



Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

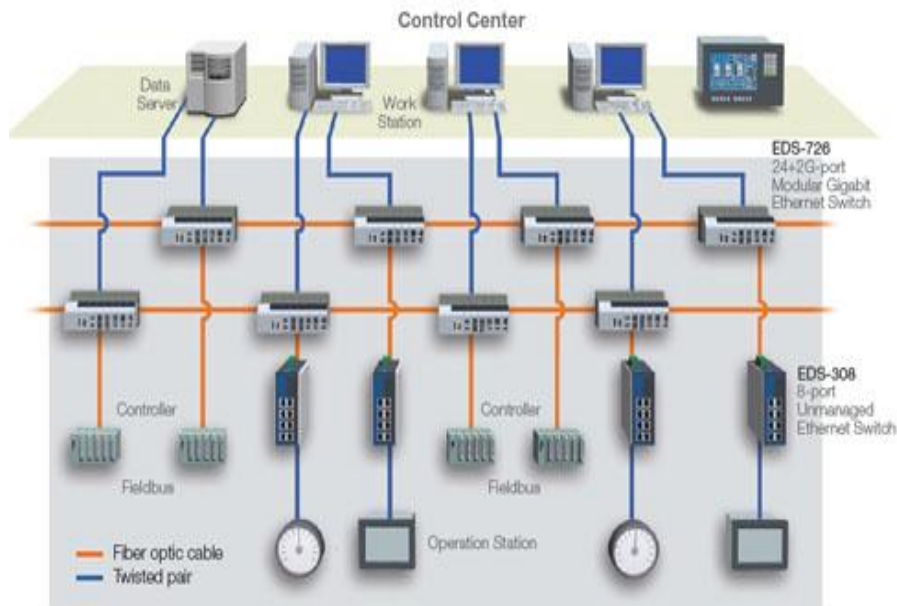
Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. TS, India



POWER & ENERGY DIVISION

Continuing Professional Development Programme on Systematic Trouble Shooting of PLC/DCS Applications in Power Plants and Process Industry

05 – 08 February, 2019



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

Centre for Promotion of Professional Excellence

INTRODUCTION:

Process Control and Automation is one of the most important operational activities in industrial sector and particularly in Power and Process Industry where uninterrupted operation is an essential requirement. Control systems for applications such as power plants, have to cater to specific challenges such as generation, distribution and consumption having to be simultaneous and matching, and power generating units having to alter their electric power generation output as per load demand variations in a speedy and highly responsive manner, etc. Similarly, in the complex process industry like chemical, nuclear, pharmaceutical, petroleum, fertilizer industries „etc, which demand continuous and uninterrupted operations, process control and automation plays a vital role in meeting the challenge of achieving the changing customer-demands, higher safety and optimum capacity requirements for enhancing profitability and reputation of organization.

One significant technological development providing solutions to the above is the Programmable Logic Controller (PLC). PLCs offer the combined advantage of the latest computer based process control strategies and at a fraction of the cost of earlier computer based systems. PLCs which earlier were capable of performing only binary or logic associated on-off functions now have enhanced capabilities, such as performing advanced functions like PID control, motion control and math control, and have evolved into Programmable Automation Systems (PAS). PLCs can also control other PLCs in a cascaded mode giving rise to Distributed Control Systems (DCS). With additional computing capability and advanced functions, DCS has enabled very high flexibility and redundancy. The convergence of PLC/DCS technologies has made the dividing line between them thin. Further, together with operator friendly Human Machine Interfaces(HMI), PLC/DCS have made monitoring and operation of even large, complex power plants / process industry simple, through context- sensitive Operator Guidance Systems.

OBJECTIVES:

This training program takes participants through functional requirements of control systems for power plants and process industry followed by various aspects of use of PLC/DCS controls including their components, input-output addressing/programming, wiring/functional allocation, HMI hyper-navigation and operation, trouble shooting with practical demonstrations.

The primary objective of this training programme is to give participants an exposure and in-depth understanding of the above concepts, approaches, techniques and practices, reinforced through exercises, real life examples, case-studies and demonstrations

COURSE COVERAGE:

- Functional Requirements of Control Systems For Power Plants and Process Industry
- A quick review of PLCs / PAS / DCS /HMI - their components and their operation
- A quick review of translating control functional requirements into corresponding logics / schematics
- Practical Demonstrations
- Identifying sources of problems associated with:-Sensors/Input-Output cum Logic Devices/ Wiring/Termination/ Input-Output Addressing /Power Supplies/ PLC /DCS Controllers and Modules / Communication Buses/Memory Integrity/ Control Logics and Diagnostics
- Approaches For Systematic Troubleshooting Through Use of Filters
- Selected Techniques and Algorithms For Enhancing Reliability
- Commissioning of Actual Large PLC/DCS Applications : Project Steps - Activities and Lessons Learnt

- Good Practices in Input-Output Addressing/Programming / Wiring / Functional Allocation / HMI Hyper-navigation
- Individual and Group Exercises
- Selected Real Life Case Studies

METHODOLOGY

- Highly interactive participative learning
- Practical orientation with emphasis on “HOW TOs” –
- Reinforcement through individual and group exercises
- Intellectual impact to participants provided through selected real life case studies

FACULTY

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

TARGET PARTICIPANTS

Middle to Senior level executives/managers from Power Plants and Process Industry including Fertilizers, Petrochemicals, Pharma, Chemical Industry, Navy, Space, Atomic Energy, Aviation etc., associated with Operation/Production, Instrumentation and Control/Automation, Electrical Maintenance, Safety and Environment Management, Plant Performance Management

PROGRAMME VENUE, DATES & TIMINGS

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

DATES

05 – 08 February, 2019

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

A Chandra Mohana Rao

Head & Sr. Faculty - Power & Energy Division, ESCI

COURSE ADVISOR

B Prahlad

Former Dy. Chief Executive, Nuclear Fuel Complex, DAE

RESOURCE PERSON

M Venkat Ram

Former Deputy General Manager, Tata Power, Mumbai. Former Senior Consultant – Tata Quality Management Services. Former Certified Senior Business Excellence Assessor – Tata Business Excellence Model former Member, Central Boilers Board – Government of India

COURSE FEE

Residential Fee is Rs.20,000/- (Residential) 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. 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 040–040 – 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.