

**Industrial Process Measurement, Field Instrumentation
and Control Systems Course**

Training Date: 22nd – 26th April 2012 (5 Days)

Training Time: 0730 – 1430 hours

Training Venue: Holiday Villa Hotel, Doha, Qatar

Training Fee: USD3,500 per participant

COURSE OBJECTIVES

This course provides knowledge and skill on how to use or apply an industrial process measurement and control in the plant. Technicians or engineers are provided with fundamentals to more effectively communicate with industrial measurement, transmitters, control valve and other control system.

This course teaches a systematic approach to calibration, installation and troubleshooting of industrial instrumentation equipments and how they are approach to stabilize a single and multi-loop control loops.

WHO SHOULD ATTEND?

This Intensive five-day instructional program covering the educational needs of Instrumentation and Control Engineers & Technicians, Plant Operators, Operation Engineers, Process and Utility Supervisors, and Technical Supervisory personnel involved in Industrial Process Measurement and Control. No specific prerequisite training or experience required for registration.

TRAINING OUTCOMES?

At the end of the course, the participants should be able to:

- ⊕ Communicate the latest trends in measurement and control
- ⊕ Understand the role of measurement and control in industrial processes
- ⊕ Interpret measurement and control terminology
- ⊕ Compare the methods and devices used in temperature, pressure, level, flow measurement
- ⊕ Understand the operation and components of a feedback control loop
- ⊕ Understand the fundamental concepts of controller tuning
- ⊕ Understand why a systematic approach to troubleshooting is most effective
- ⊕ Verify, locate, and identify performance problems and the causes of the problems
- ⊕ Take or recommend appropriate follow-up procedures to minimize problem recurrence
- ⊕ Identify the common causes of sensor, transmitter, controller, and final control element problems
- ⊕ Troubleshoot control systems
- ⊕ Understand the operation of pneumatic and electronic loops
- ⊕ Check and utilize control loop documentation

SELECTED CUSTOMERS



MALAYSIA LNG SDN. BHD.



COURSE PROGRAM

Process Control Concepts:

- Continuous,
- Batch,
- Discrete Control,
- The Role of Measurement and Control in Industry,
- Graphic Description of Loop Components,
- Component Loop Dynamics

Industrial Measurement Systems:

- Overview,
- Sensor Selection and Characteristics,
- Transmitters,
- Smart Transmitters

Pressure Measurements:

- Concepts,
- Instruments,
- Differential Pressure Measurement

Level Measurement:

- Concepts,
- Hydrostatic Head Level Measurement,
- Capacitance Level Measurement,
- Ultrasonic Level Measurement,
- By Weight

Flow Measurement:

- Fluid Fundamentals,
- Methods and Concepts,
- Differential Head Flow Measurement,
- Velocity Flow Measurement Devices,
- Mass Flowmeters .

Temperature Measurement:

- Concepts,
- Thermometers,
- Thermocouples,
- RTDs & Thermistors,
- Temperature Transmitters

Industrial Process Control:

- Basic Feedback Control,
- Components,
- PID Control,
- Final Control Elements,
- Tuning Concepts

Trends in Control Technologies:

- Smart Components,
- Fieldbus.

Approaches to Troubleshooting:

- Purpose of Troubleshooting,
- Reasons for Troubleshooting Equipment History,
- Input/Output (Serial) | Shotgun Approach,
- Logical Analysis

Logical Analysis Troubleshooting:

- Verify, Identify, Repair and Test.
- Follow-up on Problems

Single-Loop Feedback Control

Troubleshooting:

- Measurement Concerns,
- Controller Operations,
- Signal Conditioners,
- Troubleshooting Simulation

Multi-Loop Control Systems

Troubleshooting:

- Ratio (Two Controlled Streams, Wild Stream),
- Cascade,
- Three-Element Control,
- Troubleshooting Simulation

Introduction to control valve:

- Types of control valve
- Control valve characteristics
- Selection and application
- Control valve troubleshooting

About CfPE Technology Solutions

The Center for Professional Enhancement Technology Solutions (known as CfPE Technology Solutions) is incorporated in July 2001 and began as a training and consulting company for power plant, oil & gas and petrochemical sectors in Malaysia. With a small team of experienced and dedicated engineers and multi skilled technical staff we have come a long way. From those humble beginnings, we have successfully grown and today we have achieved reorganization as a premier in organizing short training in Malaysia.

Our professional experience and excellent consulting strengths provide insights and understanding of the challenges facing the industries we serve. CfPE Technology Solutions aims to make a difference. The need for leading-edge training has intensified and is advancing beyond all expectation; it is the basis upon which performance can be measured in an increasingly competitive marketplace.

In the world of today, it is not simply a case of having the necessary professional skills; people must develop interpersonal skills alongside their ability to handle the changes brought about by technological progress. We expect the people who attend our training courses to make an immediate impact, both back at the workplace and in their career and personal development.

CfPE Technology Solutions is a training and consulting company dedicated to increasing our client's competitive edge through the improved performance of their human and capital assets. We aspire to make significant and lasting improvements in our clients' strategic focus and business performance.

CfPE Technology Solutions's mission is to assist and enable world-class companies to increase productivity and performance through their most vital assets - the workforce.

About the Course Instructor

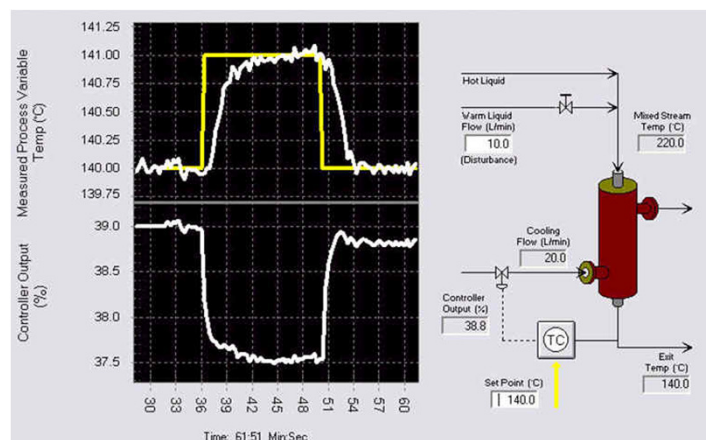
Engr. Azahar bin Mat Noor, graduated with Bachelor of Engineering (Honors) in Electrical Engineering and major in control system from the University of Technology Malaysia.

He is a Registered Professional Engineer (Mechanical) with Board of Engineer, Malaysia and a Member, The Institution of Engineers, Malaysia. He also holds an Instrumentation and Control System certificate from YEW Mitaka, Tokyo.

He had working experiences with several companies such as the Institute Technology Petroleum Petronas (INSTEP) and Centre for Instructor and Advanced Skill Training (CIASST).

Since the past 20 years in teaching, he had delivered for several courses such as;

- ⊕ Process Design and Process and Instrumentation for process engineer.
- ⊕ Process control technology for Instrument Engineer.
- ⊕ Process control technology and application.
- ⊕ Control valves service and repair.
- ⊕ Instrumentation and measurement Engineering.
- ⊕ Basic Instrumentation and Fundamental of Process Control.



Registration Form

Please Send Your Registration To:

Tel:	006.013.208.2143	Fax:	006.09.617.8443	E-mail	info@cfpets.com
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Course Details

Course Name:	Industrial Process Measurement, Field Instrumentation and Control Systems	Course Date:	22 – 26 April 2012
Venue:	Holiday Villa Hotel, Doha, Qatar	Fee:	USD3,500.00

Company Information

Organization	
Address	

HR / Training Manager

Name :	
Tel no.:	
Fax no.:	
E-mail :	

Invoice to be sent to

Participant Information

	Participant # 1	Participant # 2	Participant # 3
Full Name :			
Job Title :			
Department :			
Telephone No. :			
Mobile No. :			
Fax No. :			
E-mail Address :			

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CFPE TECHNOLOGY SOLUTIONS

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