

CEEAMA E-NEWS

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Electrical Consultants' Newsletter

November 2019

From President's Desk.



Dear All, Greeting's from President. !!!

I am sure all of you must have enjoyed the Diwali festival and are back to work with the lingering memories of the Diwali.

CEEAMA is also gearing up for the forth coming programs for the members. There are Round Table conferences no. 5 and 6 in Pune and Mumbai. This will happen in December and January. The dates and details will be

communicated to each member.

CEEAMA is organizing one day conference on "RELEVANCE OF INDUSTRY 4.0, FOR ELECTRICAL ENGINEERING PROFESSIONAL". An information brochure has already reached to each of you. Now we expect the response from our members. With this I appeal all of you to register for the conference as delegate. Also help your CEEAMA to get new members, sponsorship by way of stall booking, and other branding opportunities which are available. I expect the names of prospective Delegates/ New Member / Sponsor to be informed to myself, secretary or any GC member you know. We will do the necessary follow-up for making it happen.

For CEEAMA E-news our every month e-magazine, reaches @ 7000 persons in our industry. We require your participation by writing articles on various topics. Few suggested topics are, new technology, new construction methods, new design tool to make the designs user friendly and economically viable. You may also share your experiences on - how a problem is solved using basic design tools to achieve required results.

With this I conclude my words.

Suhas Keskar.

Hon. President.

Upcoming Events

 Interactive session at ABB India Ltd. Mumbai on Journey to Industry 4.0- IOT Based ABB Ability EDCS on 16th November 2019

Whats New: What's next for smart homes: An 'Internet of Ears?'

Report : Report of Roundtable Conference - Mumbai, On 11th October 2019



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Whats New

What's next for smart homes: An 'Internet of Ears?'

Houses have been getting progressively "smarter" for decades, but the next generation of smart homes may offer what two Case Western Reserve University scientists are calling an "Internet of Ears."

Today's smart home features appliances, entertainment systems, security cameras and lighting, heating and cooling systems that are connected to each other and the Internet. They can be accessed and controlled remotely by computer or smart-phone apps.

The technology of interconnecting commercial, industrial or government buildings, someday even entire communities, is referred to as the "Internet of Things," or IoT.

But a pair of electrical engineering and computer science professors in the Case School of Engineering have been experimenting with a new suite of sensors. This system would read not only the vibrations, sounds -- and even the specific gait, or other movements -- associated with people and animals in a building, but also any subtle changes in the existing ambient electrical field.

While still maybe a decade or so away, the home of the future could be a building that adjusts to our activity with only a few small, hidden sensors in the walls and floor and without the need for invasive cameras.

Mandal the researchers said they have used as few as four small sensors in the walls and floor of a room. As for privacy concerns, Mandal said the system would not be able to identify individuals, although it could be calibrated to recognize the different gaits of people.

"The first advantage will be energy efficiency for buildings, especially in lighting and heating, as the systems adjust to how humans are moving from one room to another, allocating energy more efficiently," Huang said.

Another benefit could be the ability to track and measure a building's structural integrity and safety, based on human occupancy -- which would be critical in an earthquake or hurricane, for example, Huang said.

Source: {hyperlink - "https://www.sciencedaily.com/releases/2018/11/181115083009.htm" \t "_blank" }

Contributed By Mangesh Shirgaonkar

Report of Roundtable Conference – Mumbai

On 11th October 2019

- 1) Welcome address was done by Hon. Secretary. Then CEEAMA activities were informed to all.
- 2) Initial presentation by moderator Mr. Ajit Kulkarni on Codes, Standards, Regulations, Acts, Law, Rules was done. Pointers in these are as bellow-

ACT -

- Originally there is Bill,
- Passed in both houses
- · Approved by President
- Turns to be act
- Act is approved by the parliament.
- · Creates new law or Amendment in existing act
- It is regarding particular subject
- Contains various provisions
- In short a formal decision by a legislature to operate or function in a particular way.

LAW-

- Enforced by Government
- By Authority in form of legislation
- Policies by Authority
- Enforced by judicial decision
- Rule or collection of rules prescribed by state or nation.

Rules-

- Standard methods as per Act
- Procedures as per Act
- These are formed by inherent power given in Act
- In case of contradiction between Rule and Act then provisions of Act prevails.

Regulations-

- They are by-laws
- · Or subsidiary legislations added to the acts
- Provides guidelines for how the act should be applied.
- It can even be as part / exceptions of the act if not applicable

Code-

- · Systematically arranged collection of :
- Laws, Rules or Regulations & Any set of standards
- Enforced by a local government agency
- F.G.
- An electrical code is a set of regulations for the design and installation.

Standard-

- A level of quality or attainment.
- Measure, norm or model in comparative

- Principles
- To describe things which are usual and normal.
- Written definition.
- Limits
- Rules

Approval and monitored for compliance by:

An authoritative agency / professional / recognized body.

Standards may be classified as

- Government or statutory agency standards and specifications enforced by law,
- Proprietary standards developed by organization and placed in public domain
- Voluntary standards available for use by any person, organization.

Subsequently various standards used by electrical engineer were discussed. Salient points of presentation were as—

As per British Standards -

- Standard is an agreed way of doing something.
- About making a product,
- Managing a process,
- Delivering a service
- Supplying materials

The International Organization for Standardization (ISO)

- ISO creates documents that provide –
- requirements.
- specifications,
- guidelines
- that can be used to ensure that materials, products, processes and services are fit for their purpose.

International Electrotechnical Commission IEC-

- Leading standard making organization
- In the field of all electrical, electronic and related technologies
- IEC and ISO work together closely and coordinate their work.
- IECs goal are improved conditions for fair trade and transparent markets through global harmonization.

European Standard (EN)-

- Recognized as competent in the area of technical standardization as for the EU Regulation 1025/2012.
- European Standards (ENs) are documents that have been ratified by three European Standardization Organizations (ESOs), CEN, CENELEC or ETSI
- Although they deal with different fields of activity, CEN, CENELEC, and ETSI
 cooperate in a number of areas of common interest, such as the machinery sector
 or information and communication technologies.

Bureau of Indian Standards-

• BIS Is the National Standard Body Of India

- Working under Ministry of Consumer Affairs, Food & Public Distribution, Government of India.
- Came into existence, through an Act of Parliament on 1 April 1987
- For the Harmonious Development of The Activities Of Standardization
- It is engaged in the preparation and implementation of standards,
- Operation of certification schemes both for products and systems,
- Organization and management of testing laboratories,
- Creating consumer awareness and maintaining close liaison with international standards bodies.
- To include goods, services and systems, process.
- · Certification ISI certified products
- Prevention of import of sub-standard products.
- To implement mandatory hallmarking of precious metals articles.
- To strengthen penal provisions for violations.

National Electrical Code 2011

The National Electrical Code takes into account:

- Several Indian Standards
- IR Rules
- IE Act
- Dealing with the various aspects relating to electrical installation practice.
- Several product standards
- So, recommended that individual Parts/Sections of the Code should be read in conjunction with the relevant Indian Standards.

National Building Code of India, 2016

- It is a comprehensive building code for regulating the building construction activities across the country
- It is prepared to unify building regulations for government departments, municipal bodies, and other construction agencies.
- Planning commission has entrusted BIS to make this document.
- Then guiding committee comprising experts was formed to prepare this document.
- This code contains regulations which can be immediately adopted or enacted for use.

Other Standards which are used – National Lighting Code, ECBC Code

After this presentation on 'Standard', Round Table discussion was taken up on 'Specification'. Few points which came on surface are as –

- Specification writing in Tender is very important and must cover-
- Standard number,
- Detail specification,
- · Manufacturing process,
- Testing
- Considerations for Rules, Regulations, Statutory bodies circulars, Supply company's circulars.
- Designing related points which must be considered in line with codes / standards
- There should not be any deviations
- Old standards should not be used

- Prior to making specification, site visit should be done
- Environmental conditions must be checked
- Sometimes non-standard is written which is excessive than requirement. This needs to be avoided.
- It will be better to have common standard.
- While making specification each time new specification to be done instead of copy paste.

Subsequently few products related points and specification were discussed. Few points came out of the discussion are-

- Fire survival cable whenever to be used then specific standard of BS 7846 needs to be mentioned.
- Fire alarm cable should be as per BS 7629 needs to be mentioned.
- Use of only PVC armored cable to be avoided as will not sustain fire.
- Global trend of Low Smoke Zero Halogen cables to be considered.
- Panels covering by specifications IEC / IS 60947 are not fully tested. Hence IEC 61439 which is new standard to be used for panels. In which there are twelve important points are covered.
- Termination of cables are big issue. Hence proper spacing for termination to be given.
- Panels needs to be complied with IEC 62443 against cyber threat.
- While specifying light fixture wattage, lumens needs to be mentioned.
- UGR value needs to be given.
- Installation procedure to be covered in specification.
- In many cases, apart from lux level candela to be provided as per requirement.
- Emergency lighting topic to be taken up by IS.
- IS should consider about the prices which are very high.
- Who are not following specification for those penal action needs to be taken. This topic needs to be informed government.
- Sensitivity should be from both side while using and implementing standard from consultants, users and government bodies.
- Penal action powers need to be given to electrical inspector.

There was good participation from all participants.

On this positive notes and good concluding points round table Conference ended after Vote of Thanks.

Contributed By Ajit Kulkarni

2nd Round Table Meeting on

Importance of codes and standards in Electrical Design on 11th October 2019, Mumbai











