

MANAGEMENT & TECHNOLOGY DIVISION

PROFESSIONAL DEVELOPMENT PROGRAMME

Design, Selection, Installation, Maintenance & Sizing of Control Valves & Actuators

21-23 Feb 17



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

Centre for Promotion of Professional Excellence

INTRODUCTION

“When Control valves are not working, the whole loop is not working.” Control valves are the single biggest contributor to control loop cycling. Any amount of advances in Control strategies are not going to contribute to the productivity unless control valves are sized & selected as per process demands.

Understanding Control valves requires understanding of the Processes happening inside the Valve. The control valve directly handles the process. Any abnormality in the Valve amplifies the process difficulties instead of Controlling the Process as demanded by the DCS or PLC. Since Control Valves are directly exposed to the process hazards with respect to issues such as Corrosion, Erosion, Cavitations etc the control valves are required to be chosen with utmost care. The control valves must receive the respect they deserve in selecting them.

Control Valve Dynamics depends on many factors including valve design & size, Actuator design & size, Positioner performance, Process conditions, Metallurgy, & test methods. When all these factors are considered Control valves turn out to be a complex system requiring careful Engineering.

The program deals with all these aspects of Control valves & Actuators. It will help in, understanding behaviour of the control valves, evaluate their performance & will improve the comfort level of the Engineers in addressing the issues pertaining to its design, sizing, selection & troubleshooting.

OBJECTIVE

The course aims to cover all aspects of Control valve design, Sizing, Selection aspects, Installation & Maintenance.

COURSE COVERAGE:

- Types of final control elements
- Control Valve Terminologies
- Various Designs of valves with their relative merits
- All aspects Related to Various type of Actuators
- Control valve Functions, Characteristics & their applications
- Flashing, Cavitation, Noise in Control valves & their abatement
- Sizing of Control Valves & Actuator sizing
- Valve design criteria with respect to process demands & loop stability
- Selection of valves & Actuators
- Applicable Standards & Practices
- Aspects of various valve specifications with respect to design & maintenance
- Control valve accessories , applications & Smart positioners,
- Control valve installations & Maintenance
- Steam Conditioning Valves
- Modern trends
- Software Demonstration for Control Valve Sizing
- Case Studies & Problem Solving

METHODOLOGY

Methodology of the programme includes class room Sessions with Lecture/discussion with audio visual aid, benched marked video shows, Chalk & Talk sessions, group discussions, case studies, debates, sharing of experiences, etc. All the sessions will be interactive demanding active participation from all the members. CMI will be the main method of instruction. Social /management Visits will also be conducted to encourage participants learning from each other's experiences in an informal platform.

PROGRAMME ADVISOR AND RESOURCE PERSON:



Mr. S K Thakar
TRAINING & ENGINEERING CONSULTANT

Other faculties consist of experts from industries and other corporate world besides that from ESCI.

TARGET PARTICIPANTS

The program is formatted specifically for all those Engineers who are directly or indirectly handling control valves or those who are working with Consultants or design offices. The Program is designed for the benefit of Process, Instrumentation & Mechanical Engineers working in Design, Engineering & Plants. The course will be useful to all concerned Handling control valve issues directly or indirectly.

BENEFIT TO THE PARTICIPANTS

The Participants will be able to:

1. Select Type of Control valves & Actuators for the intended application
6. Apply full potential of Smart Positioners
7. Interconnect accessories to achieve specific valve

2. Do Sizing of Control Valves & Actuators.
3. Understand operation of Control Valves & Improve loop performance
4. Apply Standards & Practices while specifying the control valves
5. Specify & Purchase the right Control valve.

functionalities

8. Install & maintain Control Valves.
9. Identify specific valve problems and arrive at Optimum solutions

PROGRAMME VENUE, DATES & TIMINGS

Venue: Engineering Staff College of India (ESCI) Campus, Old Bombay Road, Gachi Bowli, Hyderabad. 500032. TS, India.

Dates

21-23 Feb 17

TIMINGS

On the first day Registration will commence at 0900 h. On all other days the programme timings will be from 0945-1715 h with breaks in between for tea and lunch.

COURSE DIRECTOR



Gp Capt (Retd) BS Phillora BE (ETC), AE (L), MMS (DS), M Phil, FIE

Dean of Studies ESCI &
Sr. Faculty, Management & Technology Division, ESCI

COURSE FEE

₹ .15 000/-(**Residential Fee**) per participant. Fee includes, course material, course kit, twin-sharing/single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme.

DISCOUNTS:

- ❖ **Non-Residential Fee** : 10% discount on course fee is allowed for non-residential participants.
- ❖ **Group Discount** : Additional 10% discount for three or more participants, if sponsored by the same organization.

(All discounts are applicable only if fee is received at ESCI before the commencement of the programme.)

Service Tax as applicable (@ 15%) is to be paid extra over and above the training fee, as training is also brought under the purview of Service Tax in Finance Bill 2010. **PAN Card No** AAATT3439Q; **Service Tax registration No** AAATT3439QST008. (Under commercial training or coaching services- Clause 65 (105) (ZZC) of Finance act 1994)

Programme fee is to be paid in favour of "IE (I)-Engineering Staff College of India" in the form of demand draft payable at Hyderabad at par

cheques payable at any Bank Branches.

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-500004 by RTG's/ NIFT/IFSC/ Code No. SBIN 0004159 – MICR No.500002075. **While using EFT/Draft method of payment, kindly forward a covering letter giving details on the name of the participant/s, Title and the programme schedule or our invoice reference for proper accounting.**

REGISTRATION:

Online registration shall be available on ESCI website.([URL:www.escihyd.org](http://www.escihyd.org))

To register, manually please send your nominations giving details of name, designation, contact address, email address, mobiles no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to:

Head, Management & Technology Division

Engineering Staff College of India
Old Bombay Road, Gachi Bowli, Hyderabad 500 032, AP India
Phone : Direct 040 6630 4111 & 6630 4112 &, 6630 4105
Fax : 040-23000336 & 040 66304103
Email : mt@escihyd.org,

Contact:

Programme Officer: Mr. GNM Rao
Mob: 0 98664 31555
Phone: 040 66304112 (Off)
Hostel Warden: Mr. K Raghuvveera Reddy
Ph: 040 66304152/4351

CERTIFICATION

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 outstation participants, ESCI will facilitate pick-up and drop from Airport / Railway Stations / 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 participant directly to the Cab.
- ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 1200 h) and one day after conclusion (Check-out 1200 h) of the programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation)
- Well developed Information Centre and Internet facilities are available to the participants.