of LII	XIAO,HH	CHEN,J	CHEN,W	
HYDRAULIC TECHOLOGY	潘和荣	2014.7.5	C	2013.10.31	according to comments of LII	CHEN,J	HE,JW	CHEN,W	
CHEMICAL	罗少宏	2014.7.5	B	2013.06.04	according to comments of LII	CHEN,J	HE,JW	CHEN,W	
ARCHITECTURE	张和利	2014.7.5	A	2013.09.02	first issue	CHEN,J	HE,JW	CHEN,W	
MAJOR	CO-SIGNER	DATE	REV.	DATE	DETAILS	PREPARED	CHECKED	APPROVED	

OWNER	Summit Bibiyana II Power Company Limited	
CONSULTANT	Lahmeyer International India	
EPC Contractor	The First Northeast Electric Power Engineering Co.	
	China Energy Engineering Group	
Design Institute	广东省电力设计研究院 GUANGDONG ELECTRIC POWER DESIGN INSTITUTE	

PROJECT: 344.90MW(NET) GAS FIRED COMBINED CYCLE POWER STATION AT BIBIYANA II, BANGLADESH
DESIGN STAGE: DETAIL DESIGN

TITLE:
GENERAL LAYOUT OF POWER PLANT

DRAWN:	CHECKED:	SCALE:	1:500
REVIEWED:		DATE:	2014-7-5
APPROVED:		COMPANY JOB NO.:	FA05611S
JOB NO.: SP322	DRAWING NO.: 44-FA05611S-Z0101-02 SP322-ZZZ-BGR-002	SHEET NO.:	REV.: E

Annex C

Photo-Documentation

Photo-documentation

Photo 1: Project Land of Bibiyana I Project (filled with water) and under constructionBibiyana II Project

Photo 2: Consultation at Approach Road

Photo 3: PGCB Switch Yard – under construction

Photo 4: View of Bibiyana II Project from Switch Yard Area

Photo 5: Consultation with PAPs near Resettlement Site

Photo 6: Houses at Resettlement Site

Project: 0265459 – First EHS&S Compliance Audit – Construction Phase (Bibiyana II)

Client : Summit Bibiyana II Power Company Limited (SBPCL II), Bangladesh

ERM India Private Limited
Building 10, 4th Floor,
Tower A, DLF Cyber City
Gurgaon – 122 002, India
Board: +91- 0124 4170300
Fax: + 91-0124 - 4170301

Photo-documentation

Photo 7: Front View of Constructed House at Resettlement Site

Photo 8: Consultation at Resettlement Site

Photo 9: Muddy Pathway at Resettlement Site

Photo 10: Vacant Plot at Resettlement Site

Photo 11: Constructed House at Resettlement Site

Photo 12: Under Construction House at Resettlement Site

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Photo-documentation

Photo 13: Consultation with PAPs

Photo 14: Under Construction Mosque at Resettlement Site

Photo 15: Constructed House at Resettlement Site

Photo 16: View of Bibiyana III Project Site and Kushiyara River

Photo 17: Approach Road adjacent to Project Boundary

Photo 18: View of Transmission Line Tower and Gas Pipeline from Approach Road

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Photo-documentation

Photo 19: View of the Project from Approach Road

Photo 20: Approach Road toward PGCB Sub-Station

Photo 21: Existing Transmission Line (Bibiyana – Fenchuganj Line)

Photo 22: Agricultural Fields between PGCB Swithch Yard and Existing Transmission Line

Photo 23: View of Approach Road and Existing Transmission Line

Photo 24: Approach Road towards SBPCL II

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Photo-documentation

Photo 25: View of exposed steel toe of the safety shoe

Photo 26: worker working at height w/o full body harness

Photo 27: Emergency contact numbers displayed in Chinese and English language..

Photo 28: NEPC employee pushing load with hand while standing on the steel structures

Photo 29: Cooking facility at the labor camp area within the site.

Photo 30: naked wire inserted into the receptacle at Labour Camp.

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Photo-documentation

Photo 31: Electrical panel exposed to the rain water

Photo 32: View of the damaged slings

Photo 33: view of one of the wall of excavation at cooling tower area

Photo 34: view of the sub-standard scaffold

Photo 35: frayed insulation of the flexible cable

Photo 36: Damaged hose pipe of the oxygen cylinder

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Photo-documentation

Photo 37: view of worker over reaching for the painting job

Photo 38: Electrical Cable passing through ladder

Photo 39: Burnt welding cable at the clarifier area.

Photo 40: Temporary stair case without mid rail and toe board at landing platform

Photo 41: Electrical Cable passing through scaffold.

Photo 42: Electrical cable lying on the road.

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Photo-documentation

Photo 43: View of drinking water facility for the worker

Photo 44: Workers working at 70 feet at ST area without proper fall protection precautions.

Photo 45: worker involved in grinding work without safety goggles.

Photo 46: conveyor belt without guard to rotating part

Photo 47:cigerrete buds at the offices

Photo 48:empty fire extinguisher at HSD storage area.

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Photo-documentation

Photo 49: View of HSD Storage tank

Photo 50:view of the empty fire extinguisher.

Photo 51: view of damaged hand gloves.

Photo 52:view of fixed stretcher at Ambulance

Photo 53: workings moving and working below the Crawler crane boom

Photo 54: View of the resting area at the site

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Photo-documentation

Photo 55: Oil Discharge in Kushiyara River Near Jetty

Photo 56: View of the empty fire extinguisher near HSD Storage Yard

Photo 57: Empty Sand Buckets near HSD Storage Yard

Photo 58: Construction work without Safety Shoes/ Gumboots

Photo 59: Diesel Generator Shed without any Containment for Oil Collection

Photo 60: Workers' Rest Shed occupied with tools and Construction material

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Photo-documentation

Photo 61: Workers without Proper Safety Shoes

Photo 62: Worker with damaged hand gloves

Photo 63: Migrant Workers Accommodation within Construction Area

Photo 64: Migrant Workers Accommodation within Construction Area

Photo 65: Migrant Workers Accommodation within Construction Area

Photo 66: Cooking facility at the labor camp area within the site.

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Korea
Malaysia
Mexico
Netherlands
Peru
Poland
Portugal
Puerto Rico
Singapore
Spain
Sweden
Taiwan
Thailand
UK
USA
Venezuela
Vietnam

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