



**MARSZ ELECTRICALS**

FROM VISION TO REALITY

IN ASSOCIATION WITH

**BNN**

**DETAILED  
SAFETY  
AND  
ENERGY  
AUDIT**

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**ENERGY IS LIFE**



**CONSERVE IT**

**AN ESCO COMPANY  
EMPANELED WITH  
BUREAU OF ENERGY  
EFFICIENCY, GOVT. OF  
INDIA, MINISTRY OF  
POWER**



# OUR PROFILE

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MARSZ association with BNN is a reputed developer, manufacturer and service provider.

All our Technical products are the best in performance, and provide complete reliability to the users. Under the visionary leadership of our mentors, we are well-known brand of Industrial and commercial sectors in the national market. Bureau of Energy Efficiency, Govt. of India, Ministry of power empanelment as an Energy Service Company is our credential.

# THE OBJECTIVE

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**MARSZ** association with **BNN** a Mumbai, based **ESCO (Energy Service Company)** empaneled with **Bureau of Energy Efficiency, Govt. of India, Ministry of Power.**

Engaged in developing an extensive range of innovative **PRODUCTS** to the customers of Various types of Industrial, Textile, Medical & Commercial sectors.

Acknowledged for reliability, innovative idea and availability with lower price. Our range of **PRODUCTS** is widely used in Saving Energy for LED Lights & Motor / Mixed Load, Harmonics Control, Solar Street Light, Power Factor control with or without capacitors and many other purposes.

## KEY POINTS

- Review of electricity bills, contract demand and power factor.
- Review of electrical network and distribution.
- Motors, pumps, %loading and efficiency.
- Performance evaluation of AHU / AIR conditioners / cooling towers etc.
- Performance evaluation of air compressors.
- Performance evaluation of furnace / boilers / turbines.
- Performance evaluation of dg sets.
- Power quality & harmonic analysis as per IEEE - 512 standards.
- Review of the hotspots within the electrical installations and equipment's using a thermal imager.
- Earthing pits and earth leakage current tests.
- Short circuit and over current trip tests for MCBS / ELCBS / RCCB.
- Compliance as per CEA 2010 standards and other statutory rules.
- Review of electrical protection system for overall electrical safety.
- Energy efficiency improvement & scope of energy saving recommendations.
- Fault identification and solutions with “**Priority action lists**” for safety and efficiency.
- To promote green building concept by electricity bill reduction.

## SCOPE OF WORK

- **REVIEW OF ELECTRICITY BILLS, CONTRACT DEMAND AND POWER FACTOR:**

For the last one year, in which possibility will be explored for further reduction of contract demand and improvement of power factor.

- **ELECTRICAL SYSTEM NETWORK:**

This includes detailed study of all the transformer operations of various ratings / capacities, their operational pattern, loading, no load losses, power factor measurement on the main power distribution boards and scope for improvement if any. The study would also cover possible improvements in energy metering systems for better control and monitoring.

- **STUDY OF POWER QUALITY:**  
Power quality & harmonic analysis as per IEEE–519 standard and evaluation of cable losses etc.
- **STUDY OF MOTORS AND PUMPS LOADING:**  
Study of motors (above 10 kw) in terms of measurement of voltage (V), current (I), power (KW) and power factor and there by suggesting measures for energy saving like reduction in size of motors or installation of energy saving device in the existing motors.
- **STUDY OF AIR CONDITIONING PLANT:**  
W.R.T measurement of specific energy consumption i.e KW / TR of refrigeration, study of refrigerant compressors, chilling units, etc. Further, various measures can be suggested to improve its performance.
- **COOLING TOWER:**  
This would include detailed study of the operational performance of the cooling towers through measurements of temperature differential, air / water flow rate, to enable and evaluate specific performance parameters like approach, effectiveness etc.
- **PERFORMANCE EVALUATION OF BOILERS:**  
This includes detailed study of boiler efficiency, thermal insulation, survey and fuel gas analysis.
- **PERFORMANCE EVALUATION OF TURBINES:**  
This includes detailed study of turbine efficiency, waste heater recovery.
- **PERFORMANCE EVALUATION OF AIR COMPRESSOR:**  
This includes detailed study of air compressor system for finding its performance and specific energy consumption
- **EVALUATION OF CONDENSER PERFORMANCE:**  
This includes detailed study of condenser performance and opportunities for waste heat recovery.
- **PERFORMANCE EVALUATION OF BURNERS / FURNACE:**  
This includes detailed study on performance of furnace / burner, Thermal insulation survey for finding its efficiency.

- **WINDOWS / SPLIT AIR CONDITIONERS:**  
Performance shall be evaluated as regards, their input power vis-a-vis TR capacity and performance will be compared to improve to the best in the category.
- **ILLUMINATION:**  
Study of the illumination system, lux level in various areas, area lighting etc. And suggest measures for improvements and energy conservation opportunity wherever feasible.
- **DG SET:**  
Study the operations of dg sets to evaluate their average cost of power generation, specific energy generation and subsequently identify areas where in energy savings could be achieved after analyzing the operational practices of the dg sets.

## **THE FIGURES**

The detailed energy audit goes beyond quantitative estimates of costs and savings. It includes engineering recommendations and well-defined project, giving due priorities. Approximately 90% of all energy is accounted for during the detailed audit. Sophisticated instruments including Air flow meter, Water Flow meter, Thermal Temperature scanner, Stroboscope & Data Loggers are used to compute energy efficiency. The entire recommendations would be backed up with techno-economic calculations including the estimated investments required for implementation of the suggested measures and simple payback period. Measurement would be made using appropriate instrumentation support and continuous recording of the operational parameters. We encourage green building initiative by implementing energy savings concept with reflection in monthly electricity bill.

## **Work Completion**

From the date of receipt of work order, and the draft energy audit report is submitted thereafter in two weeks. Finalization of energy audit report is normally completed within a Month.

# CLIENTS



MUMBAI CRICKET ASSOCIATION  
Indoor Cricket Academy And Recreation Center



THE TIMES OF INDIA



AND MANY MORE



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