Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

Old Bombay Road, Gachi Bowli, Hyderabad – 500032. TS, India

POWER & ENERGY DIVISION

Classroom Continuing Professional Development Programme on

Pumps Operation, Maintenance and Performance Monitoring for Power Plant Applications

16 – 18 October, 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

Fluid pumping constitutes one of the most important activities of process industry and power plant operations. Pumps, fans and compressors are the vital equipment, which effect transport of fluids for process requirements. There are different types of pumps in use in power plants depending upon the flow and head requirements. Centrifugal pumps are the most versatile pumping equipment that are widely used, while positive displacement pumps are preferred for pumping high viscous fluids and also where the head requirement is very high with small flow rates.

In power plants, the role of pumps start from pumping water from natural source like river/lake/pond through various purification units to DM water plant for further purification. Boiler-feed-water pump, a multistage centrifugal pump, constitutes a vital equipment in power plant that pressurizes and pushes water at high pressure into boiler where water extracts heat energy from the burning fuel and then transporting heat energy in the form of steam from boiler to turbine to generate electric power. After the steam is exhausted into condenser, it is condensed and then pumped by condensate-extraction pumps to transport the condensate water to deaerator. Fuel oil pumps play a very important role of pumping fuel oil at controlled flow rates into boiler furnace for sustaining proper flame in the furnace. Cooling water pumps are another very critical class of pumping equipment in power plant where they circulate cooling water from cooling towers to condenser and other auxiliary coolers continuously. Acid and alkali pumps are vital in DM Water plant for transferring required quantities of acid and alkali for regeneration of resin beds. This program takes the participants through various aspects of pumps including classification of pumps and their applications, design selection criteria, operation and maintenance aspects, performance assessments and case studies.

OBJECTIVE

To sensitize the participants with importance of fluid pumping in power plants, design and selection aspects various types of pumps, commissioning, operation and maintenance aspects, performance assessments and case studies.

COURSE COVERAGE

- Types of pumps, their application & selection criteria for Power Station/ Process Industries
- Working principles of different types of Pumps & Operation guidelines
- Design aspects of Centrifugal pumps.
- Const. features of Boiler Feed Water Pumps, CEP, CW Pumps, CCW Pumps etc.
- Special features of Positive Displacement Pumps.
- Material selection and installation & commissioning. aspects of Pumps incl. Alignment
- Pumps operation & trouble shooting.
- Pump characteristics on series/parallel operation, Interpretation & Limitations
- Preventive & Predictive Maintenance Techniques for Pumps
- Performance assessment techniques & Monitoring including Case Studies
- Pumps Testing and Performance Standards
- Pump Mechanical Seals & Gland Packings
- Best Practices in O&M of Pumps
- 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, Domain Experts from various segments of Power sector/ Process industries. will share their experience, besides, faculty from Consulting Firms, Government Organisations, Manufacturing, Academic and Research Institutions etc..

TARGET PARTICIPANTS

O&M Engineers, Managers& Executives from Power Utilities, Independent Power Producers, Chemical & Process Industries.

PROGRAMME VENUE

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

DATES

16 – 18 October, 2024

TIMINGS

On the first day, registration will commence at 0900 Hrs. On all the 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.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. **GST No. 36AAATT3439Q1ZV, PAN Card No. AAATT3439Q.**

The course fee is to be paid in favor 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 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 participants shall pay the charges 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.