Loan No. 3045-BAN-OCR

Public-Private Infrastructure Development Facility-II

ANNUAL ENVIRONMENTAL AND SOCIAL COMPLIANCE AUDIT REPORT

52 MW Power Plant at Jangalia, Comilla

Lakdhanavi Bangla Power Limited

March, 2019

Prepared by

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www.idcol.org

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List of Abbreviations

ADB	Asian Development Bank
BPDB	Bangladesh Power Development Board
BPC	Bangladesh Petroleum Corporation
DOE	Department of Environment
ECR	Environment Conservation Rules
EHS	Environment and Health Safety
EMP	Environmental Management Plan
ERP	Emergency Response Plan
ESIA	Environmental and Social Impact Assessment
FGD	Focus Group Discussion
HRSG	Heat Recovery Steam Generator
HSD	High Sulfur Diesel
IDCOL	Infrastructure Development Company Limited
PPE	Personal Protective Equipment
LBPL	Lakdhanavi Bangla Power Limited
SPS	Safeguards Policy Statement

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EXECUTIVE SUMMARY

Background

Lakdhanavi Bangla Power Limited (LBPL) has been awarded to develop and operate an independent power plant project through a competitive bidding process. The power plant is a dual fuel internal combustion based technology with capacity of about 52 MW. The project site is located at Ward no. 22 of Comilla City Corporation under Jangalia Mouza[1]. For financial assistance LBPL has approached to a number of financial institutions including Infrastructure Development Company Limited (IDCOL), Bangladesh. Considering the importance of the Project to meet the national power demand, IDCOL has provided a term loan facility of USD 15 million in favour of the Project, which has been allocated from as ordinary capital resources (OCR) for large infrastructure projects under Public-Private Infrastructure Development Facility (PPIDF)-II of Asian Development Bank (ADB).

According to the Environment Conservation Rules, 1997 of Bangladesh Government, industrial projects have been categorized into four classes—Green, Orange A, Orange B and Red. Considering the magnitude of environmental impacts, power plant projects have been classified as Red Category projects. So, LBPL project has fallen into **Red Category**. According to the ADB guidelines, small power plant projects like the 52 MW project of LBPL is likely to be fallen into **B Category**, as the environmental impacts of these type of projects are mostly project site specific2. As the project site is leased land of Bangladesh Power Development Board, there is no issue of land acquisition In addition. In addition, the issue of adversely affecting indigenous settlement is not applicable for this project. So, in regard of IP and IR aspects, the project is of **C Category**. According to the environmental and social safeguards framework (ESSF) of IDCOL, it is a **Moderate Risk Project**.

To assess the actual implementation of environmental management plan and social safeguards, respective IDCOL official visited the project site during construction and operation phases. According to the ESIA, there is requirement of IDCOL to submit annual Environmental and Social Compliance Audit Report of this project to ADB. Accordingly, this audit report has been submitted to ADB by IDCOL.

Audit overview and findings

The respective IDCOL official has visited the project during the audit period (*January 2018 to December 2018*). He has also reviewed the available relevant documents and clearances. In addition, there was consultation with representatives of adjacent neighborhood. While audit, it has been observed that LBPL is satisfactorily responsive about complying environmental management plan and social safeguards including grievance redress and continuous public consultation.

[1] **Mouza** is a type of administrative district, corresponding to a specific land area within which there may be one or more settlements.

[2]Based on the information as has been found in www.adb.org/documents/guidelines/environmental_assessment/environmental_categorization.pdf).

1.0 INTRODUCTION

1.1 PROJECT PROPONENT

The Project involves the development and operation of a 52.2 MW Dual Fuel (HFO/Gas) based power plant at Jangalia, Comilla by Lakdhanavi Bangla Power Limited (LBPL). The generated electricity of the Project is sold to Bangladesh Power Development Board (BPDB) under a 15-year Power Purchase Agreement. The following table shows key project information:

Table 1.1: Key project information

Project Company	Lakdhanavi Bangla Power Limited
Date of Incorporation	11 December 2011
Registration Number	C-97594/11
Registered Address	No: 37/A, (9th Floor), Kakrail, VIP Road, Dhaka-1000, Bangladesh
Type of Business	Power Generation
Project Location	Jangalia, Comilla
Capacity	52.2 MW
Fuel Type	HFO/Natural Gas
GenSet Supplier	Wartsila Finland, OY
Engine model	6 x 20V32 GD
Off-taker	BPDB
Project Tenure	15 Years
Project Type	Dual Fuel power plant to be developed on BOO basis as an Independent Power Producer (IPP)
Land Area	3 acres

1.2 AREA AND LOCATION OF PROJECT SITE

It is said that the project site is located at 22 no. Ward of Comilla City Corporation (CCC) with the geographical location 91°25′73″ E longitude and 23°25′27″ N latitude. Locally the project area is known as Jangalia. The site is adjacent to the sub-station of PGCB. It is about 3 km from the CCC. The site is approximately 145 km from Chittagong City and approximately 105 km from capital Dhaka. The area of project site is 3 acres. The required natural gas and furnace iil will be served by Bakhgrabad gas field and Bangladesh Petroleum Corporation (BPC) respectively. The gas field is about 20 km away from the site. Railway line, 100m wide pacca road, commercial establishment and some settlements are on the eastern side of the site, whereas sub-station of PGCB is on the southern side. Agricultural land, wetland and some settlements have been observed both in both northern and western sides.

Figure 1.1: Location of the project site in respect of Comilla Sadar Upazila

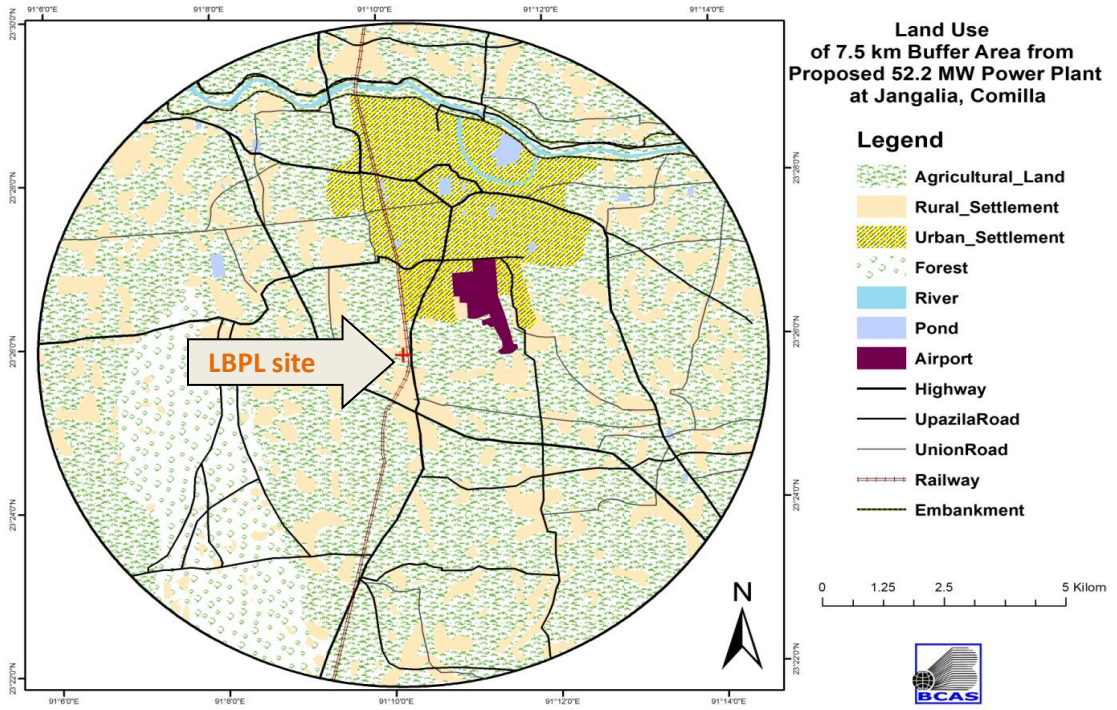

Figure 1.2: Current landuse pattern of the project area

1.3 THE PROJECT IN BRIEF

The power plant can operate by either HFO or natural gas. There are six (6) numbers of Wartsila made 20V32GD engines, each coupled with ABB made AMG 1210M (or equivalent) of 11.155MVA (8.9 MW) generators. Electrical power is generated at 11 kV. 6 internal combustion engines with a combined gross capacity of average Engine generator units are connected to 11kV Bus and is fed to a 70MVA 132/11kV generator step up transformer. The engine is the four strokes, lean burn, pre chamber, spark ignited, port injected, trunk piston, turbocharged and intercooled design. The engine has a fully microprocessor based control system.

The capacity of the plant is 52 MW. Currently due to the unavailability of gas, the plant is operated by HFO. Radiator cooling system has been installed and therefore there is no need to extract cooling water from surface water. The stack height has been determined as 42 meter through US EPA approved ISC3P Model. The detailed technical specifications of the machinery and equipment, and some major features are depicted in the following Table 1.2 and 1.3 respectively.

Table 1.2: List of machineries with country of origin and model

Component	Manufacturer/ Country	Model / type
Reciprocating Engine	WARTSILA / FINLAND	W20V32GD
Control system	WARTSILA / FINLAND	WOIS
Main Step-up Transformer	4 JSHP / INDIA (or Equivalent)	Oil Immersed ONAF
Station Transformer	LTL / Sri Lanka	Oil Immersed ONAN
HV Switchgear	ABB / India (or Equivalent)	Outdoor
Medium Voltage Switchgear	ABB / Czech republic (or Equivalent)	Uni Gear ZS1
Low Voltage Switchgear	KIK8 / Sri Lanka (or Equivalent)	Indoor
Rectifiers	Reputed supplier from China / India	Indoor
Battery system	Reputed supplier from China/India	Lead acid
Power Cables	Reputed supplier from Srilanka/China	XLPE/PVC insulated
Air compressors	Dalgakiran/Turkey (for equivalent)	Reciprocating & Screw Type
Fuel Treatment Plant	Westphalia/Germany (or Equivalent)	Centrifugal Separators
EOT Cranes	DEMAG/Germany (or equivalent)	Centrifugal Separators
Aux & Ex gas Boiler	Aalborg/Finland	Overhead Crane(Electric)

Table 1.3: Technical specification of some major parameters

Parameter	Technical specification
Stack Height	42 meter
Effective Stack Height	30 meter
Design Stack diameter	1.1m each
Fuel consumption per unit power production	8850.58 BTU/KWH
Mass of pollutant emission per unit power production	47.37 g/KWH
Mass of pollutant emission per unit time g/sec	NOx: 260grams/second, SOx 401.92 grams/second and, CO: 18.40 grams/second
Capacity of ventilation fan	222 m^3/s (air)
Height of air exhaust	13 m
Fuel storage Tank	There will be two HFO storage tanks with capacity of 25000 m^3 each. In addition, there will be one HFO buffer tank and HFO day tank with capacity of 55 and 100 m^3 respectively.
Fuel Treatment Plant	Fuel treatment system consists of 2 centrifuge type separators with capacity 15,400 Litres/hour each designed for treatment of HFO with maximum density 1010 kg/m3 (at 15°C) and Heavier solids content than oil up to max. 4%.

Bangladesh Petroleum Corporation (BPC) supplies HFO in the power plant with the technical specification as mentioned in Table 1.4.

Table 1.4: Specification of HFO

Tests	Method	Limit
Density a 15^{0}C, kg/L	ASTM D 1298	0.925
Flash point PM (cc), ^{0}C	ASTM D 93	Min. 66
Sediment, % mass	ASTM D 473	Max. 0.25
Water Content, % vol	ASTM D 95	Max. 0.5
Kinematic viscosity at 50^{0}C, cSt	ASTM D 445	Min. 45 and Max. 180
Pour point, ^{0}C	ASTM D 97	Max. 33
Sulphur Content, % mass	ASTM D 1552	Max. 3.5
Carbon Residue (Conradson), % mass	ASTM D 189	Max. 10
Calorific value, Gross, BTU/lb	ASTM D 240	Max. 18424

The project has started commercial operation on 28 December 2014.

1.4 OBJECTIVES OF THE ENVIRONMENTAL AND SOCIAL COMPLIANCE AUDIT

The audit has been conducted with the aim to assess the project's compliance with-

(i) Environment Conservation Rules (ECR)1997 of GOB;

(ii) Environmental and social safeguards according to the Environmental and Social Safeguards Framework (ESSF) of IDCOL;

(iii) Environmental and social safeguards according the Safeguards Policy Statement (SPS), 2009 and other relevant standards and guidelines of the ADB;

(iv) Proposed mitigation measures and monitoring procedures according to the environmental management plan (EMP), resettlement action plan (RAP) as are applicable.

1.5 METHODOLOGY

The audit includes the following steps:

(i) Visit the project site and consult with stakeholders especially local people;

(ii) Review the environmental and social safeguards documents including environmental impact assessment report, EMP and Resettlement Action Plan, Stakeholder Engagement Plan (as are relevant) ;

(iii) Assess actual implementation of the guidelines/action plan of the safeguard related documents.

1.6 REPORTING PERIOD

The reporting period of this Environmental and Social Compliance Audit Report is January 2018 to December 2018.

1.7 CHANGES IN PROJECT SCOPE

There is no change in the technology and operational process as have been declared by the respective government and accepted by LBPL. So, it can be said that the EMP of ADB approved Initial Environmental Examination (IEE) is fully applicable during the reporting period as well.

1.8 ENVIRONMENTAL MONITORING

The parameter, frequency and methodology of environmental monitoring are in accordance with EMP of ADB approved IEE, as has been detailed in chapter 3 of this audit report.

2.0 REGULATORY REQUIREMENTS

2.1 ENVIRONMENT CONSERVATION RULES, 1997 OF BANGLADESH

The project has to comply with the Environment Conservation Rules (ECR), 1997. According to the categorization of ECR, 1997, the project has been categorised as **Red**[3] meaning that it has significant adverse environmental impacts, which are to be mitigated with proper mitigation measures.

2.2 ENVIRONMENTAL AND SOCIAL COMPLIANCE RELATED STANDARDS AND GUIDELINES OF ASIAN DEVELOPMENT BANK

The project has to comply with the Safeguards Policy Statement (SPS), 2009 and Operational Manual F1 (2010). The IEE of the Project has been approved by the ADB. Considering the adversity of environmental impacts, it has been categorized as **B**. As there is no record of any indigenous habitat in Comilla City Corporation, the project has been categorised as **C** in respect of Indigenous People (IP). In addition, as the required land for the project site has been leased from BPDB, there is no issue of involuntary resettlement (IR). So, from IR point of view, the project has been categorised as **C.**

2.3 ENVIRONMENTAL AND SOCIAL SAFEGUARDS FRAMEWORK OF IDCOL

IDCOL has adopted an Environmental and Social Safeguards Framework (ESSF) in 2011, which is to be complied with all infrastructure projects as are funded IDCOL. According to the environmental categorization of ESSF (Annex-5), the project has been categorised as **Moderate Risk**[4] project requiring significant compliance safeguards including comprehensive environmental impact assessment and regular monitoring. But from Social categorization, the project has been categorised as **Low Risk** both for IP and IR perspectives. So, there is no requirement of adopting indigenous peoples development framework (IPDF), indigenous peoples development plan (IPDP), resettlement framework (RF) and resettlement plan (RP).

[3] Schedule-1 of ECR (project no. 6 of Red category), 1997

[4] The project risk screening checklist of ESSF, IDCOL is provided in Annex-3

3.0 IMPLEMENTATION OF ENVIRONMENTAL SAFEGUARDS

3.1 COMPLIANCE WITH ENVIRONMENT CONSERVATION RULES, 1997

LBPL has to comply with the requirement of ECR, 1997 of the DOE. In the following Table 3.1, the compliance status of LBPL, in regard of major milestones of ECR, 1997 is depicted. The Environmental Clearance Certificate is provided in Annex-1.

Table 3.1: Compliance with the requirement of ECR, 1997

Basic Requirement	Compliance Status
Award Site Clearance Certificate	Fully complied
Award EIA approval	Fully complied
Award Environmental Clearance Certificate	Fully complied

3.2 COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT PLAN

a. Institutional arrangement

For ensuring proper safeguards compliance, LBPL has formed an EHS Team which is headed by Rakesh Chandra Ghosh, Plant Manager. He is Chairman of EHS Team, who is supported by some competent members. The detail of EHS Team composition is mentioned in Table 3.2.

Table 3.2: The composition of EHS Team

Name	Designation	Position in EHS Team
Rakesh Chandra Ghosh	Plant Manager	Chairman
Mizanur Rahman	Engineer	Member
Afzal Talukdar	Engineer	Member
Mehedi Hasan	Engineer	Member
Sohel Pervez	Shift-in-charge	Member
Jamal Hossain	engineer	Member
Salah Uddin	Engineer	Member

b. Compliance status

In the IEE, a number of activities having potential adverse environmental impacts and occupational health safety aspects during operation phase have been identified. In the following Table 3.3, suitable mitigation measures to address these impacts according to the EMP and actual responses by LBPL has been discussed.

Table 3.3: Response of LBPLon project activities and mitigation measures during operation phase

Project Activity	Potential Impacts	Mitigation Measures	Actual Implementation	Compliance status
Air emission, noise generation	Emission from the power plant	▪ Install stack emission monitoring equipment for major pollutants; ▪ Plant indigenous trees around the Project site	Trees have been planted and quarterly air quality is monitored	Fully complied
	Generation of noise from generators and associated sub-stations , which could exceed 70 dB(A) at site boundary	▪ Locate facility 70–100 m from nearest receptor; ▪ Use walls, fencing, and/or greenbelt to provide partial noise barrier; ▪ Provision of critical silencers or generators (if need arises); ▪ Use of ear-muffs and ear-plugs by plant personnel working in the generator and turbine facilities of the plant.	Through using new generators and ensuring proper application of walls, fencing and green belt, noise level is within the acceptable limit.	Fully complied
	Suspended particulate matter (SPM) and $PM_{2.5}$, PM_{10}, NOx, CO, VOC generation from the engine, which can adversely affect health	▪ Good combustion control, required stack height should also be maintained properly.	42m high stack has been introduced, which has sufficiently addressed the air emission including SPM and others.	Fully complied
Occupational Health and safety	Solid wastes	▪ Apply the waste hierarchy and reduce, reuse or recycle wastes wherever possible; ▪ Segregate wastes by types and provide appropriate waste containers for the storage of all waste streams.	Proper waste management has been observed, which includes segregation of wastes at source.	Fully complied
	Hazardous Materials Management	▪ Refueling, washing and maintenance of plant and vehicles will be prohibited in the vicinity of water bodies; ▪ Spill kits will be available to contain any accidental release of hazardous materials; ▪ All hazardous materials will be provided with secondary containment.	Spill kits were found to wash with due attention.	Fully complied

Project Activity	Potential Impacts	Mitigation Measures	Actual Implementation	Compliance status
	Application of PPE	▪ Ensure satisfactory PPE for workers, officials and visitors	There are satisfactory use of PPE	Fully complied
Disaster Management, Fires, explosion and other accidents	Emergency Response (i.e. Fire, Earthquake, Flood etc.)	▪ Use of personal protective equipment during operation and maintenance; ▪ Prepare and implement safety and emergency manual; ▪ Regular inspection of lines for faults prone to accidents; ▪ Provision of fire protection equipment; ▪ Provision of lightening arrestors.	There are application of different types of fire extinguishers, fire hydrant and regular training arrangement	Fully complied
Domestic wastewater, sewage and sanitary waste	BOD, fecal coliform contamination in groundwater and surface water	▪ Need to provide septic tank with soak pit for treatment of sewage; ▪ Provision of an appropriate number of toilets and hand-washing points; ▪ Provision of on-site treatment of sanitary wastes; ▪ Training on sanitation practices.	There is adequate number of toilets with septic tank facility.	Fully complied
Wastes oil from Plant *(scrap metal, waste, lube oils, spill oil etc)*	Potential soil and groundwater contamination	▪ Secure on-site storage, waste sell to the DOE authorized vendor for discharge in a safe place.	The waste lube oil and spill oil are sold to DOE authorized vendor.	Fully complied
Public Relations & Stakeholder Engagement	Emergence of grievance	▪ Conduct proactive public relations (PR) exercises consisting of news/information dissemination to increase understanding of the project.	LBPL communicates with society occasionally	Partially complied

c. Environmental monitoring

I. Technical approach of environmental monitoring

In the EMP of the ESIA, environmental monitoring has been required during operation phase. The air, water and noise quality monitoring schedule are depicted in Table 3.4.

Table 3.4: Monitoring parameters and frequency of monitoring during operation phase

Env. aspect	Monitoring parameter	Frequency
Ambient Air Quality	SPM, PM10, PM 2.5, SOx, NOx and CO	Quarterly (routine) analysis
Surface water	pH, Temperature, DO, BOD, COD and TDS	Bi-annual basis in each year (pre-monsoon and post-monsoon)
Ground water	pH, Temperature, DO, BOD, COD and TDS	Bi-annual basis in each year (pre-monsoon and post-monsoon)
Noise	Hourly basis for 24 hours during trial run	Quarterly (routine) analysis

Source: ESIA of LBPL

Table 3.5: Ambient air quality at project site

Parameter	Test result (µg/m^3)		DOE standard (µg/m^3)
	9 January 2018	7 November 2018	
SPM	148	136	200
SO_2	42	52	365
NOx	39	69	100

Source: LBPL

Table 3.6: Surface water quality near project site

Parameter	Test Result		DOE Standard
	9 January 2018	12 November 2018	
pH	7.56	9	6-9
Temperature	18°C	24.6^{o}C	40°C (Summer) and 45°C (Winter)
DO	5.69mg/l	7.12 mg/l	4.5-8mg/l
BOD	24 mg/l	13.0 mg/l	100 mg/l
COD	46.0 mg/l	30.0 mg/l	400 mg/l
TDS	421 mg/l	140 mg/l	2100 mg/l

Source: LBPL

Table 3.7: Ground water quality near project site

Parameter	Test Result		DOE Standard
	9 January 2018	12 November 2018	
pH	6.99	8.0	6-9
Temperature	18.5ºC	24.8ºC	40ºC (Summer) and 45ºC (Winter)
DO	5.7 mg/l	8.32 mg/l	4.5-8mg/l
BOD	18 mg/l	Not detected	Below 100 mg/l
COD	38 mg/l	Not detected	Below 400 mg/l
TDS	129 mg/l	90 mg/l	Below 2100 mg/l

Source: LBPL

Table 3.8: Ambient noise level at project site

Monitoring point	Day (6.00 am to 9.00 pm)		Night (9.00 pm to 6.00 am)	
	9 January 2018	6 November 2018	9 January 2018	6 November 2018
Near generator room	73	71.0	68	66
Near fuel storage tank	72	70.0	67	65
Near assembling area	70	69.0	65	63
Near entrance	66.0	67.0	63	62
DOE Standard	75		70	

Source: LBPL

II. Result of environmental monitoring

During operation phase, the ambient air and noise quality have been found to comply with the acceptable limit of DOE standard.

III. Disclosure of environmental monitoring

As disclosure of environmental monitoring, LBPL has kept the copy of monitoring result available at project site. So, any stakeholder feeling interested may easily access these monitoring report.

IV. Monitoring adjustment measure

Based on the result of air, water and noise monitoring, it can be concluded that that there is no requirement of adjustment measure.

3.3 COMPLIANCE WITH SAFEGUARDS POLICY STATEMENT, 2009 OF ADB

It is already said that the LBPL project has to comply with the requirement of SPS, 2009 of ADB. Accordingly, the compliance status of this project in regard of major EHS requirement are mentioned in Table 3.9.

Table 3.9: Compliance with important EHS aspects during operation phase

ADB Requirements	Issue and Description of Observation	Status of compliance
Environment Assessment requirements for various financing modalities	Initially LBPL has conducted the detail Environmental Impact Assessment by Bnagladesh Centre for Advanced Studies (BCAS). Thereafter, they have been found to take necessary measures to implement the EMP and consequently they have adopted a number of guidelines in relevant to E&S safeguards, to ensure the full compliance of the respective statutory and institutional requirements.	Fully complied
Occupational and Community Health and safety	LBPL has ensured the satisfactory application of PPE.	Fully complied
	There is satisfactory evidence of fire drill.	Fully complied
Biodiversity conservation and sustainable natural resource management	The activities in relevant to operation phase seems to have scope to adversely affect the biodiversity and natural resource management in the project area to a greater extent. But it is believed that if LBPL shows the similar type of commitment in regard of E&S compliance, there is no risk of any undesired situation.	Fully complied
Pollution prevention and abatement	LBPL has conducted air, water and noise quality monitoring during operation phase.	Fully complied
Physical Cultural resources	Due to the unavailability of physical cultural resources within the range of close distance, the issue of adversely affecting the physical cultural property seems not to be relevant with the project.	Fully complied

4.0 IMPLEMENTATION OF SOCIAL SAFEGUARDS

4.1 IMPACT ON RESETTLEMENT OF THE PROJECT AFFECTED PEOPLE AND LIVELIHOOD

It is already said that the project site has been leased from BPDB. BPDB did not allow developing any settlement in this area. In addition, it strictly restricted to use the site for any type of economic activity including agriculture by any third party. So, there is no issue of involuntary resettlement (IR).

4.2 INSTITUTIONAL ARRANGEMENT AND GRIEVANCE REDRESS MECHANISM

The EHS Team has been empowered with the responsibility of complying with social safeguards. A grievance readdress procedure has been developed for taking into account the grievances due to the projects intervention, raised by various stakeholder and local neighbours. At corporate level, Mr. Kamal Nisantha takes care of the grievances. While audit the plant by respective IDCOL official, a Grievance Log Book has been found at main entrance, which seems to be easily accessible to the adjacent people and the project's stakeholders for lodging their comments, suggestions or complaints. LBPL is committed to resolve of any grievance within 15 days of receiving the grievance. However, based on the discussion with villagers, it has been assumed that there is no issue of grievances. Because the workers coming from the local community are given priority to work in the project.

4.3 IMPACT ON INDIGENOUS PEOPLE

Based on the primary observation during site visit and secondary sources including BBS[5] Census 2011, no habitat of any indigenous community has been reported at Comilla City. So, the project has been categorized as **C** for Indigenous Peoples (IP) safeguards concluding that there is no issue about adversely affecting IP neither in construction phase nor in operation phase. However, LBPL has conveyed that they are gender and caste neutral. So, any qualified person coming from the indigenous community will be equally treated during the recruitment process, and will be given the same benefits as like as other personnel.

4.4 CHILD LABOUR

The Bangladesh Labour Act 2006 (Act XLII of 2006) also defines the "child" and the "adolescent" on the basis of age. As per section 2(8) of the Act, a person who has attained the age of 14 but below the age of 18 is considered to be an „adolescent‟ and as per section 2(63), a person not attaining the age of 14 is defined as a "child‟. According to The National Child Labour Elimination Policy 2010, following rights are to be complied with, in regard of addressing child labour Issue:

[5] BBS stands for Bangladesh Bureau of Statistics

- Employing children according to the age determined by the Acts and not to employ children below 14 years as a regular employee;
- Ensuring the children at domestic work not to perform any hazardous work and providing them with proper food and accommodation, education, recreation since they work full time; and
- Refraining child workers from physical, mental, sexual persecution and abuse.

LBPL has been found to be careful about the child labour issue. So, no child has been found to be engaged in the project activities.

4.5 PUBLIC CONSULTATION AND DISCLOSURE OF INFORMATION

I. Public Consultation

As part of environmental and social compliance audit, respective IDCOL official consulted with some local respondents comprising of various age group and professions. The photographs of consultation have been provided in Annex16.

II. Major findings

The major findings of public consultation are as follows:

- People are in general aware about the project and they are supportive to the project due to importance of power national development.
- There is some sorts of noise impact when the plant is fully operational.

III. Response from LBPL

LBPL official has responded that although the noise level is within the DOE limit, still they will try to think for some additional measures.

IV. Disclosure

While audit, no record of grievances was being observed neither in the Grievance Log Book. In responding the issue of disclosure, LBPL has informed that they are adequately responsive to any stakeholder requesting to disclose any environmental, and social safeguards related document, information and monitoring result.

4.6 ENHANCEMENT

LBPL officials have informed that they are yet to practice regular contribution in various social activities to adjacent neighborhood. But occasionally they try to contribute in various social development activities.

5.0 CORRECTIVE ACTION PLAN

5.1 CORRECTIVE ACTION PLAN IN REGARD OF ENVIRONMENTAL AND SOCIAL SAFEGUARDS

LBPL has been found to be adequately responsive on environmental and social safeguards. They have duly monitored the air, water and noise quality according to the requirement of EMP. The monitoring results have been found to be within the acceptable limit requiring no corrective measures.

Although there is no issue of involuntary resettlement and adversely affecting livelihood; and indigenous peoples issue, LBPL could emphasize on regular consultation with local community.

So, it is felt that LBPL does not require any corrective measure as there is no significant observation of non-compliance in regard of E&S safeguards.

6.0 CONCLUSION

Based on the findings of environmental and social compliance audit, it can be concluded that LBPL is satisfactorily responsive in regard of complying with environmental and social safeguards during construction phase as well as operation phase. And there is no requirement of corrective action plan.

Annex 01: Environmental Clearance by the DOE

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিবেশ অধিদপ্তর
কুমিল্লা জেলা কার্যালয়
প্লট নং-০১, ব্লক-জি, সেকশন-২
হাউজিং এস্টেট, কুমিল্লা।
www.doe.gov.bd

পরিবেশগত ছাড়পত্র নবায়ন

ছাড়পত্র নং: ১৮-১০৮৯৬

পরিবেশগত ব্যবস্থাপনা নিশ্চিতকরণ সাপেক্ষে সংযুক্ত শর্তে নিম্নবর্ণিত প্রতিষ্ঠান/প্রকল্পের অনুকূলে পরিবেশগত ছাড়পত্র নবায়ন প্রদান করা হলো :

প্রতিষ্ঠান/প্রকল্পের নাম	: Lakdhanavi Bangla Power Ltd.
উদ্যোক্তার নাম	: Managing Director
সনাক্তকরণ নং	: ৫৭১৮৫
প্রতিষ্ঠান/প্রকল্পের কার্যক্রম	: Power plant
প্রতিষ্ঠান/প্রকল্পের শ্রেণী	: Red
প্রতিষ্ঠান/প্রকল্পের ঠিকানা	: Doiyara, Ahammed Nagar, Cumilla-s daksin, Cumilla
প্রদানের তারিখ	: 19/09/2018
মেয়াদ উত্তীর্ণের তারিখ	: 10/02/2019

এ ছাড়পত্র সনদের সাথে পৃথকভাবে সংযুক্ত প্রদত্ত শর্তাবলী যথাযথভাবে প্রতিপালন করতে হবে, অন্যথায় ছাড়পত্র বাতিল/ক্ষতিপূরণ আদায়সহ যে কোন আইনানুগ ব্যবস্থা গ্রহণ করা হবে।

বিঃদ্রঃ এটি একটি সিস্টেম জেনারেটেড ছাড়পত্র এবং এতে কোনোরূপ স্বাক্ষরের প্রয়োজন নেই।

ছাড়পত্রটি যাচাই করতে ভিজিট করুন: http://ecc.doe.gov.bd/certificate_verification
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Annex 02: Integrated ISO Certification (EMS, OHSAS and Quality)

BUREAU VERITAS
Certification

LAKDHANAVI BANGLA POWER LIMITED

LAKDHANAVI BANGLA POWER LIMITED

POWER PLANT: JANGALIA, CUMILLA.

Bureau Veritas Certification Holding SAS – UK Branch certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system Standards detailed below

Standards

ISO 9001:2015, ISO 14001:2015 & BS OHSAS 18001:2007

Scope of certification

GENERATION OF ELECTRICAL POWER AND SUPPLY TO NATIONAL GRID BY 52.2MW DUEL FUEL (HFO/GAS) FIRED POWER PLANT

Original cycle start date:	**05 January 2016**
Expiry date of previous cycle for QMS & EMS:	**14 September 2018**
Expiry date of previous cycle for OHSAS :	**04 January 2019**
Recertification Audit date:	**19 August 2018**
Recertification cycle start date:	**15 September 2018**

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on:
For QMS & EMS: **14 September 2021**
For OHSAS: **11 March 2021**
Certificate No. **IND18.8853U/Q/E/HS** Version: **1** Revision date: **15 September 2018**

Signed on behalf of BVCH SAS – UK Branch
Ramesh KOREGAVE
Director, CERTIFICATION
South Asia Region

UKAS MANAGEMENT SYSTEMS
0008

Certification body address: *5th Floor, 66 Prescot Street, London, E1 8HG, United Kingdom.*

Local office: *Bureau Veritas (India) Private Limited (Certification Business) 72 Business Park, Marol Industrial Area, MIDC Cross Road "C", Andheri (East), Mumbai – 400 093, India.*

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization.
To check this certificate validity please call +91 22 6274 2000.

Annex 03: Project risk screening checklist of ESSF, IDCOL

Sl. no	Environmental and social risks rating criteria	Response		Remarks
		Yes	No	
01	For new projects, does the project have any pending compliance such as Location and Environmental Clearance based on its category (Red, Orange-A, Orange-B and Green), from the DOE?			
02	Is the project located in the immediate vicinity (likely to adverse impact) of environmentally critical areas (national wetlands, wildlife habitats, important bird areas, and protected areas)			
03	Does the project construction and/or operation lead to environmental impacts that are diverse, irreversible and/or unprecedented in nature?			
04	Does the project require involuntary resettlement that results in loss of land or livelihoods or physically displaces more than 200 persons?			
05	Is the project site on or in immediate vicinity of socially vulnerable or Indigenous People IP) owned or occupied land and has the potential to cause an adverse impact on their culture and identity?			
06	Is the project vulnerable to climate change related impacts?			
07	Does the Borrower have a documented Policy on E&S Performance?			
08	Does the Borrower have dedicated human resources to address E&S performance?			
09	Has the Borrower established and implemented Environmental, Health & Safety Management Systems and Social Accountability Systems for the Project SPV or in the parent company?			

Annex 04: Fire-fighting arrangement

Photograph: Different types of fire-fighting arrangement

Annex 05: PPE arrangement

Photograph: Arrangement of PPE

Annex 06: Landscaping

Photographs: Different types of landscaping

Annex 07: Safety measures around fuel storage tanks

Photograph: Safety bund around fuel storage tanks

Annex 8: Fuel treatment process

Photographs: Fuel Treatment Plant

Annex 9: Stack

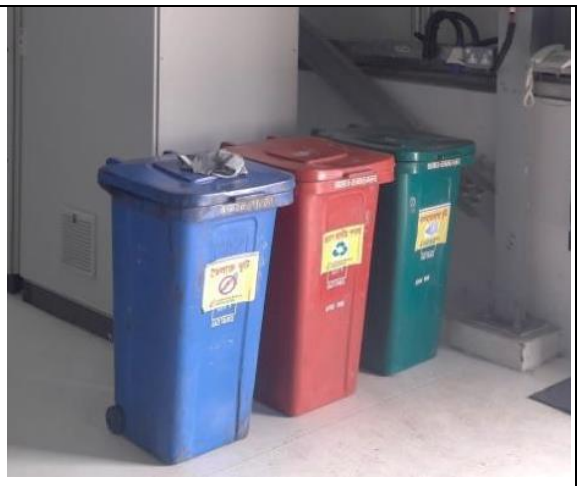
Photograph: Close view of a stack (42 m height) and stack base

Annex 10: Current status of project

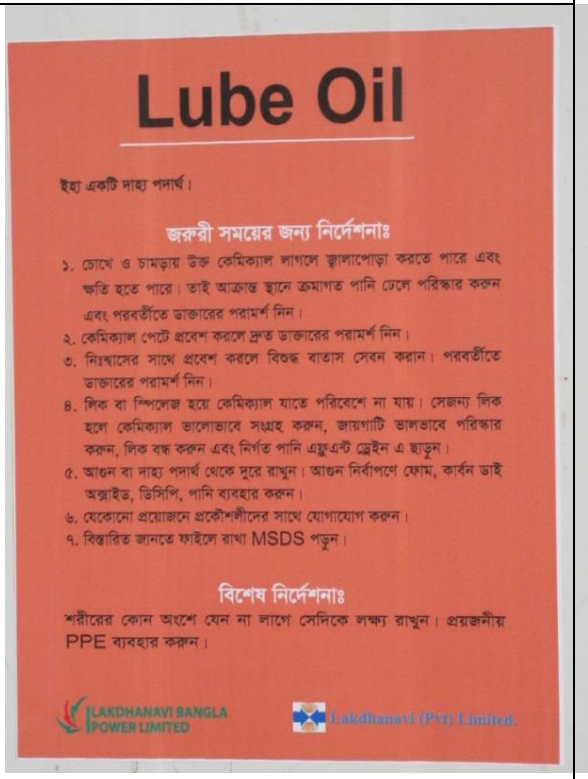
Photograph: External view of the plant (partial)

Photograph: Internal view of the plant (partial)

Annex 11: Waste management (solid and liquid)



Photograph: Application of different types of dustbin



Photograph: Spill kit and lube oil management guidelines

Annex 12: House keeping

Photograph: External housekeeping

Photographs: Internal housekeeping

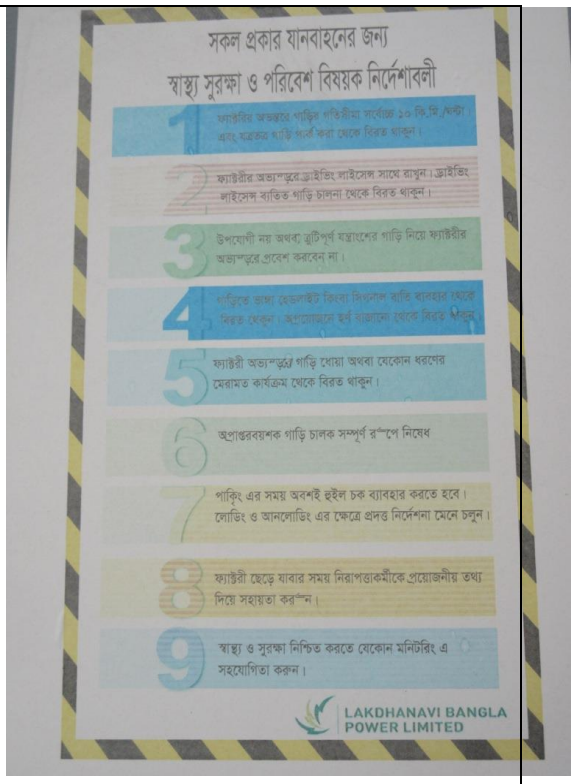
Annex 13: Noise level monitoring points

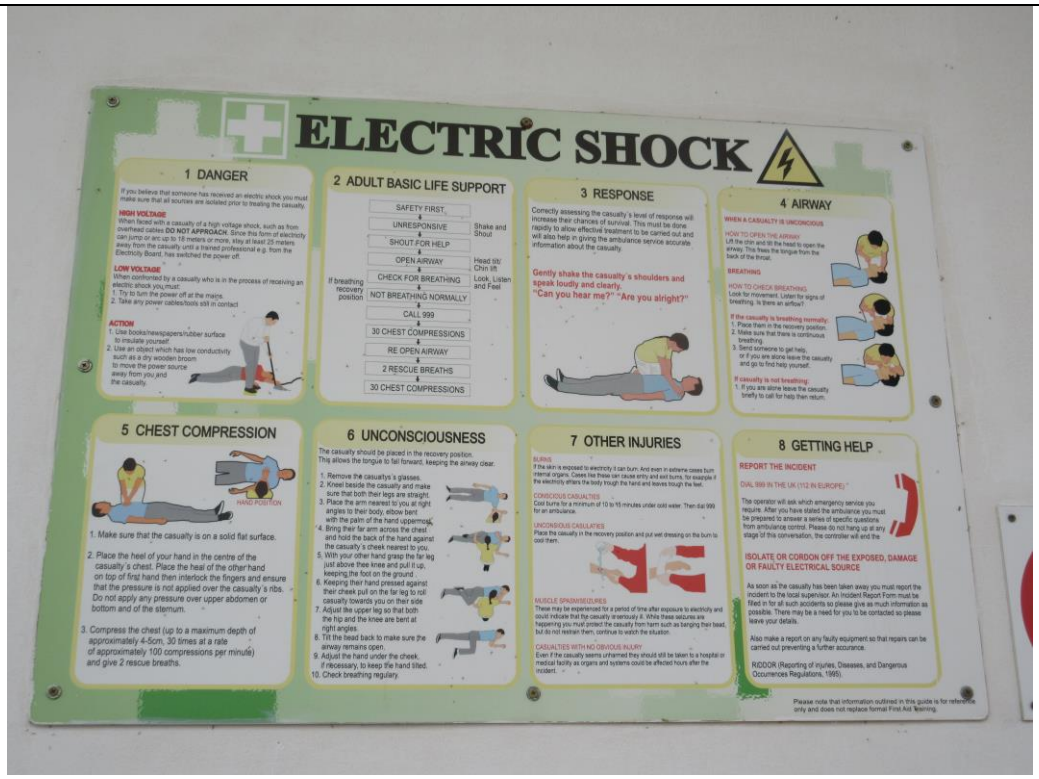
Photograph: Noise monitoring points at LBPL site

Annex 14: Designated smoking zone

Photograph: Smoking zone is in practice

Annex 15: Safety signage





Photograph: Different types of safety signage

Annex 16: Consultation with local community by IDCOL official

Photograph: Consultation with local community by IDCOL official