

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

Micro grids - Smart Grids Issues & Challenges 25 – 27 September, 2023

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

The Indian Power Sector with approx. 401GW (As on 30.04.2022) installed capacity along with modernization of Indian Power Sector also with technological advancements and sophistication during last few decades has, in turn, been demanding trained man power. In addition, India is also likely to surpass 175 GW of Renewable Energy Target by 2022. Micro grids can help provide electricity even in the most inaccessible areas, supporting the grid during peak load and emergency situations, lowering transmission and distribution (T&D) losses, and meeting additional load in areas that have major right-of-way (RoW) issues, among other things. Further, micro grids operating on renewable energy sources and supported with energy storage systems (ESS) help in addressing the intermittency associated with renewable energy sources and in maintaining reliable power supply. Besides this, micro grids help in assessing the outcomes of smart grid projects in a cost-effective manner with the roll-out on a much smaller scale.

Micro grids offer an alternative path to smart grid development. A micro grid comprises almost all the components of a larger grid – power generation, power storage and distribution to user loads. However, it is operated on a much smaller scale and is usually locally owned and operated. Adopting smart technologies in a microgrid is much simpler and less costly than a smart grid. Since micro grids are designed to meet specific load requirements, new technologies can be selected to meet the specific needs of a much smaller target area of consumers. Therefore, micro grids could, in a way, serve as the incubator and operational test bed for innovative smart grid solutions. Micro grids provide the option to develop smart and small distribution entity and, in turn, behave like a smart grid in terms of efficiency and reliability.

OBJECTIVE

Micro grids hold the potential to significantly transform the power distribution segment by making it more resilient and aiding in expanding electrification coverage, among other things. However, it is necessary to ensure that microgrid installations are cost effective and that they operate within the desired voltage and frequency levels. The main aim of this course is comprehensive knowledge about the Micro Grids, ultimately as a part of Smart Grid to the participant.

COURSE COVERAGE

- Importance of emerging role of Smart Grids for future Power Systems
- Differences between Traditional Grids and Smart Grids
- Smart Grid Basics/ Overview and Evaluation of Micro Grid- Issues & Challenges in O&M of Micro Grids
- Comprehensive overview of Smart Grid Pilot Projects & On-going Smart Grid Activities in India
- Smart Grid for Distribution Network and Initiatives
- RE based Distributed Generation and Smart Grid of the future
- Grid Integration and Renewable energy storage, integration and prediction.
- Grid integration challenges and prospective solutions
- Load Forecasting, Demand Side Management (DSM), DER/DR/SCADA/EMS
- Reactive Power Management, PMU & WAMS
- Case Studies

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 Organisations, Manufacturing, Academic and Research Institutions etc. will share the sessions.

TARGET PARTICIPANTS

Engineers and Specialists / Planners from Power Utilities, Manufacturing Industries, Academia, Consultancy Firms, R&D Institutes.

PROGRAMME VENUE, DATES & TIMINGS

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

DATES

25 - 27 September 2023

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 – 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 (Food will be charged extra).
- Well developed Information Centre and Internet facilities are available to the participants free of cost.