CEEAMA™
Consulting Electrical Engineers Association of Maharashtra

CEEAMA Live Wire

E-NEWSLETTER

Published by Consulting Electrical Engineers Association of Maharashtra

Happy Diwali

Topic for October 2025
ENERGY AUDITS

"Inside: This month's hot topic and smart reads..
Do solve the quiz at the end..!!

Electrical Consultants Newsletter
Volume No. 4 Issue #53
October 2025

CEEAMA Governing Council
Directors

Mr. Chidambar Joshi
Hon. President

Mr. Ulhas Vajre
Hon. Secretary

Mr. Anil Bhandari
Hon. Treasurer

Directors

Mr. Narendra Duvedi

Mr. Mohan Kelkar

Mr. Ulhas Vajre

Mr. Krishna S. Chandavar

Mr. Veejhay Limaaye

Mr. Subhash L. Bahulekar
Chief Editor - CEEAMA LIVEWIRE

From the Editors Desk,

Wishing all our beloved members and readers, a very Happy and prosperous Diwali!!!

While closing our "chopdi" of the previous year and opening a new one on the auspicious day of Laxmi-pujan, may Maa Laxmi bless us all with lots of wealth while Lord Ganesh and Maa Saraswati bless us with prosperity and wisdom in real sense!

First and foremost, please accept my sincere apology on behalf of our Newsletter publishing team for our inability to publish LiveWire September issue. Humbly regret for any inconvenience caused to our most loveable readers!

Energy Audit, although I know it's a cliché, is a very niche subject. Thanks to the Bureau of Energy Efficiency initiative few years ago, we have now enough Energy Auditor and managers to help industry manage the energy consumption in a very optimised manner. Our former president, Mr. Narendra Duvedi has great expertise in the subject and has been kind enough to present this article on AI development in Energy Audit.

CEEAMA's 14th Annual General Meeting (AGM) was held as scheduled on Tuesday, September 30, 2025 at 4:00 p.m. (IST) at Four Points by Sheraton Navi Mumbai achieving all AGM related objectives. **Highlights:** √ LiveWire efforts had a special mention. √Veejhay Limaaye sir's last year's achievements had a special mention. √ Interactive presentation & Felicitation of Krykard Director by Mr. Ulhas Vajre. √ Brief presentation on PE bill by Mr. Narendra Duvedi. √ Website improvements, CSR registration, CEEAMATECH exhibition & seminars were discussed.

CEEAMA is grateful to all members who attended this AGM and proposed positive and concrete changes spurring further growth of our industry!

Once again, needless to say, we would like to encourage each one of you to participate and spread the word in your groups, amongst your colleagues, clients and vendors and make this wheel of knowledge run continuously for benefit to our fraternity. Our CEEAMA LiveWire committee takes lots of efforts for the same. Do join us in this "**maha-yagya**"!

As we enter the last phase of the eventful year 2025, let us remember to remain safe and spread the safety word to the world!
Happy Year end and festive season to all our members!!!

Subhash L. Bahulekar
Chief Editor – CEEAMA

From the President's desk:

Dear Friends,

Many thanks for making the AGM 2025 held in Vashi successful. We also would like to thank the event sponsors Attandra Krykard.

An important point that came up in the AGM were the dwindling number of new LFMs joining CEEAMA. It is felt that the vibrancy in the Association would come alive with a breath of new talent and young leadership. This can be achieved if each one of us act as ambassadors of the Association. I recall the advise received in another association – 'Member get Member'. We can attempt to get more members to share their ideas and grow more. With more LFMs we can make our Association rise to newer heights.

According to a report, while the heavy monsoon in Maharashtra this year brings the "good" side of water-richness beneficial to reservoirs and some hydro-generation, the net impact on the electricity sector in the state is mixed but leaning more towards challenge than comfort. The distribution network and supply chain are being strained by extreme weather, flooding, and infrastructure damage. If the state and utilities proactively manage maintenance, resilience upgrades and emergency response, this period could serve as a catalyst for strengthening the grid. But if damage and outages become frequent, consumer confidence and utility finances will be negatively impacted.

Area of Concern	Observed Impact During Monsoon 2025
Distribution Network	Damage to poles, conductors, insulators, and transformers due to high winds and flooding
Substations	Water ingress in control rooms and cable trenches; corrosion of equipment; forced shutdowns
Generation	Logistic challenges for coal supply and access; overflows at hydro plants
Transmission	Tower footing erosion, lightning faults, and tripping during storms
Urban Power Supply	Outages due to precautionary shutdowns in flood-prone zones
Financial Impact	Escalation in restoration cost and revenue loss for utilities like MSEDCL

Most electrical designs today only meet the minimum IS/IEC code requirements. With extreme monsoon events becoming frequent, the consulting community must design for resilience, not just compliance. Consultants can design substations, panels, and control rooms for flood immunity (raise plinth level above 100-year flood mark; specify IP65/IP67 equipment where needed), specify waterproof glands, corrosion-resistant hardware, and high-insulation materials for humid environments, include redundant feeders, etc. Consulting engineers can insist that electrical layouts be coordinated with civil drainage design, a chronic gap in metro, municipal and many other projects. By embedding features such as undergrounding critical 11 kV and LT feeders in urban areas, in every DPR, tender, and client recommendation, consultants can transform monsoon challenges into design opportunities, making the state's and Client's electrical infrastructure future-proof.

Friends, CEEAMA is changing. The website will be revamped, and some additional features will be planned. Please feel free to write to admin@ceeama.org regarding your suggestions and ideas for the revamp. We will discuss and implement your ideas after the Governing Council consensus.

Have great festive days in October, but don't forget to be safe!

Here's wishing you a very healthy, wealthy and a safe Diwali. Also wishing you a prosperous and Happy New Year (Diwali Padawa). Take care!

Mr. Chidambar Joshi
Hon. President
CEEAMA

From the Secretary's desk:

Dear Members,

Consulting Electrical Engineers Association of Maharashtra,

As October sets in, it brings a moment of clarity; a pause between the year's momentum and its final push. For us in the electrical engineering and consulting domain, it's a time not only to reflect on progress but to recalibrate for the challenges and innovations that lie ahead.

This month is symbolic in many ways. The clear skies and festive atmosphere signal transition — reminding us that just like nature, our work too thrives on adaptation and thoughtful design. Whether it's navigating evolving energy policies, integrating smarter technologies, or fostering sustainable solutions, our role as consultants remains pivotal in shaping the future of infrastructure.

October also aligns with key national observances — from Gandhi Jayanti, which inspires values of integrity and simplicity, to Dussehra, symbolizing the triumph of knowledge over ignorance. These ideals resonate deeply with our commitment to ethical practice and technical excellence.

As we enter the final quarter, let's continue to build with purpose, collaborate with intent, and innovate with responsibility. Here's to a month of progress, balance, and professional growth.

During the FY 2024-25, two events of CEEAMATECH were planned and organised in a befitting manner. On the similar grounds CEEAMATECH 2025-26 is being planned and hopefully organised before March 2026.

One of the October theme is Energy Conservation, - which makes consulting Electrical Engineers fraternity to look for more energy efficient, safe and sustainable products and services in executing various projects and is the need of the hour!

Best Regards,

Mr. Ulhas Vajre

Hon. Secretary

CEEAMA

DISCLAIMER

The information in all the articles of CEEAMA LiveWire is compiled using references from various sources. Although every attempt has been made to ensure the accuracy of this material, neither CEEAMA nor any of its contributors to this publication assumes responsibility for any inaccuracies or omissions in the data presented. For use in practice, we strongly advise that, information utilized from this publication should be verified from the relevant sources and to use document of actual standard published by respective institution.

Artificial Intelligence in Energy Optimization

Leveraging Real-Time Data in Manufacturing Plants

Every year effects of climate change are becoming more and more evident throughout the world. One of the reasons for this cited by scientists is emission of excessive greenhouse gases ... majority led by Carbon Dioxide (almost 75%).

Major source for release of carbon dioxide is

a) Direct use of fossil fuels like coal, oil, natural gas, biofuels, etc. in Industry
b) Use of electricity produced using fossil fuels (almost 60%).

Energy quantum directly contributes to cost of production. Both the above effects increase if use of energy increases in any process, equipment or application and more carbon dioxide is released. So, in view of this optimizing use of energy becomes very important so that we will be able to offer sustainable future to new generations by minimizing devastating effects on climate.

Bureau of energy efficiency (BEE) founded under energy conservation act 2001 in India is working on standardized specific energy consumption for core industrial energy guzzlers like cement, steel, oil and gas, textile manufacturing, etc. BEE also works on equipment Labeling giving "Star" labels to energy efficient equipment on the scale of 1 to 5; 5 being most efficient.

All this demands selection of energy efficient equipment and forming an energy efficient system and continuous monitoring of such energy efficiency. Many a times, system efficiency deteriorates due to lack of routine maintenance.

Following is the definition of Energy Audit as per BEE: -

"Verification, monitoring and analysis of the use of energy, including submission of a technical report containing recommendations for improving energy efficiency with cost-benefit analysis and an action plan to reduce energy consumption"

Every equipment / process in manufacturing industry has its own ideal "specific energy consumption". For example, paint manufacturing requires some kWh/ltr. based on technology used. A pump requires say 1000kW input to motor to develop 600kW hydraulic power in the liquid getting pumped in terms of "Head' and "Flow" required by the process or storage / transportation requirements.

As a standard practice, during energy audits, energy auditors – who are "subject matter experts", visit the site with their portable measuring equipment, collect the input/output data from different equipment/ processes and calculate efficiencies/specific energy consumption. If found less than Industry benchmarks, the auditors investigate the reasons and recommend modifications in system and/or in operating practices to increase efficiency. They also calculate required investments and paybacks possible due to cost of energy saved.

Manufacturing plants have energy-intensive operations, with utilities like compressed air, chilled water, steam pumping; consuming a significant share of total energy. Conventional energy audits, conducted onsite at intervals, provide useful insights but are limited by the snapshot nature of their data collection. In contrast, **Artificial Intelligence (AI) integrated with real-time data collection systems** is transforming energy optimization by offering continuous, predictive, and adaptive solutions.

Real-Time Data Collection in Manufacturing

Modern plants are equipped with electrical and non-electrical sensors, IoT devices, and SCADA systems that capture data on:

- Equipment loads (motors, compressors, chillers, furnaces, pumps, etc.)
- Process parameters (temperature, pressure, flow rates, etc.)
- Power quality (voltage, current, and harmonics)
- Environmental conditions (humidity, and ambient temperature)

The real time digital data collection technology is now matured and offers consistent results for longer duration. This real-time data becomes the backbone for AI-based analytics, enabling **dynamic optimization** rather than periodic adjustments.

Role of AI in Energy Optimization

1. Anomaly Detection and Predictive Maintenance

- AI algorithms can detect deviations from normal energy patterns, such as a compressor consuming more power than expected for a given load.
- Early alerts help in identifying issues like leaks, fouling, and overall inefficiencies before they escalate into costly failures.

Example - use case:

In a steel plant, AI detected unusual power consumption in a rolling mill motor. Further investigation revealed bearing wear, allowing preventive maintenance and avoiding a breakdown that could have caused 12 hours of downtime.

2. Load Forecasting and Demand Management

- AI models forecast energy demand based on production schedules, weather data, and historical consumption.
- This enables plants to shift loads to off-peak hours, reduce demand charges, and negotiate better utility contracts.

Example - use case:

A food processing unit used AI load forecasting to shift refrigeration loads away from grid peak hours, reducing annual electricity bills by nearly 8%.

3. Process Optimization

- AI identifies correlations between process parameters and energy use.
- Recommendations are generated to optimize setpoints in furnaces, distillation columns, or HVAC systems for minimal energy use without compromising quality.

Example - use case:

In a chemical plant, AI optimized furnace air-to-fuel ratios in real time, reducing specific energy consumption by 5% and cutting CO_2 emissions.

4. Integration with Renewable Energy and Storage

- AI dynamically balances renewable sources, energy storage, and grid power.
- Optimizes when to draw from batteries versus grid to minimize costs.

Example - use case:

A textile mill integrated rooftop solar with AI-driven scheduling. The system maximized solar utilization during the day, and optimized battery use during evening peak tariffs.

5. MIS generation and analysis of energy bills.

- Daily MIS reports can be prepared by monitoring system with complete removal of manual intervention saving lot of manpower and introducing more transparency.
- Energy bills received by the plant can be uploaded directly into cloud based portal (Manual data entry completely avoided) and analyzed for optimizing the energy charges by deciding real time mix between grid power, PPA, Solar, captive, etc.

Example - use case:

A plant had installed oversized roof top solar PV system and was exporting about 6000 kWh every day. Plant would have received a credit of about Rs. 15,000/- per month from utility at the end of financial year. AI identified some feeders where this energy could have been consumed by shifting load from nonsolar periods. as soon as it is generated. Once the arrangements were done for this, plant started saving Rs. 75,000/- per month.

Advantages of AI enabled cloud based energy optimization platform Over Onsite Spot Energy Audits

Aspect	Traditional Spot Audits	AI with Real-Time Data
Data Coverage	Snapshot, limited to a few days	Continuous, 24x7
Insights	Based on averages and observations	Granular, predictive, dynamic
Fault Detection	May miss transient or seasonal issues	Captures anomalies in real time
Decision-Making	Periodic recommendations	Continuous optimization
Cost Savings	One-time measures	Sustained savings over time
Maintenance	Reactive or scheduled	Predictive, condition-based
Energy saving	Opportunities identified with small data samples. Getting direct actionables is difficult.	Real time actionables are delivered by the tool – which can be passed on to operators.
Expert guidance	Available only during audit.	Available in real time and continuous.
Number of sensors required	More, as all parameter data needs to be collected to prepare engineering model of equipment for analysis.	AI offers advantage of using optimum sensors with inbuilt “trend analysis” algorithms to generate actionable insights to save energy.

Additional Benefits

- **Improved Sustainability:** Continuous reduction in energy intensity lowers carbon footprint.
- **Operational Reliability:** Fewer equipment failures due to predictive insights.
- **Scalability:** AI systems can be extended plant-wide or across multiple sites.
- **Workforce Enablement:** Engineers spend less time on manual data collection and more on strategic improvements.

Conclusion

Usually “Good Energy Audits” conducted at plant require substantial payouts to energy auditors. If these amounts are spent on fixing “In line instrumentation” on various guzzlers, REAL TIME continuous energy audits are possible. AI-driven energy optimization, powered by real-time data, is not just an incremental improvement over traditional audits—it represents a paradigm shift. By enabling predictive insights, continuous monitoring, and adaptive process optimization, AI delivers sustained cost savings, reliability, and environmental benefits. For manufacturing plants aiming to stay competitive in a resource-constrained world, the integration of AI in energy management is no longer optional - it is esential.

Contributed By:
Narendra Duvedi

BEE certified energy auditor.
Chartered engineer.
Past President CEEAMA

Step by Step Guide on "Cause of Electrical fire" in "Existing Main panel" in meter room "Proposed Low Voltage Switchgear" to Prevent Fire as per Indian and International Electrical Commission (IEC) standards

1, Introduction: Electrical Fire in Main Meter Room. Cause and Remedy

- Every day we read newspapers 1 or 2 electrical fires in electrical installation in meter rooms.
- **This will cause loss of life, billions of rupees loss, damage to property, and loss of power.**
- **Cause**: Electrical Fire is due to open wires connection. Loose connections will cause **"ARC and FIRE".**
- **Remedy:** "Proposed Low Voltage Switchgear" is enclosed in sheet metal as per IEC Standards.
- **In India, 56% of the fire in Industry and Buildings are due to Electrical, Reference 3**
- The video will give a better understanding. Open YouTube Video: On the Link, "click ctrl+mouse left side".
- Electricity is dangerous. This is for your information. Any Electric work must be done by a professional

2, Electrical Standards:

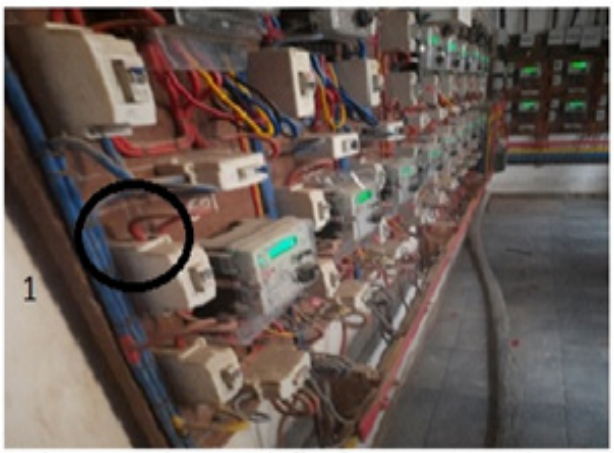
- Purpose and Objective of Electrical Standards: Electrical safety against shock, prevent fire, arc, burn from arc, Explosion, and isolation of electrical supply.
- International Electrotechnical Commission (IEC) standards: based in Geneva, Switzerland. They have developed electrical standards and are followed in the world.
- **Indian Electrical Standards are as per IEC standards.**

3, Existing Electrical Installation in Meter room: Deficiencies

I observed an "**Important deficiency"** existing main panel in meter rooms as mentioned below. Attached are photos of recently constructed high-rise 20 stories buildings in Mumbai. This was observed also in other buildings.

(1) Fuse holder with fuse: We cannot "**SWITCH OFF"** electricity immediately in case of fire.
(2) Open Wires connections in meter room: "Loose connections" in wires are a cause of major Fires.

circle 1, Main supply from to Fuse Figure 1
Circle 2, Open busbar with PVC Tape.



Circle 1, Supply to each flat from MCCB with open wires with many wires connections, Figure 2

Cause of fire in Existing Electrical Installation in a Meter Room			
	Existing	**Deficiencies**	**Comment**
Fig 1, Circle 1	The main supply is fed to the fuse with a fuse holder. We cannot **"Switch OFF immediately"** IN CASE OF FIRE. 1,	If fuses are removed, it will cause an arc. Guards are not trained.	**May be a fire in a complete building. This is a very serious matter.**

Circle 2	Live busbars are with an insulating tap.	A child or person's touch. May be loss of life	Open busbar
Fig. 2 Circle 1	Many Open wires and cables connections are to MCCB and meter for each flat	Loose connections will create arc and fire.	Loose connections are the main cause of fire.

1, Electrical equipment must be isolated immediately in case of fire, emergency, electric shock, and maintenance.

4, Loose Connections in wires and Cables are a cause of arc and fire: Cause and remedy

https://youtu.be/nPhgQpRFe5A Loose connections cause of fire

https://youtu.be/L5s3Q2BlZdM Loose connections cause of the fires

Temp. sensor for early alert

Thermal camera

- **Why do cables and wires connection become loose**? they are tightened during installation.

	Cause	Remedy 1 Wireless Temp. alarms 1,	Remedy 2 Thermography camera
	Improper torque to tight. Vibration. The temperature is cold and hot. Low and high current. Arc and thermal runway (increase in temp.). PVC, plastic, and insulation will melt and overheat cables and fire.	**Early detections**: Monitors temp of busbars and cables with sensors. High temp. alarm will send early alerts before equipment fails.	**Infrared thermography: This can be used in open live panel. NFPA, USA standards, Specialized work protect from ARC.**
1, W**ireless Temp. alarms, Remedy 1:** The most effective way to prevent fire. **"Easy to report"** early alert temperature alarm and **faster response** than remedy 2. widely used. **Reference 3, Excellent Guide**			

5, Case Study:

Times of India, May 23, 2023, Fire breaks out at a 14-storey residential building in Mumbai. In meter room.

Link: https://timesofindia.indiatimes.com/city/mumbai/fire-breaks-out-at-14-storey-residential-building-in-mumbai/articleshow/99008191.cms

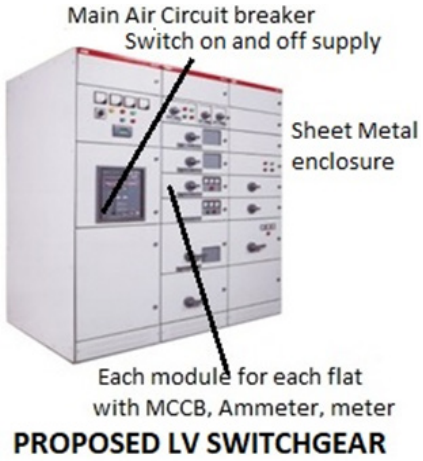
6, Proposed Low Voltage Switchgear up to 1000V in meter room, IS/IEC standard 61439:

- **Indian and European Standards "Low Voltage Switchgear" is based on IEC standard 61439.** Reference 2.
- It provides terms of **Protection, Isolation, safety, and power availability.**
- **Metal-enclosed:** A switchgear assembly is completely enclosed on all sides and tops with sheet metal.

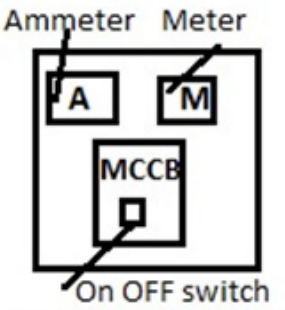
1, Four Basic Functions of LV Switchgear:

1. Electric Protection of cable and equipment	2. Isolation of equipment	3. Local or remote switching of electrical equipment	4. Safety Aspects. Protection against
Overload Short circuit Insulation failure	Isolation **immediately** in case of fire, shock, maintenance, and emergency.	Functional switching Emergency switching Emergency Stopping Switching off to maintain	Electric shock Risk of fire from Arc Risk of fire from cable fault Risk of explosion

2, Proposed LV Switchgear, Metal-enclosed on all sides:



PROPOSED LV SWITCHGEAR



Module of each flat


Temp. sensor for early alert

Proposed LV switchgear in a meter room to prevent fire			
Nr.	**Item**	**benefit**	**Comment**
1	Main Air Circuit Breaker	Switch off immediately in case of fire by push button	Main fundamental is isolation of electric items.
2	All busbars, breakers and wiring are enclosed in sheet metal	No Open wire or a loose connection to create a fire	No open busbar so no risk of shock
3	Supply to each flat is from a module with MCCB, Ammeter, Meter	No open wires and loose connections to create fire	All wires inside sheet metal enclosure
4	A wireless temperature sensor is to measure temp. The most effective way to prevent fire.	Early Alert for temperature to prevent fire	Most effective than Thermal cameras

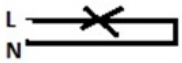
7, Arc Fault Detection Device (AFDD) to prevent Fire due to ARC and loose connections

Inside your house: **Link:** https://youtu.be/UtOmau4ym1Q AFDD Protective device prevents fire from ARC

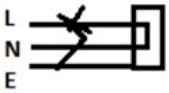
Arc Fault Detection Device to prevent fire in a house due to arc and loose connections			
Nr	**Standard**	**Installation**	**Comment**
1	National Electrical Code (NEC): USA	**Mandatory** in Residential Buildings, 110V	Since 2015, Cost Rs. 2,000/-
2	IEC standards, Europe	Recommended in high-rise buildings, hostels, Senior Citizens, etc.	Combustion Materials storage, etc. Ref. 3, 4
3	British Standards, BS7671:2018	**Mandatory** for sockets, in high-rise buildings of more than 6 floors. 230V	Other Suggestions as per IEC. The cost is Rs. 8,000/-
4	**National Electric Code, India, 2023**	**AFDD is included in the code. 230V**	

AFDD installation criteria

- **High, about 50 stories buildings are constructed.**
- My personal Opinion, AFDD to be installed in Socket, if possible, all circuits in Electrical Panel in house. Final decision, Manufactures' advice as per standards. Schneider, ABB, Siemens, L&T and others.
- 2 bedroom, 10 circuits. AFDD, Rs. 8,000/- with RCBO (MCB+ELCB30mA) each circuit. cost Rs. 2,000/-
- Total cost of Electrical Panel will be Rs.1,00,000/-



Arc from cut wire



Arc from LE fault

Arc Fault Detection Device (AFDD)

8, Training of Engineers and electricians on LV switchgear as per IS/IEC Standard 61439.

- LV Switchgear is a vast subject and "important equipment" to supply electricity to buildings and Industry.
- **The best option for engineers and electricians** is to "attain offline and better hands-on," training on LV switchgear from manufacturers: L&T, Schneider Electric, Siemens, and ABB companies, etc.

9, Summary:

Nr.	Cause	Remedy	Comment
1	Meter room, the existing Main switch is from a fuse and fuse holder**. It cannot switch off immediately**	LV Switchgear, metal enclosure with Air Circuit Breakers. Switch off by push button	**Fire may spread to complete building**
2	A meter room, Existing open wires and loose connections are the cause of a fire	LV switchgear with metal enclosure will enclose all wires	All wires are in metal enclosure. No Fire.
3	Cut and Loose connection in a wire in house will cause an arc.	Use AFDD in DB. Recommended in IEC for high-rise Bldg., hostel, etc.	Use in the USA since 2015.
4	Electric fire in LV switchgear and cable installation.	Wireless temperature alarm sensors are the most effective	Widely use.

10, Conclusion: How to prevent Fire in meter room?

- Install "Low Voltage switchgear" as per IS/IEC standard 61349
- **The government Regulations committee should discuss with the electricity supply authority to implement.**
- If readers are interested. they can pursue the matter with the "Government and Electricity Supply Authority"
- Training of Engineers and Electricians as per standards.
- If any other suggestions and comment on this article to implement, you can write to the author.

Prevent "Fire" in meter rooms will benefit the loss of life and save billions of rupees for us, family, society, and future generations.

11, References:

(1) https://www.voltimum.co.uk/articles/low-voltage-switchgear-selection-key-0

- Low voltage switchgear selection: key considerations as per BS based on IEC 61349

(2) https://www.electrical-installation.org/enwiki/LV_switchgear:_functions_and_selection

- LV switchgear: Functions and Selection Guide as per IEC standards by Schneider Electric Company, France.

(3) "Electrical installation Guide," as per IEC standard, 60364, 2018, published by Schneider Electric company. You can download the complete Guide online for free. 500 pages. Very Useful in practice and widely used.

Suggest to Read: Chapter E, LV Distribution. Chapter F, Protection against electric shock and electrical fire. Chapter G, Sizing and protection of conductors, cables. Chapter Q, Residential Premise, and special locations.

(4) Electrical Fire Prevention Guide 2021 by Schneider electric company, France. **Excellent Guide**, 42 pages.

Link: https://download.schneider-electric.com/files?p_Doc_Ref=998-20623657_GM

Contributed by:

Gajaria Gokal, B.E. and M.E. (USA), Mobile: 9870374990, E Mail: gajariaa@hotmail.com

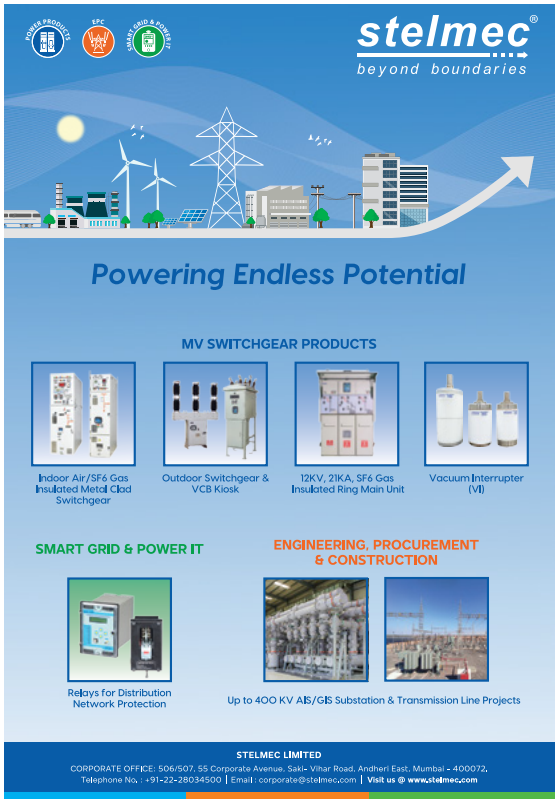
Working in US NAVY, exposed to international standards as below:

- International Electrotechnical Commission (IEC), standard, 60364, Electrical Installations in Buildings, Europe.
- British Standards, 7671:2018. Requirements of Electrical installations.
- National Electrical Code (NEC) (USA). "Electrical Installation in Residential Buildings and Industrial Plants".


MECO®
SINCE 1962
Complete Range of Panel & Switchboard Meters and T&M Instruments
Panel Meters
Multifunction Meters
Electrical Transducers
Digital Multimeters
Clampmeters/Tong Testers
Insulation Testers
Earth Resistance Testers
Infrared Thermometers
Environment Instruments
ISO 9001-2015 Certified Company
MECO INSTRUMENTS PRIVATE LTD.
sales@mecoinst.com www.mecoinst.com
+60 YEARS
ONE MISSION
Reliable
Long-Lasting
Affordable


ANUROOP
SWITCHGEAR CO.
139, Kasba Peth, Near Kasba Ganpati,
Pune - 411011. Maharashtra.
Ph : 020 29996184.
SWITCHGEAR
CONTROL PANEL INPUTS
WIRES & CABLES
SYSTEM ACCESSORIES
INDUSTRIAL ELECTRICALS
Authorised Channel Partner
Anuroop Promise
Variety
Quality
Low Prices
Service
Guidance
SCAN QR TO SAVE CONTACT
We specialize in all types of electrical goods & components required for wide spectrum of Industries
Call : 8149923453 • 9834263605 E-mail : anuroop.swg@gmail.com


legrand
DPX3
NEW ELECTRONIC PROTECTIONS FOR MOULDED CASE CIRCUIT BREAKER
A new approach and concept of configurability and management for electronic circuit breakers, with enhanced ergonomy and features
PRODUCTS
APPLICATIONS
TECHNICAL CHARACTERISTICS
ADVANTAGES


stelmec®
beyond boundaries
Powering Endless Potential
MV SWITCHGEAR PRODUCTS
SMART GRID & POWER IT
ENGINEERING, PROCUREMENT & CONSTRUCTION
STELMEC LIMITED

WINNERS OF QUIZ
AUGUST 2025

RENUKA PRASANNA KELAPURE

MANGESH BHOSALE

SAGAR JAGADALE

MAHESH GHARAT

JAYWANNT S.THORAT

Congratulations

QUIZ OCTOBER 2025

1. Safety earthing is meant to carry electric currents into ground:
   A. Under normal conditions
   B. Under fault conditions
   C. Both A & B
   D. None of the above

2. Standard voltage levels in UAE:
   A. 765kV, 220kV, 66kV, 33kV, 50Hz.
   B. 400kV, 132kV, 11kV, 240V, 50Hz.
   C. 380kV, 230kV, 115kV, 69kV, 400V, 60Hz
   D. 110kV, 200kV, 33kV, 380V, 40Hz

3. Environmental pollutants related to electrical industry
   A. SF6
   B. PVC
   C. Asbestos
   D. All of the above

4. Which oil in transformer has been replaced with mineral oil?
   A. Poly Chlorinated Biphenyl
   B. Lithium Ion
   C. High Density Diesel
   D. Natural Esters

5. IEC--- recommends the rated insulation levels for electrical equipment to withstand temporary and transient over voltages:
   A. IEC-61439-3
   B. IEC-62271-1
   C. IEC-62947-2
   D. IEC-61034-12

6. Tests which are mandatory tests that are required to be conducted on one sample of each type, in its life time:
   A. Routine tests
   B. Type Tests
   C. Special Tests
   D. Functional Tests

7. Major system study modules in power system simulation software are:
   A. Load flow/power flow analysis
   B. Harmonic analysis
   C. Transient or dynamic stability
   D. All of the above

8. The_____ provides a bird's eye view of power system:
   A. Plot Plan
   B. P&ID
   C. SLD
   D. Control Schematics

9. Load Break type disconnector make or break:
   A. All current upto rated load
   B. Insignificant current
   C. Short circuit current
   D. Significant over load load current

10. Solar heat gain/radiation factors are considered for the sizing of:
A. Copper XLPE cables laid open to air
B. Outdoor cable trays
C. Tubular conductors
D. Transmission lines

Rules for the QUIZ:

- The Quiz will be open for 10 days from the date of EMAIL.
- Each correct answer received on DAY 1 will get 100 points
- Next days the points will reduce as 90 – 80 – 70 and on 10th day points will be ZERO even if the
- answer is correct.
- All participants will receive E certificate signed by CEEAMA President with the points earned
- mentioned on the same.

Please use following google form link to participate in the QUIZ.

https://forms.gle/DbpUSFkBf25VYQst5

"Thank you all for the overwhelming response to the E-NEWS in general and E-Quiz in particular. MCQ based quiz is always tricky and surprisingly can take us aback when we realise our conceptions (misconceptions) about the subject / system / product.

The aim of the feature was to create inquisitiveness in your mind and help you check your technical quotient quickly. The response will also help us to present articles and webinars on subjects which are important, but which lack enough awareness / knowledge in general.

It can open a pandora box for our discussions and arguments and probable solutions. Engineering evolves with conception. It gets fuelled with community discussions and capitalist actions. All stakeholders start realising the need to take a closer look and help improve standards as we have seen in the past century. Surely it makes the world a better place.

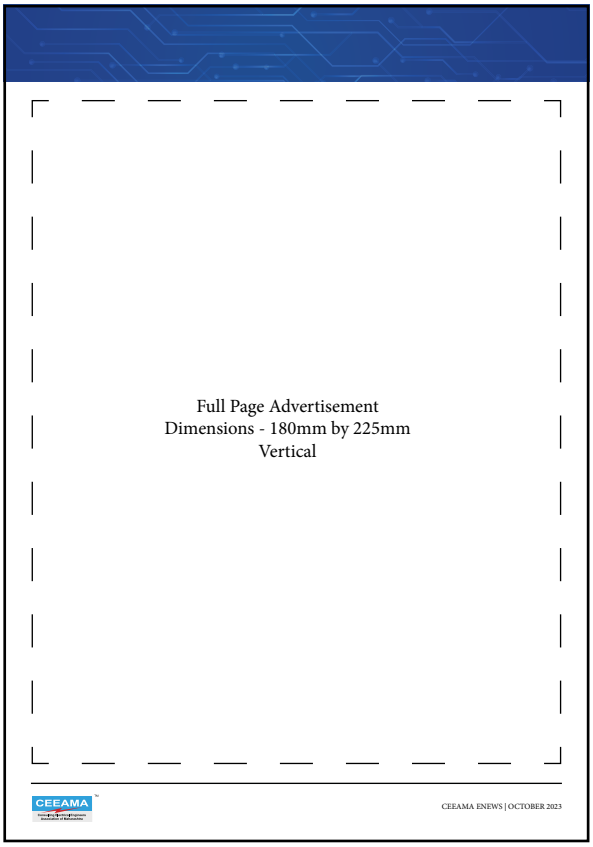
Wish you all a better luck this time.

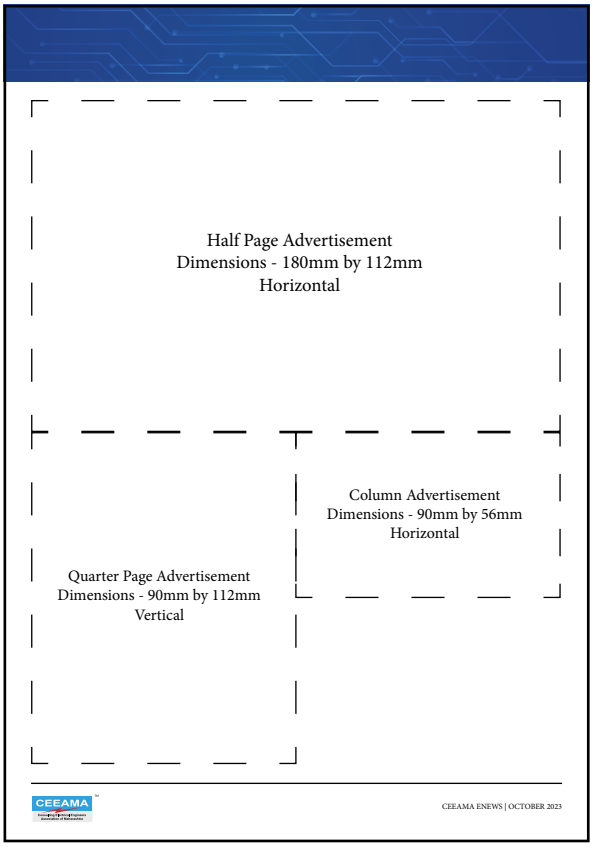
Do spread the word.

August 2025 Quiz Answers

1. C. 320mm
2. B. 170kV peak
3. A. 12kV, 1250A, 25kA (3s) with VCBs
4. D. All of the above
5. C. India
6. B. 0% slip
7. B. A
8. C. 16mm/kV
9. B. 1000m
10. A. Rung type Ladder trays

ADVERTISEMENT RATES





Above given layouts are only for understanding the advertisement sizes. Actual positions of ads may vary as per space available in the issues.
Below given rates are for advertisement size and number of issues published monthly.

E-Newsletter Ad	3 months	6 months	9 months	12 months
Full Page Ad	INR 1000/-	INR 2000/-	INR 2700/-	INR 3300/-
Half Page Ad	INR 800/-	INR 1600/-	INR 2200/-	INR 2800/-
Quarter Page Ad	INR 600/-	INR 1200/-	INR 1600/-	INR 2100/-
Column Ad	INR 400/-	INR 800/-	INR 1000/-	INR 1400/-
Website Ad	INR 1000/-	INR 2000/-	INR 2700/-	INR 3300/-

GST @18% will be additional on all the above rates.

Please send the E-Newsletter Advertisement in PDF or JPG format ONLY.
Please send the Website Advertisement in JPG or PNG format ONLY.

CEEAMA™
Consulting Electrical Engineers Association of Maharashtra

CEEAMA *LiveWire*

E-NEWSLETTER

Published by Consulting Electrical Engineers Association of Maharashtra

Electrical Consultants Newsletter
Volume No. 4 Issue #53
OCTOBER 2025

A-103. Sanpada Railway Station Building, 1st floorSanpada East, Navi Mumbai – 400705
Email: admin@ceeama.org