Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

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

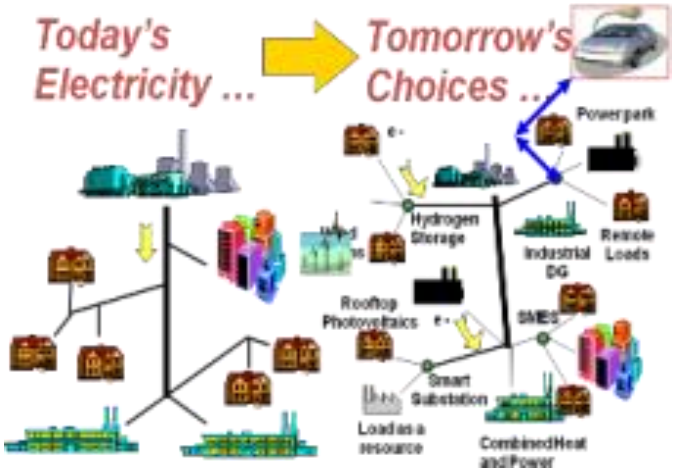
POWER & ENERGY DIVISION

Classroom Continuing Professional Development Programme on

Substation Automation and Smart Grids

11 - 14 June, 2024

at ESCI, Hyderabad



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

Centre for Promotion of Professional Excellence

INTRODUCTION

Substation is an important part of power system. Optimal operation of a substation improves reliability, quality of power besides improving operational economy by fully utilizing the loadable limits of various equipment. Substation automation fulfills this task. Critical issues related to substation automation like IEDs, communications, protocols for substation automation like IEC61850 will be covered in this programme.

In transmission and distribution Smart Grids have become popular with increasing complexity of power networks and addition of intermittent form of renewable energy like wind and solar energy to the grid. Phasor Measurement Units (PMUs)and WAMS have become necessary in increasing the security of the grid and faster clearance of faults on the system. Dynamic loading of transmission lines, depending upon the ambient conditions, is now possible with smart grids.

OBJECTIVE

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

COURSE COVERAGE

- Overview of Substation Automation
- Types of Substations and their layouts, various schemes & Components of Substations
- Functions and features of Smart Grid
- Monitoring, Control & Automation Principles for Power Systems
- Latest Trends in Digital Substations
- Communication Protocols for Substations
- IEC 61850 Standards Protocol for Substations
- IEC 61850 Compliant Substation Automatioin- Case Study
- Engineering & Configuration of IEC 61850 Automated Substation
- Earthing and Lightning Protection System
- Protection Control and Safety- Line Protection Relay, Bus bar, Transformer & Differential Protection Relay- Case Studies
- PMU & WAMS
- Renewable energy integration with Grid
- Substation Components Procurement, Pre- Installation Checks on it, Erection, Testing & Commissioning of Components
- Field Visit to IEC61850 Compliant- 220KV Substation

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 power Generation, Transmission and Distribution.

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

DATES

11 - 14 June, 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

Dr. V. Vidyasagar
Sr. Faculty - Power & Energy Division, ESCI
(Mob: 9421801203)

COURSE FEE
Residential Fee is Rs.22,000/- 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 **Provisional ID 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 – 23000336, 66304103
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 INFORMATION

- 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 including hospitality (Bed Tea / Coffee to Dinner) will be charged.
- Well developed Information Centre and Internet facilities are available to the participants free of cost.