



# Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

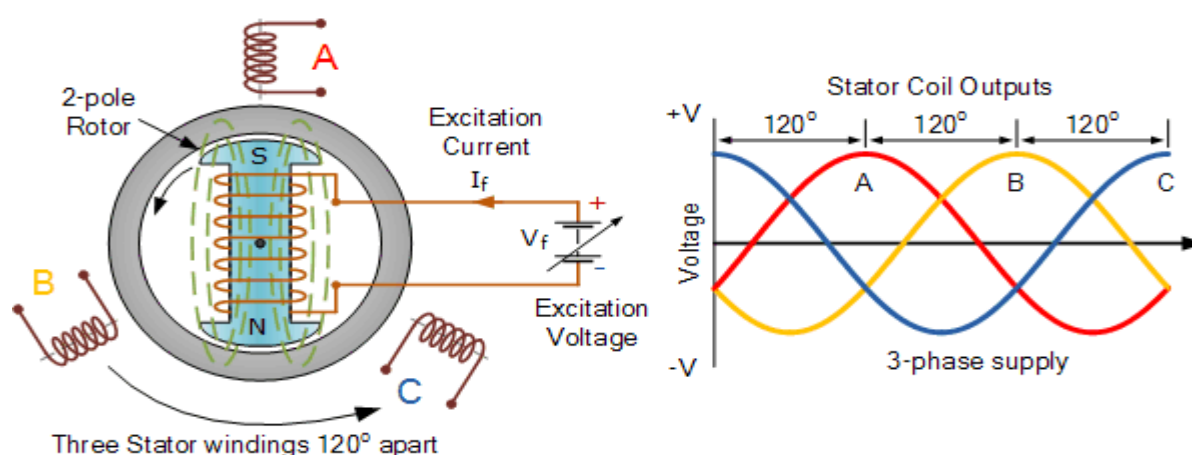
Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. TS, India



## POWER & ENERGY DIVISION

### Continuing Professional Development Programme on **Erection, Commissioning and Performance Testing of Synchronous Generators including Excitation System**

14 – 17 February, 2018



(An ISO 9001:2008 Certified, AICTE & CEA Recognized Institution)

Centre for Promotion of Professional Excellence

## **INTRODUCTION**

After food security which is by and large, considered to be in place now, Energy Security is another crucial requirement for mankind to live with sustainable quality of life. In Indian Context, our total installed capacity at the end of March 2017 stands at 319 GW out of which Coal and gas accounts for 68% and Hydel for 14%.

Coal-based and Hydel based power generation is still a fundamental part of energy supply throughout the world. Reliability, security of supply, low fuel costs, and competitive cost of electricity make a good case for coal-fired steam power plants

According to the 2017 edition of BP's energy outlook, global energy demand will increase by around 30% to 2035, i.e. an average growth of 1.3% per year driven by increasing prosperity in developing countries, partially offset by rapid gains in energy efficiency.

While non fossil fuels are expected to account for half the growth in energy supplies over the next 20 years, the outlook projects that oil & gas, together with coal will remain the main source of energy powering the world economy, accounting for around 75% of total energy supply by year 2035, as compared with 86% in the year 2015.

Applying proven state-of-the-art technology while striving for cost-optimal efficiencies are key customer requirements in any new power plant project. This brings renewed focus on Electrical Generators (Alternators) whose susceptibility to failure is more than mechanical equipment. New technologies like Vacuum Pressure Insulation (VPI) has increased the reliability of Generator. Yet it is the most critical equipment in a power plant both in terms of capital cost as well as the time required to repair in case of downtime. Hence utmost care is required to be taken right from Design, manufacture and as well as transportation, Erection and commissioning.

## **OBJECTIVE**

The objective of the course is to provide a platform to O&M Engineers of Alternators for refreshing, sharing and exchange of information regarding the principles and features of a Synchronous Generator and its excitation system, procedure for erection and commissioning including alignment and factors critical to performance of the Generator. The program is therefore envisaged with the objective of looking at the various issues critical to Design, Manufacture, Erection and Commissioning as well as Performance Testing of Synchronous generator.

## **COURSE COVERAGE**

- Generator – Principles of Operation.
- Design / Construction of Generator.
- Manufacturing & Testing.
- Erection and Commissioning, Performance testing.
- Performance Characteristic and protection system
- Condition Monitoring.
- Generator Ventilation/Cooling Systems.
- Excitation Systems.
- Generator Failures and case studies.
- Field visit to a Generator Manufacturing Unit.

## **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 faculty will act as provocateurs and resource persons and demonstrate application oriented studies, in a professional manner.

## **FACULTY**

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

## **TARGET PARTICIPANTS**

O&M Engineers in Utility and Captive power plants, Engineers and Specialists Planners of power plant, Manufacturing Industries, Academia, Consultancy firms, R&D institutes and other experienced professionals in Power Generation.

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

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

## **DATES**

**14 – 17 February, 2018**

## **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.

## **COURSE DIRECTOR**

**A Chandra Mohana Rao**

Senior Faculty & Head I/c - Power & Energy Division, ESCI

## **COURSE FEE**

**Residential Fee** is Rs.20,000/- per participant. 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 – SB A/c No. 10007111201** with The SBI, PBB Rajbhavan Road Branch, Khairatabad, Hyderabad – 500 004 by **NEFT / RTGS / IFSC Code No: SBIN 0004159 – MICR No: 500002075.** 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 4177; 040-6630 4100, 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 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 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.