

# PEW-EC



## POWER-ENERGY

### Management & Engineering Company



- Consultancy • Engineering • Project Development • O & M Service
- Owner's Engineering Service • IT Development

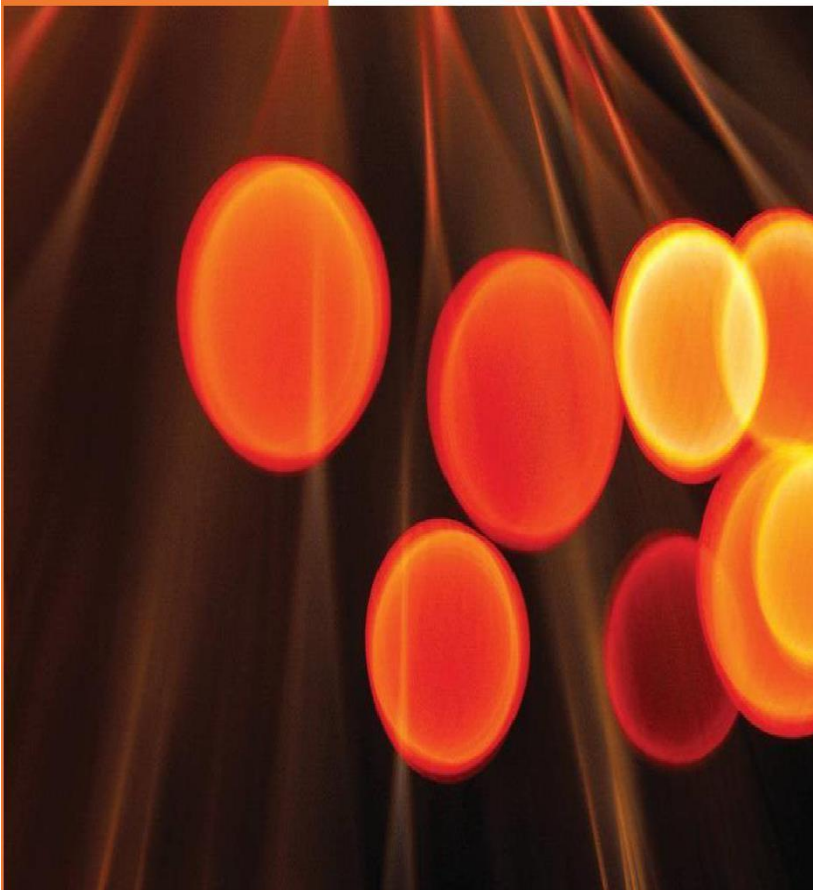


# Introducing PEMEC

Power - Energy Management & Engineering Company (PEMEC) is an endeavor of a team of qualified and experienced professionals who aims at sharing long-acquired experience, knowledge and skills in the development of power and energy sector. It intends to assemble, expand and refine innovative ideas and use them to address national issues including power and energy at this crucial juncture of economic transition from agricultural to industry Bangladesh, being a fast developing country with its forward – looking approach towards economic sustenance within the targeted span of time, needs power, especially electrical power for social and economic development. In this context of high demand for electrical power for development, which is the most vital for developing countries and Bangladesh being no exception, PEMEC has emerged to address the power and energy related problems through effective and practical management services. This being the frontward, PEMEC has come into being to function as an effective platform of professionals to help meeting the demand for electrical energy through use of innovative, economical and green technology.

PEMEC has emerged on September 16, 2013 with the central objective of supporting government utilities, entities in public and private sector to meet the growing energy needs of Bangladesh with expert consultations, and skilled services to be rendered given its multi-sectorial knowledge-base

- Consultancy
- Engineering
- Project Development
- Owner's Engineers
- O&M Service
- IT Development



## PEMEC's Vision

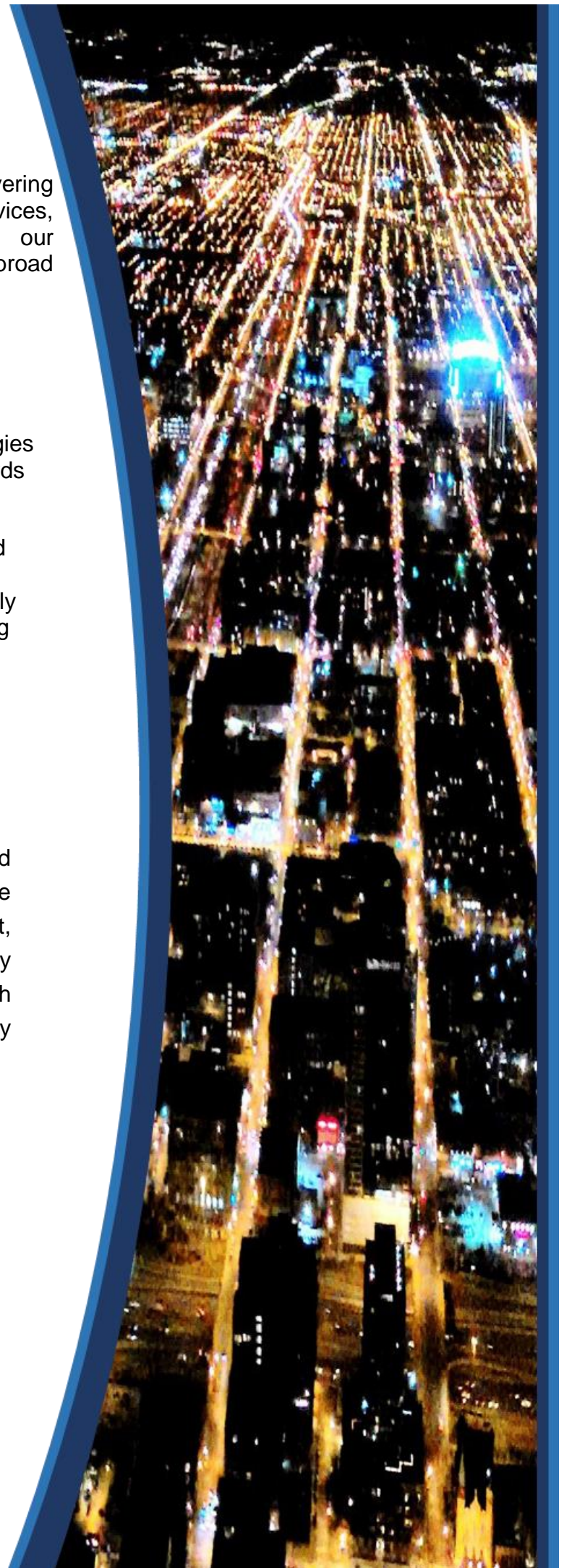
To be a company of excellence in delivering consultancy, engineering, management services, leadership and superior services exceeding our client's expectation and recognized home and abroad through.

- Building robust trust worthy customer base providing reliable services.
- Adopting optimized Engineering Methodologies to deliver superior values, with an aim towards cost effectiveness in engineering solutions.
- Endorsing proactive planning, designing and management for development and secure sustained strategic repositioning to effectively maneuver in the context of rapidly fluctuating global, regional and local conditions.

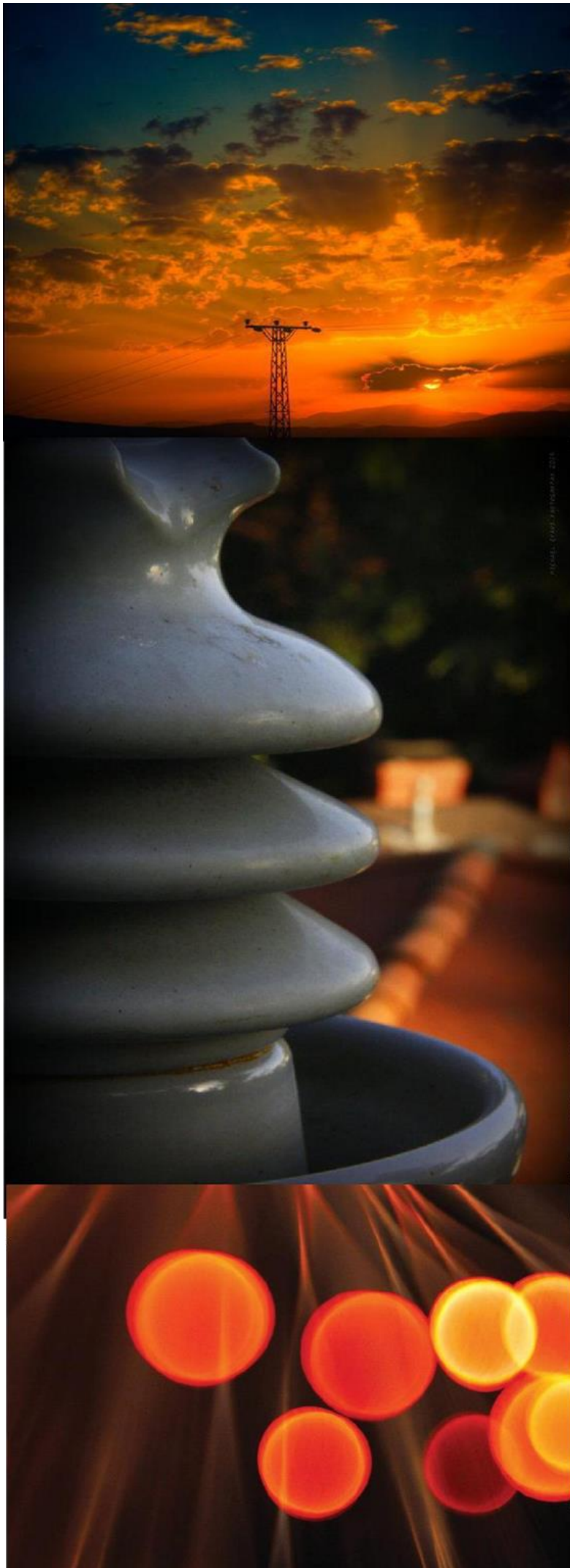
## PEMEC's Mission

To deliver the state of the art engineering and management solutions and services, which are innovative, safe, cost effective, energy efficient, affordable, environment-friendly, technically superior and upholding top-tier quality with ethical standards to clients, in power and energy business at home and abroad.

***“PEMEC HAS EMERGED WITH THE  
CENTRAL OBJECTIVE OF AIDING  
UTILITIES AND ENTITIES SEEKING  
TO MEET THE GROWING ENERGY  
NEEDS OF BANGLADESH”***







## Areas of Services

Power-Energy Management and Engineering Company (PEMEC) is an entity registered in Bangladesh, which brings together the knowledge and capabilities of experienced technical, financial and management professionals having vast experience in planning, analysis, engineering, monitoring, supervising and management of power generation, transmission and distribution system.

The main focus, as presently envisioned, of PEMEC is to assist clients in the areas of energy related Engineering, Consultancy, Owner's Engineering Services, Project Management, Operation & Maintenance, EPC and Feasibility Studies including EIA for development of Power Plants, Transmission and Distribution System.

PEMEC also focuses on consultancy and feasibility studies for renewable energy, strategic energy risk management, facility assessment and Industrial power solutions to help to economize electricity consumption and energy conservation.

PEMEC's service stretches from technical advisory of green field power projects to renovation, up-gradation of gas, liquid fuel and coal based power plants, power sector reforms and restructuring, research and development, HR/HRD and IT development.



# Power Generation

## Thermal Power

- Simple Cycle Gas Turbine and Combined Cycle Power Plants including advance class machines.
- Coal based thermal power projects using sub-critical/ super-critical technology.
- Reciprocating engine based power plants;
- Co-generation Plants.

## Renewable Energy

- Solar
- Wind
- Biomass and
- Hydro





# Selection of Feasible Projects

Selection of feasible projects, which offer good returns on investment with low/acceptable risk is a very critical decision for a developer seeking to be a Power Project sponsor. PEMEC provides expert services in Feasibility, EIA, SIA & DIA studies including site selection study and analyzing, evaluating and developing bankable projects with extensive knowledge and experience.

## Project Development Phase

- Site Selection Studies.
- Survey: Topographic, Morphology, etc.
- Detailed Feasibility Report.
- Techno Commercial Proposal Review.
- Design Review.
- Witnessing Testing and Commissioning.
- Project Financial Model and Sensitivity Analysis.
- Assist Client for Proposal Preparation.
- Regulatory Compliance Study and Recommendation.
- Preparation of Technical and Commercial Proposal for IPP.

## Assistance up to Financial Closure

- Preparation of PPA, IA, Fuel Supply AGREEMENT & Land Lease Agreement.
- Preparation of O&M Bid Specifications and Evaluation of O&M Proposals.
- Assistance During “Security Package” Negotiations.
- Interfacing with Lenders, Advisors and Statutory Bodies.





## Services as Owner's Engineer

### A) Project Engineering

- Basic design and engineering of plant systems, including enabling works.
- Detailed design and engineering including Interface engineering in case of package wise contracts.
- Procurement.
- Review and approval of drawings and documents of contractors, including quality plans.

### B) Project Implementation

- Project management and contracts administration.
- Design review, quality audits and payments certification.
- Workshop inspections.
- Time scheduling, cost control and progress reporting.
- Site construction supervision, commissioning assistance and witnessing Performance Guarantee (PG) Test.
- Vendor Expedition.



# Proposal Preparation Based on RFP for Consultancy Service:



- Go through the RFP document thoroughly.
- Prepare a 'RFP Information Sheet' containing relevant information in brief.
- Share the 'RFP Information Sheet' with Management, Line Manager and concern colleagues.
- Take advice and directives from Management.
- Make a check list of submission.
- Conduct a meeting headed by Line Manager to work out 'Action plan' on the basis of Qualification Criteria, Evaluation Criteria, TOR and other significant issues.
- Make a Time schedule and distribute the works to team members to ensure comprehensive proposal ready for timely submission.
- Every document prepare by one should be checked by other and to be finalized by head of the team.
- Prepare Division of Works /Responsibility' among Consortium / JV partners.
- Keep close liaison/contact with JV Partners and cross check the document by other partner (s).
- Conduct a self- evaluation to assess Technical points likely to be obtained and make necessary improvement to achieve desired Technical Score.
- Financial Proposal shall be prepared by Head of the team in consultation with Management.
- Monitor and survey that there are no missing document.
- Make sure that proposal are ready well ahead of closing date of submission.
- Make a final examination of the document before submission.
- Make sure that the Proposal are made in compliance with RFP requirement.
- Proposal should be completely ready for submission with necessary compilation at least one day before deadline of submission.





## Transaction Advisor:

### IPP Solicitation up to Financial Closure.

- Preparation of IPP Project Proposal Based on the RFP and Security Packages including Power Purchase Agreement (PPA), Implementation Agreement (IA) for IPP Project.
- Techno commercial analysis for Tariff proposal.
- Preparation of financial model to be used during the tariff and "Security Package" negotiations.
- Development of bid negotiation strategies.
- Preparation of risk allocation matrix.
- Assisting client during "Security Package" negotiations.
- Training of staff of government and/or utility users or sponsors.
- Assisting client in selection of Joint Venture Partner.
- Assist in determination of criteria for selection.
- Assist in invitation of proposals for the prospective.
- Assist in evaluation of partners can select the suitable sponsor.





## Transmission & Distribution

- Transmission and Distribution Network Planning, Expansion and Up-gradation Studies.
- AIS/GIS Substation Switchyard and Protection Design & Implementation Supervision.
- Protection Review, Communication and SCADA.
- Overhead lines and cable systems.
- Electric power supply & distribution in industrial plants.
- Transmission and Distribution Project Implementation Supervision and
- Transmission and Distribution System Studies.

## Regulatory, Reforms & Restructuring

- Need-based Organizational Reforms.
- Assessment of Regulatory Compliance Requirements.
- Assessment of Present Condition & Asset Valuation.
- HRD and Capacity Building and
- Assistance to Regulatory Bodies for Development and Review of Standards, Rules, and Codes.

## IT Systems

- Information Technology (IT) for Utilities Online Performance Monitoring, Analysis Optimization and
- Load management, Metering and Billing system.



# Studies

PEMEC carries out specialized studies for utilities, Owners/Developers and Contractors, which facilitate decision making towards project implementation and up-gradation. The studies include:

- Site Selection.
- Geotechnical & Topographic Survey.
- GPS Survey and Mapping.
- Hydrological Studies.
- Route Survey.
- Selection of Technology.
- Comparative Studies.
- Electrical System Studies.
- Power Potential Studies.
- Market Survey.
- Asset Valuation.
- Energy Audits.
- Power System Studies.
- Development of Technical/Management/Operational guideline.

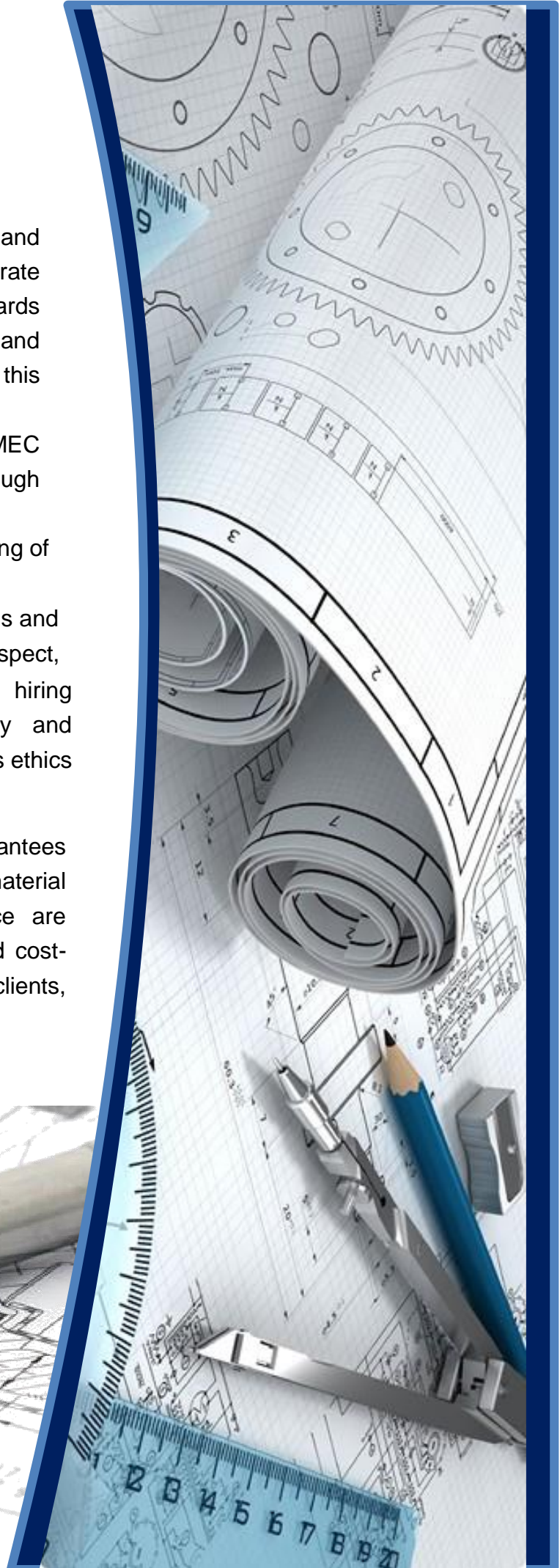
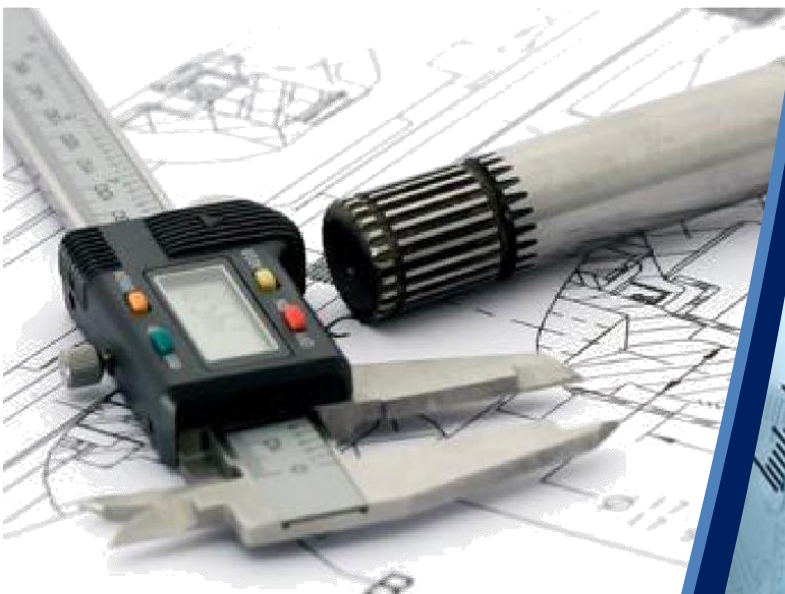


# Values and Independence

PEMEC, as an independent consulting firm, ascertains fairness, transparency and accountability in every sphere of its corporate practice. It ensures commitment towards upholding the values of morality, fairness and mutual respect for all persons contributing to this Company.

The above parameter being the standard, PEMEC aims to maintain company values through providing support to others focusing on the proper sharing of information, knowledge and skills, prioritizes open and transparent dealings and maintains highest Level of integrity in every aspect, ensures in providing job security, selective hiring practice, proper work environment, safety and healthcare for all the employees and maintains ethics in management of the projects.

Free from third-party interest, PEMEC guarantees the impartiality of results of its work. Its material independence and sound corporate finance are backed up by efficient working practices and cost-awareness, also in the interest of its valued clients, that ensure its competitiveness.







## Environment

PEMEC is committed to the integration of environmental considerations into all areas of its corporate activity and to implement a process of continual improvement in this regard. PEMEC aims to build all relevant environmental practices into its activities and, as far as is reasonably practicable, energy and raw materials are drawn from sustainable and nonpolluting sources to be used effectively. PEMEC is also responsible for incorporating environmental mitigation measures into projects, as agreed with customers. PEMEC seek to promote environmental protection and improvement through their activities and services including providing sustainable solutions, using resources efficiently minimizing waste and helping their customers adopt best environmental practices.

## Ethics

Ethics is a major theme in our communications with staff and business partners. PEMEC promotes merit without discrimination and encourages employees to develop their skills and careers. PEMEC employees respect each other's customs, traditions and religious beliefs and do not tolerate physical, mental or sexual harassment and gender discrimination. PEMEC also trains Employees on company ethics.

## Health and Safety

PEMEC provides the highest practicable standards of health, safety and security and aims to comply with all relevant statutes in order to minimize risks to employees and others affected by PEMEC operations. We are also committed to the integration of health and safety into all areas of corporate activity, to achieve minimal harm and to implement a process of continual improvement. In this regard Management and supervisory staff have the responsibility for implementing the health and safety policy so that health, safety and security considerations are always given priority in the planning and execution of all works

# Quality

PEMEC is committed to quality of services provided to customers and to implement a process of continual improvement to benefit the company and customer. By conforming to the specific requirements stipulated in the agreements made with each customer, PEMEC provides services of quality based on skill, care and diligence. It works with the customers to develop technical, commercial and management solutions providing the best possible performance. Around the globe, every one of PEMEC can call on the knowledge and experience of the Group – enabling it to respond regardless of the scale, nature or location of the challenge.

# Risk Management

Manage risks and opportunities so as to improve the performance of its business.

To minimize its customers and its own exposure to risk PEMEC has developed a holistic approach to risk management encompassing the Company's strategy, its processes and procedures, and the attitudes and behaviors of its staff. Management and supervisory staff are responsible for complying with the procedures and generally for identifying and managing risk arising from their activities. By making risk an everyday concern of every one of the Company, PEMEC seeks to continuously improve the success of its projects and customers.







## Sustainability

PEMEC is committed to implement sustainability principles in all of its activities and to continually improve performances in this area. PEMEC aims at integrating three key aspects (economic, environmental and social) of sustainable development in operation practices and culture. PEMEC's mission is to use experience and ingenuity to create lasting value by delivering solutions that are locally and globally appropriate, economically viable, socially beneficial, durable, resilient and environmentally responsible.

## Future Prospects

PEMEC has come into being. It has a strong and noble vision to live with strong track record in its area of specialization. PEMEC is determined to secure its market position. With its excellent work, it aspires to consolidate strong position in the area of its activities and to generate unforced and appropriate growth without overextending beyond its capacity and calling into question of its independence. With the gradual achievement, PEMEC wishes to develop and diversify areas of services commensurate with the range of services it can offer.

# Management

High standard and quality can be delivered only through experienced expert professionals of highest acumen. PEMEC's commitment is to avail the services of most competent professionals in every area of specialization thereby ensuring trustworthy quality services to the valued client.





# COMPLETED PROJECTS

## 2x660 MW Coal Fired Thermal Power Plant

Consultancy services for Site Selection \ detailed Feasibility Study, IEE, EIA & SIA of 2 x 660 MW Coal Fired Thermal Power Plant.



**Client:** Rural Power Company Limited (RPCL)

**Location:** Patuakhali (Payra), Bangladesh

### PROJECT FEATURES:

**Start Date:** July, 2015

**Contract Value:** US\$ 80000.00

**Role on the Assignment:**

PEMEC in Association with Lahmeyer International (India) Pvt. Limited and Center for Environmental and Geographic Information Services (CEGIS).

**Completion Date:** May, 2017.

# COMPLETED PROJECTS

## Khulna 800MW LNG Based Combined Cycle Power Plant Project

Feasibility Study of Khulna  
800MW LNG based  
Combined Cycle Power  
Plant Project



**Client:** North-West Power Generation Company Limited (NWPGL)

**Location:** Khalishpur, Khulna, Bangladesh

### PROJECT FEATURES:

**Start Date:** March, 2016.

**Contract Value:** US\$ 130,250.00.

**Role on the Assignment:**

PEMEC as Sub-Consultant with Minconsult SDN BHD for detailed Feasibility Study.

**Completion Date:** March, 2017.



# COMPLETED PROJECTS

## 365 MW Combined Cycle Power Plant Project

Consultancy services for  
Construction of Ghorasal  
365MW Combined Cycle  
Power Plant Project



**Client:** Bangladesh Power Development Board (BPDB)

**Location:** Ghorasal, Bangladesh

### PROJECT FEATURES:

**Start Date:** January, 2014

**Contract Value:** US\$ 1, 302, 354.40

**Role on the Assignment:**

Owner's Engineering Services in association with O & M Solutions (Mauritius & Bangladesh)

**Completion Date:** December, 2017.

# COMPLETED PROJECTS

## 225-360 MW Combined Cycle Power Plant at Bhola

Pre- Feasibility Study of  
Bhola 225-360 MW  
Combined Cycle Power  
Plant Project



**Client:** Sterling & Onus Group

**Location:** Bhola, Bangladesh

### PROJECT FEATURES:

**Start Date:** September 2017.

**Contract Value:** US\$ 31,250

**Role on the Assignment:**  
Pre-feasibility study.

**Completion Date:** November, 2017.



# RUNNING PROJECTS



<b>Project</b>	<b>: Re-Powering of Ghorasal 3rd Unit CCPP</b>
<b>Owner</b>	: Bangladesh Power Development Board (BPDB)
<b>Assignment</b>	: Owner's Engineer
<b>Owner's Engineer:</b>	PEMEC in association with TUV SUD South Asia Pvt. Ltd., India.
<b>Location</b>	: Ghorasal, Bangladesh
<b>Capacity</b>	: 416 MW
<b>Fuel</b>	: Natural Gas
<b>EPC Contractor</b>	: Alstom (Switzerland) and China Machinery Imp & Exp. Corporation, China.
<b>EPC Cost</b>	: USD 140.437 Million
<b>Contract Value</b>	: USD 1.34 Million
<b>Status</b>	: On-going.



<b>Project</b>	<b>: Bibiyana South 400 ± 10% MW CCPP</b>
<b>Owner</b>	: Bangladesh Power Development Board (BPDB)
<b>Assignment</b>	: Owner's Engineer
<b>Owner's Engineer:</b>	PEMEC in association with Traceable India and O&M Solutions, Bangladesh.
<b>Location</b>	: Bibiyana, Habiganj, Bangladesh
<b>Capacity</b>	: 400 ± 10% MW
<b>Fuel</b>	: Natural Gas
<b>EPC Contractor</b>	: Samsung C&T Corporation and LNT India.
<b>EPC Cost</b>	: USD 288.26 Million
<b>Contract Value</b>	: USD 1.2 Million
<b>Status</b>	: On-going.



<b>Project</b>	<b>: Payra Thermal Power Plant (2 X 660MW).</b>
<b>Owner</b>	: Bangladesh China Power Company Limited (BCPCL)
<b>Assignment</b>	: Owner's Engineer
<b>Owner's Engineer:</b>	PEMEC in association with Minconsult SDN BHD, Malaysia & Shenzhen Engineering Co.
<b>Location</b>	: Payra, Patuakhali, Bangladesh
<b>Capacity</b>	: 2 X 660MW
<b>Fuel</b>	: Coal
<b>EPC Contractor</b>	: NEPC & CECC, China
<b>EPC Cost</b>	: USD. 1.6 Billion
<b>Contract Value</b>	: USD 14.9 Million
<b>Status</b>	: On-going.

<b>Project</b>	<b>: 1320 MW USC Coal Fired Power Plant project.</b>
<b>Owner</b>	: Sena Kalyan Sangstha (SKS)
<b>Assignment</b>	: Consultancy Services
<b>Location</b>	: Payra, Bangladesh
<b>Capacity</b>	: 1320 MW
<b>Fuel</b>	: Coal
<b>Sponsor Selection</b>	: On Process
<b>Consultancy Cost</b>	: USD 187500.00.
<b>Status</b>	: On-going.

# RUNNING PROJECTS



**Project : 100MW Grid Tied PV Solar Power Plant on BOO Basis.**

Owner : Sena Kalyan Sangstha (SKS)  
Assignment : Consultancy Services for Pre - Feasibility Study & Selection of Suitable Sponsor Partner.  
Location : Lalmonirhat, Bangladesh  
Capacity : 100 MWp  
Consultancy Cost : USD 93,750  
Status : On-going.



**Project : 100MW Dual-Fuel (HFO/Gas) Power Plant at Suitable Location on BOO Basis.**

Owner : Sena Kalyan Sangstha (SKS)  
Assignment : Consultancy Services for Pre - Feasibility Study & Selection of Suitable Sponsor Partner.  
Location : Any Suitable Location  
Capacity : 100 MW  
Fuel : HFO/Gas  
Consultancy Cost : USD 50,000  
Status : On-going.



**Project : Establishing 200-500MW PV Solar Power Plant in Joint Venture (JV) with Bangladesh Army (BA)**

Owner : Bangladesh Army (BA)  
Assignment : Consultancy Services  
Location : Swarnodwip, Noakhali  
Capacity : 200-500 MW  
Consultancy Cost : USD 50,000  
Status : On-going.



## **TOP MANAGEMENT**

**Engr. A.S.M. Alamgir Kabir**

**Chairman**



The Founder Chairman of PEMEC has the vision and mission to develop the Energy and Power system by working closely both with public and private sectors.

The former Chairman of Bangladesh Power Development Board (BPDB) has completed his graduation in Electrical Engineering from Bangladesh University of Engineering & Technology (BUET) IN 1975. He has 42 Years of Experience in Power Sector. He worked in different positions of public sector and contributed his expertise in power sector development of Bangladesh. He also advised a number of private sector companies as advisor in their effort to develop large & medium capacity Power Plant Projects including Coal, Combines Cycle Engine based and renewable energy power projects.

Mr. Kabir has extensive training on relevant areas such as Power Sector Reforms, Private Power Development of Bangladesh, Public-Private Partnership, Energy Regulation, Utility Regulation, Power System Planning, System Loss Study, Electricity Pricing & Commercial Operation, Power Distribution System Development, and Operation & Maintenance.

## **Engr. Kamrul Bari**

### **Chief Executive Officer (CEO)**



Kamrul Bari has 41 years of professional experience on construction and engineering, both in home and abroad. During the tenure of his professional service, he has worked in power sector mainly in the field of construction of transmission line and power plant project. His job in power sector has been planning and project management, tendering and project procurement.

He has vast experience of working in various power plants as a member of EPC design team to assist in the preparation of General Arrangement (GA) of the plant, monitoring and reviewing topographical survey, monitoring and reviewing geo-technical investigation and analysis.



# TOP MANAGEMENT

**Khondker A.Hafiz**

M.Sc. in Geography  
Vice Chairman  
Head of HR & Admin  
Email : *hafiz52@yahoo.com*



**Engr. Mohammad Abdul Jalil**

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**Engr. Md. Tahir Mian**

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Executive Director (Head of Generation)  
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**Engr. Bipad Bhanjan Sarkar**

B.Sc. in Electrical Engineering  
Executive Director  
(Head of IT, MIS and Document Control)  
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**Taslima Chowdhury**

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CONSULTANCY  
ENGINEERING  
PROJECT DEVELOPMENT  
O&M SERVICE  
OWNER'S ENGINEERING SERVICE  
IT DEVELOPMENT

As an independent center of excellence, deliver the state of art design and effective engineering management solutions and services that are innovative, safe, cost effective, efficient, affordable, environment-friendly, technically superior and upholding top-tier quality with ethical standards to clients, at home and in abroad, in power and energy production, distribution and management services.

PEMEC has emerged with the central objective of aiding entrepreneurs seeking to meet the growing energy needs of Bangladesh with expert consultation, bearing that skill services in other areas could also be catered given its multi-sectorial knowledge-base.



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