SURGE engineering

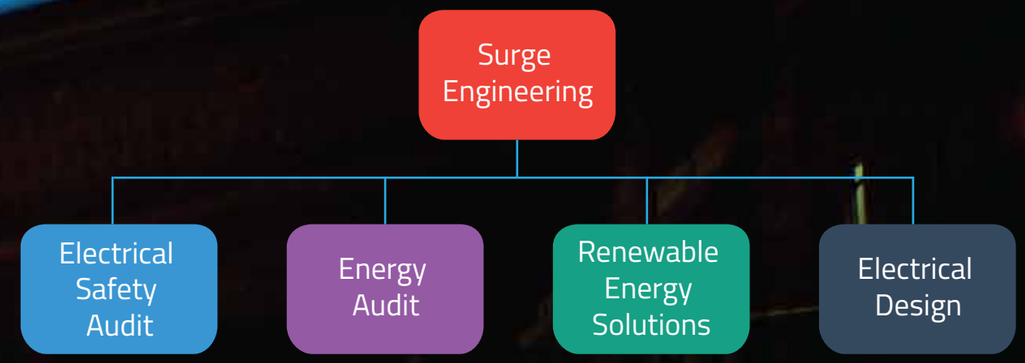
ELECTRICAL SAFETY AUDIT

About us

Our main focus is to provide industry specific services that are most vital in Bangladesh. The industries are going through a challenging situation regarding safety & energy issues. For the rapid growth of industries, uninterrupted & safe energy supply is mandatory. In recent times, we have witnessed numerous accidents in RMG sector caused by electrical system failure. The accidents not only caused loss in business but also created depletion in confidence among others. Moreover, Bangladesh is starving for a reliable energy source for a long time. The limited fossil fuel & the increasing cost of energy expedited the crisis to a greater degree.

The recent accidents in the RMG sector drew everyone's attention on the safety issues of this sector. Most of the accidents occur due to electrical faults- which indicate how important it is to audit the electrical system. Surge Engineering, with the experience to work with renowned international auditing firms is confident to diagnose the safety status of any electrical system. We are also enlisted service provider of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). We are also competent in electrical system designing & have the experience to work with country's leading construction firms.

Due to higher price of energy, it has become imperative to reduce energy loss & gain efficiency. The Government & international organizations are also asking the factories to improve their energy efficiency. As a Certified Energy Audit (CEA) from Association of Energy Engineers (AEE), we are working with innovative solutions for the factories to gain better efficiency. Renewable Energy is gaining its popularity as an alternative energy source. Based on the local scenario, we are providing the solution that will suit you the best.



Why SURGE engineering

Certified from Local & International Organizations.

Working with the state-of-the-art technology.

Experienced personnel in diversified fields.

Best solution within a very competitive price.

The Essentials of Electrical Safety Audit (ESA)

About ESA

Electrical safety is important for everyone. Employees working on electrical systems are at risk everyday. For the lack of proper electrical design, consciousness & negligence of safe working practices, the system becomes vulnerable. In recent times, we have witnessed numerous accidents in RMG sector due to electrical system faults. The accidents not only caused loss in business but also created depletion in confidence among others. So it is now high time to have an electrical Safety Audit to check the status of the electrical system.

Why ESA required?

An Electrical Safety Audit (ESA) is a systematic approach to evaluate potential hazards and to recommend suggestions for improvements. It is an important tool for identifying deterioration of standards, areas of risks or vulnerability, hazards and potential accidents in plants for determining actions to minimize hazards. It ensures that safety effort is effective & meaningful.

Lack of an in time Electrical Safety Audit can bring unexpected halt in daily business operation !!

Why ESA?

- Statutory Requirement
- Requirement of Financial Institutions (for loan or other purpose)
- Suggested by regulatory authorities.
- Process change/Plant capacity assessment
- Genuine management concern as a measure of improvement
- Part of Occupational Health & Safety (OH & S) policy of the organization
- Requirement of Foreign Partner.

Take a Quick Survey of your Electrical Safety Status:

Do you have an established Electrical Safety Program?
Yes No

Have you published an Electrical Safety Manual (ESM)?
Yes No

Does your ESM have clearly defined standards & Procedures?
Yes No

Have you recently preformed a site assessment?
Yes No

Have you created or updated your system's Single Line Diagram (SLD)?
Yes No

Have you located your safety hazards?
Yes No

Did you recently perform an Electrical Hazard Assessment?
Yes No

Have you determined your PPE requirements?
Yes No

Have you assessed thermal image of your Distribution Boards?
Yes No

Has your company conducted its Electrical Safety Training?
Yes No

Have you audited ESA after or before your capacity addition?
Yes No

If most of the answers are 'NO', then it is recommended to have an Electrical Safety Audit.

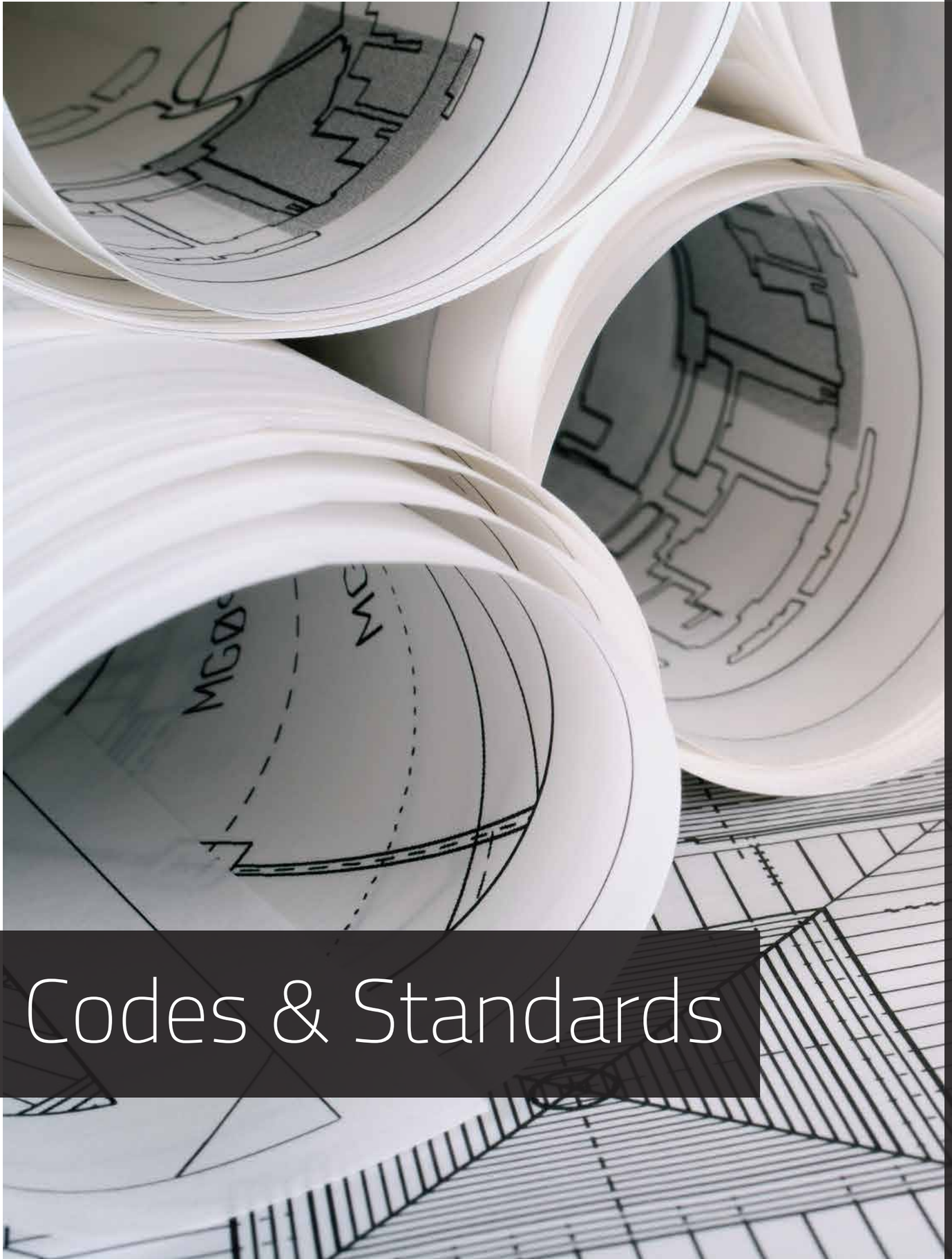
Find out your status

Scope of Work in ESA:

-Identification of Electrical Hazards (shock, fire, explosion etc)
-Review of protection devices & system of the electrical installation.
-Review of major cables on sampling basis capacity and sizing.
-Survey of factory Lightning Protection System if applicable.
-Survey of Earthing System (Maintenance Aspects)
-Review of Electrical Preventive Maintenance Program through document review.
-Examination of hand tools and Personal Protective Equipments (PPE) being used by the factory employees.
-Identification of Hot Spot at Electrical Panels by the state of the art instrument Thermal Imager.
-Review of system handling electrical accidents in the factory.
-Review of awareness amongst factory employees towards Electrical Safety.
-To check the compliance against legal & statutory requirement (Electrical Safety Aspects as per the applicable standards as below:

a) Bangladesh National Building Code (BNBC) – 2006
b) NFPA 70 Edition 2011

-Analysis of observation vis-à-vis regulatory requirements and best practices
-Identification of gaps and gap analysis



Codes & Standards

The following codes have been used to undertake the Electrical Safety Audit. Firstly, the BNBC (Bangladesh National Building Code) has been considered to evaluate the Electrical Systems. Then, the international and convenient codes have been taken and applied to check the systems and recommend the modification and safety. List of the Codes and Standards

BNBC

The Bangladesh National Building Code (BNBC) was made to regulate the technical details of building construction and to maintain the standard of building construction with the following two main objectives;

To provide safe and healthy habitat by regulating all activities related to buildings such as planning, design and construction.
To provide guidance for a uniform start of practice in planning, design, construction
aspects as well as service facilities such as electrical, mechanical, sanitary and other services.

The Code has been notified by gazette of the Government of Bangladesh and is a comprehensive document that can be used for legally binding codes of development in urban areas of Bangladesh. It covers planning administration and enforcement, general building controls and regulations, requirements for different uses, fire protection, building materials, design and services. Importantly, it also considers building use (occupancy classes), density and building height.

NFPA 70 : NEC

The National Electrical Code (NEC), or NFPA 70, is a regionally adoptable standard for the safe installation of electrical wiring and equipment in the United States. The NEC, while having no legally binding regulation as written, can be and often is adopted by states, municipalities and cities in an effort to standardize their enforcement of safe electrical practices within their respective jurisdiction. In some cases, the NEC is amended, altered and may even be rejected in lieu of regional regulations as voted on by the governing bodies of any given locale.

The NEC codifies the requirements for safe electrical installations into a single, standardized source. It is part of the National Fire Codes series published by the National Fire Protection Association (NFPA), and while not itself a U.S. law, NEC use is commonly mandated by state or local law.

Types of Audit

Pre Audit

Electrical system information collection

Visual Inspection & identifying risky zones.

Audit

Detailed Measurement & calculation.

Report preparation & recommendations.

Training to the concerned

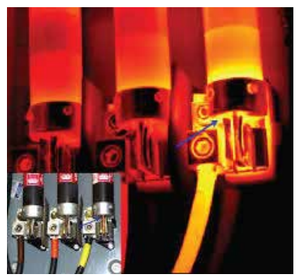
Post Audit

Check modification according audit recommendation.

Verification of the Audit.

Thermal Imaging Technology

Thermal imaging is the thermo graphic temperature measurement using Infra-red Camera. It is the state-of-the-art technology to locate hotspot in Distribution Boards or Cables. The thermal imager instantly diagnoses the accident prone region.



Surge Engineering is recognized by both foreign and local bodies.
Hence we can provide you services that will be widely accepted both locally and internationally.

Recognitions:

Member of Association of Energy Engineers (AEE).
Certified Energy Auditor (CEA).
Certified Electrical Safety Auditor (GIZ & TÜV SÜD).
Member of Institution of Engineers (IEB), Bangladesh.
Enlisted as a designer at RAJUK.

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