Engineering Staff College of India

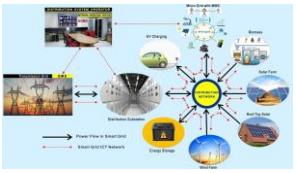
Autonomous Organ of The Institution of Engineers (India)

Old Bombay Road, GachiBowli, Hyderabad – 500 032.Telangana, India

POWER & ENERGY DIVISION

CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMME

Implementation of IoT in Transmission & Distribution



(On-line Course)

28 – 30 November, 2023

From 11:30 to 17:15 hrs (4 Hours 30 Minutes per day)

Online Interactive Sessions | Digital Learning | Experts Online Support

Introduction

Two most important challenges in the power system are blackouts and load forecasting. In India, more than 30% of electrical energy is lost in the process of transmission. Fault conditions in the transmission system will lead to power system blackouts – this fault is for the most part sudden – and it is difficult to locate the failure. One of the most appealing applications of IoT is also extended in load forecasting. Hence, now-a-days, all utilities in the Power Industry should compulsorily have smart meters to support this IoT based smart load forecasting.

IoT technology used in overhead transmission lines not only carry out line status monitoring but also improve the perception of power transmission line in operation condition, including meteorological conditions, ice cover, ground wire breeze vibration, conductor temperature and sag, transmission line windage yaw, tower inclination and others. To study the reliability of this concept, National Institute of Standards and Technology (NIST) developed a conceptual model for the smart grid to set the stage for a better understanding of the smart grid technology. The NIST conceptual model consists of seven domains, viz: bulk generations, transmissions, distributions, consumers, markets, operations and service providers. The implementation of IoT in power system must rely on the line monitoring and real-time control in all aspects of the grid operating parameters, and the basic characteristics are grid information, communication, and automation. Meanwhile, IoT technology is used to implement:

1. Comprehensive perception
2. Reliable transmission
3. Intelligent processing.

Fusing both – IoT and machine learning, technologies will definitely help the mankind to overcome real-time difficulties. It will be able to effectively integrate the infrastructure resources in communications and electrical power system, increase the level of power system information, and improve the utilization efficiency of infrastructure in the existing power system. If IoT technology is used in the smart grid, important technical support – real time monitoring, maintenance assist, fault location detection for the generation, transmission, substation, distribution, electricity and other aspects of power grid can be effectively provided.

Objectives

The objective of this programme is to provide closer understanding of Internet of Things and Smart grids for use in transmission and distribution applications.

Course Coverage

- Internet of Things- Introduction, Current Scenario & Applications
- Distribution management system (DMS)
- Phasor Measurement Unit (PMU) & Wide Area Management System(WAMS)
- Asset Monitoring/Management
- Outage management systems (OMS)
- Customer information systems (CIS)
- Supervisory control and data acquisition system (SCADA) for Distribution & Transmission
- IoT Applications in Energy Management & Smart grids
- Applications of IOT in Renewable Energy

Methodology

Methodology of the programme includes Digital Learning through LMS Platform, Interactive sessions with audio visual aids, discussions, sharing of experiences etc. Online sessions will be conducted through Cisco Webex App.

Target Participants

Power Engineers and Managers from Power Utilities both Private and Public, Organizations connected with power Transmission and Distribution.

Benefits to the participants

- Capacity building with Knowledge sharing from well experienced domain specialist.
- Reading material will be emailed to all participants who have registered.
- A Certificate of participation will be awarded to each participant on conclusion of the programme

Programme Dates & Timings

Dates: 28 – 30 November, 2023 (4 Hours 30 Minutes per day)

Online Session timings will be from 1130 to 1715hrs with breaks in between for tea and lunch.

Programme Director

Er. Vidya Sagar Ubba, FIE
(Former CGM, TSSPDCL)
Head & Sr. Faculty – Power & Energy Division
(Mob:8179559990)

Course Fee

₹ **9,000/- Plus 18% GST= Rs.10, 620/-per participant**

Group Discount : 10% discount for three (3) or more participants if sponsored by the same organization.

(All discounts are applicable only if fee is received at ESCI a week before the commencement of the programme)

ESCI`s : **GST No:** 36AAATT3439Q1ZV. **PAN No:** AAATT3439Q

The payment may be made by Electronic Fund Transfer (EFT) to ESCI – SB A/c No. 33705165550 with The SBI, Manikonda Branch, GachiBowli, Hyderabad – 500 032 by NEFT / RTGS / IFSC Code No: SBIN0011076 – MICR No: 500002107. **While using EFT method of payment, please ensure to communicate us your company name and programme title.**

Registration

Online registration shall be available on ESCI **web portal** :www.escihyd.org

To register manually please send your nominations giving details of name, designation, contact address, email address, mobile no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to : **pe.esci@gmail.com/ pe@escihyd.org**

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