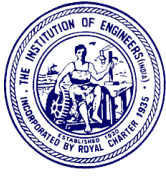




# Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. TS, India



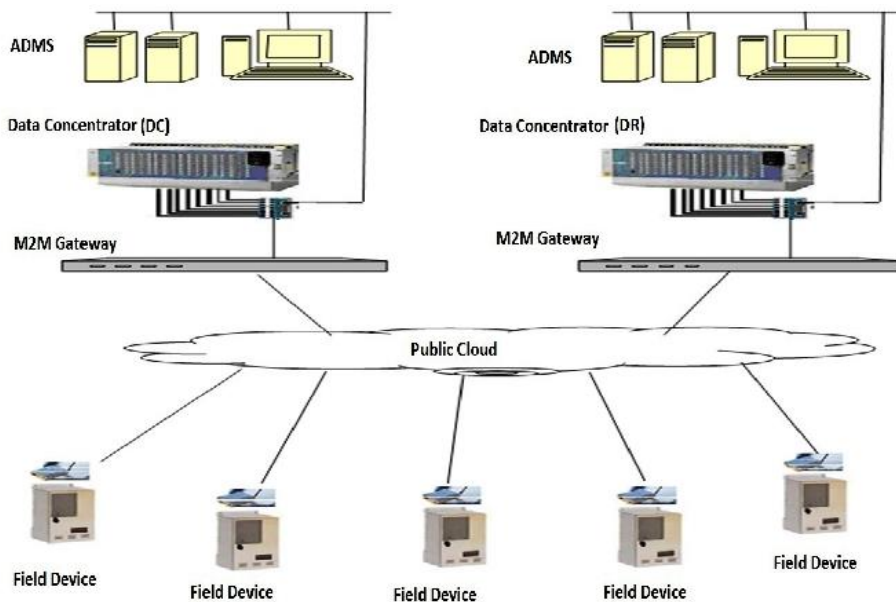
## POWER & ENERGY DIVISION

Classroom Continuing Professional Development Programme on

# Distribution Automation & SCADA

28 – 30 August, 2024

at ESCI, Hyderabad



(An IMS Certified (ISO 9001:2015 QMS, ISO 14000:2015 Env'tl. Mgmt., ISO 45001:2018 (OH&SM), ISO 50001:2018 EnM), AICTE & CEA Recognized Institution)

Centre for Promotion of Professional Excellence

## **INTRODUCTION**

Utilities in the power distribution segment are adopting new technologies to lower their losses, increase revenues, improve power quality, ensure proper energy accounting, enable data-driven decision-making, and deliver better services to consumers. Automation helps DISCOMs provide real-time insights, reduce the operational cost, and foster an efficient and secure working environment.

Some of the technologies being implemented by discoms for providing reliable power are underground cabling, supervisory control and data acquisition system (SCADA) at the sub-transmission level, distribution management system (DMS) or distribution automation (DA) at the 11 kV level and outage management systems (OMS) at the 415V level.

## **SCADA/DMS**

At the sub-transmission level, the grid substation and automation system and SCADA provide centralized control and monitoring of substations. SCADA remotely monitors the power system, facilitates supervisory control of devices and provides decision support tools to improve system performance. Therefore, it reduces the chances of manual errors and eliminates the risk of equipment damage. It also ensures a safe work environment, faster restoration of supply and improved reliability indices like system average interruption duration index, system average interruption frequency index, and customer average interruption duration index.

At the 11 kV distribution level, DMS and DA enable centralized monitoring of the distribution network, and faster identification and restoration of faults. DA consists of a network of digital sensors, controllers and switches, with advanced communication software, which provides increased visibility across the system, and proactively controls and monitors the equipment, load, remote metering, etc. It requires integration with SCADA, OMS, GIS, customer relationship management, business communication management, call centre solutions and smart meters. DMS applications include feeder reconfiguration, fault location invocation, fault isolation and service restoration, load flow application, state estimation, volt/var control, load shedding, load balancing, and load management and loss minimization. DA drives efficiency, reliability (through reduced outage time), volt-var management (real-time power losses optimization) and productivity of the utility (lower outage costs), among others.

Distribution automation (DA) uses digital sensors and switches with advanced control and communication technologies to automate feeder switching; voltage and equipment health monitoring; and outage, voltage, and reactive power management. Automation can improve the speed, cost, and accuracy of these key distribution functions to deliver reliability improvements and cost savings to customers.

## **OBJECTIVE**

The objective of the program is to provide a comprehensive view of Distribution Automation and implementation of SCADA in DISCOMs.

## **COURSE COVERAGE**

- Implementation of SCADA for 33KV/11KV Substations of DISCOMs, Configuration of SCADA & Smart Grid Simulation System
- Load Control of HT Consumers, Automatic Meter Reading
- Feeder automation incl. Fault Localization, Sectionalizes & Auto-reclosures Restoration of supply & Load Balancing, 11KV Feeder Controls LV System Controls, DSM, On- line Energy Audit, Integrated Voltage/ VAR Control
- Smart Energy Meters for Domestic Consumers- Functionalities, Components, Data Exchange, Smart Prepayment Meters

- Advanced Metering Infrastructure (AMI)-Benefits- Operational, Financial, Customer, Security, Introduction of AMI in Indian Context, System Components, O&M of AMI Components, Challenges in Implementation of Smart Meters Implementation in AMI, Service Level Agreements Overview, Role of AMI in reducing AT&C Losses
- AMI System for Communication & Design aspects for technological mapping, Scalability of AMI, Head End System along with Standardization
- Meter Data Acquisition System & Meter Data Management System, AMI-Network Design & Mapping Issues for Home Area Network, Neighbor Area Network, Testing Validation Process for Smart Meters, AMI & Smart Meter Integration, Automatic Mapping & Facilities Management, Trouble Call Management
- Case Studies & DISCOM SCADA Centre Visit

## **METHODOLOGY**

The programme will be conducted in an interactive environment providing greater scope for discussions. Emphasis will be on a highly participative style of learning. The classrooms are provided with latest audio – visual teaching aids. The ambience in the campus and classrooms facilitate in effective learning by participants.

## **FACULTY**

Apart from Core Internal Faculty, Consulting Firms, Government Organizations, Manufacturing, Academic and Research Institutions etc. will share the sessions.

## **TARGET PARTICIPANTS**

Power Engineers and Managers from Power Utilities both Private and Public, Organizations connected with Distribution Companies

## **PROGRAMME VENUE, DATES & TIMINGS**

Engineering Staff College of India (ESCI) Campus, Old Bombay Road, Gachi Bowli, Hyderabad - 500032, Telangana, India.

## **DATES**

**28 – 30 August, 2024**

## **TIMINGS**

On the first day registration will commence at 0900 Hrs. On all other days the programme timings will be from 0945 to 1715 hrs with breaks in between for tea and lunch.

## **ACCOMMODATION**

Participants will be accommodated in our Executive Hostel located within ESCI Campus. The accommodation will be on twin sharing basis.

## **COURSE DIRECTOR**

**Er. Vidya Sagar Ubba, FIE**

Head & Sr. Faculty - Power & Energy Division, ESCI  
(Mob: 8179559990)

## **COURSE FEE**

**Residential Fee** is Rs.16,500/- per participant. Residential fee includes Course Material, Course Kit, and Twin-sharing / Single AC accommodation as per availability, Breakfast, Lunch, Dinner, Tea / Coffee and Snacks.

## **DISCOUNTS**

**Non-Residential Fee:** 10% discount on course fee is allowed for non-residential participants.

**Group Discount:** 10% discount for three 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)**

**GST @18% (as applicable)** is to be paid extra over and above the training fee. ESCI's **GST No. 36AAATT3439Q1ZV, PAN Card No. AAATT3439Q.**

The course fee is to be paid in favour of **“IE (I) – ENGINEERING STAFF COLLEGE OF INDIA”** in the form of demand draft payable at Hyderabad.

Alternatively the payment may be made by **Electronic Fund Transfer (EFT) to ESCI – Current A/c No. 33705165550** with The SBI, Manikonda Branch, Gachi Bowli, 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, ESCI invoice reference and programme title.

Online registration is available on ESCI website. To register, manually please send your nominations (**10 days** prior to date of commencement of the programme) giving details of name, designation, contact address, email address, mobile number, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to:

### **Head, Power & Energy Division**

Engineering Staff College of India

Gachi Bowli, Hyderabad – 500 032

Phone: 040–6630 4170 to 4176 ; 040-6630 4173 / 4176, Fax: 040 –66304163

Email:pe.esci@gmail.com / pe@escihyd.org; Website: www.escihyd.org

**CERTIFICATE:** A certificate of participation will be awarded to each participant on conclusion of the programme.

## **GENERAL INSTRUCTIONS**

- ESCI encourages participants to present case studies from their respective organizations.
- For the convenience of the outstation participants ESCI will facilitate pickup and drop from Airport / Railway Station / Bus Stations, if travel plans are received at least 3 days in advance along with mobile number by fax or email. The charges shall be paid by the participants directly to the cab driver.
- ESCI provides complimentary accommodation to participants a day prior to the commencement and after the conclusion of the programme. (Check in at 12:00 hrs a day prior to the commencement & check out at 12:00 hrs a day after completion of the programme)
- Overstay charges of @ Rs.990/- per day / per head (Food will be charged extra).
- Well developed Information Centre and Internet facilities are available to the participants at free of cost.