



Blaze Avenue

Empowering Business Ideas



Distributed Control System (DCS)

4 DAYS WORKSHOP

11th - 14th DECEMBER 2017

NAIROBI, KENYA

STEPHANUS ROUX

⦿ COURSE INSTRUCTOR ⦿

In House Training Solutions :

We provide training and development programs tailored to the needs of your organization. We pay attention to the course contents as well as enhanced delivery methods to ensure that your employees learning are transferred to the workplace.



INTRODUCTION

The past 15 years have witnessed lower costs and increased power of small digital computers, the emergence of the Internet, and a growing use of non-proprietary network technologies. This has changed the mix of process control products on the market, both in terms of hardware and software. In particular, new “smart” field transmitters have been developed that connect to the DCS via digital networks.

The course describes how these new technologies work and how they can be used to advantage. With the increased computing power has also come more acceptance of Advanced Process Controls (APC) as a “standard” function in a DCS. The various APC technologies available today are briefly discussed. The way the operator interacts with his processes has also changed over the past 25 years.

This course will cover the practical applications of distributed control systems. Included is the relationship between programmable logic controllers and the DCS. Further included is the importance of Human Computer Interfaces (HMI) and advanced control strategies, which would not be possible without the application of a computer.

COURSE OBJECTIVE

- Apply an in-depth knowledge and skills in DCS systems and implement systematic applications, selection and troubleshooting techniques and methods
- Identify the DCS hardware & software particularly the traditional process controllers, programming, execution time, configuration, etc
- List the parts and configuration of the SCADA system and determine its basic architecture and levels of hierarchy
- Differentiate DCS from PLC and SCADA and discuss their features and functions
- Determine the types of DCS used in petroleum refining processes and explain their specific function in each process
- Employ the concepts of alarm management system including its types, features, architecture and functions
- Discuss the concepts of humans in control and identify the factors that contribute in the following concept
- Recognize the safety considerations involved in DCS such as intrinsic safety, explosion, approval standards, oxygen, etc
- Identify types of redundancy and recognize how it works
- Appreciate the principles analogue and digital field communications and discuss its transmitter classifications, intrinsic safety, fieldbus communications & technologies, etc
- Discuss the concepts of safety instrumented systems and explain its functions, integration and hazard and risk analysis
- Explain the maintenance considerations of DCS and identify the various types of failures and faults
- Select the proper DCS system for each application and determine the system specification, its functional description and diagrams

WHO SHOULD ATTEND?

- General Managers who have oversight responsibility for Plant Commissioning and Start-up
- Operations and Maintenance Managers with direct line responsibility as well as staff support responsibility for delivering on effective Plant Commissioning and Start-up
- Plant Commissioning and Start-up Managers and Engineers
- Technical personnel involved in supporting Plant Commissioning and Start-up activities
- Team Leaders
- Project Managers
- Refinery Managers
- Plant Managers/Supervisors
- Process Engineers
- Technical staff and contractor personnel involved in project execution and plant Commissioning and Start-up in the Oil and Gas Process industry
- Mechanical, Electrical, Instrumentation and Control Engineers who are involved in Process Plant
- And any other Professionals who lead or facilitate in the designing, selecting, specifying, operating, installing, repairing and trouble-shooting of oil and gas processing facilities

OUR PAST CLIENTS

- Kenya Power & Lighting Co. Ltd - Kenya
- PT Bekasi Power - Indonesia
- PT Perusahaan Listrik Negara (PLN) - Indonesia
- Sarawak Energy Berhad - Malaysia
- Hong Kong Electric Company - Hong Kong
- National Electric Power Regulatory Authority (NEPRA) - Pakistan
- Saudi Electricity Company - Saudi Arabia
- National Grid Corporation Philippines (NGCP) - Phillipines
- Emirates SembCorp Water & Power Company - UAE
- Tenaga Nasional Berhad (TNB) - Malaysia
- DNV GL Private Limited - Singapore
- Ceylon Electricity Board (CEB) - Sri Lanka
- Sabah Electricity - Malaysia
- Lanka Electricity Company (Pvt) Ltd - Sri Lanka
- NamPower Corporation (Proprietary) Ltd - Namibia
- Kenya Generation (Kengen) - Kenya
- Transmission Company of Nigeria (TCN) - Nigeria
- Niger Delta Power Holding Company Limited (NDPHC) - Nigeria
- Metropolitan Electricity Authority (MEA) - Thailand
- Singapore Power (SP Group) - Singapore

OUR POWER SECTOR TRAINING LIST (PARTIAL LIST)

- Smart Grids - Platform of the Smart Cities
- Power System Stability & Control
- Renewable Resources : From Planning To Operations
- PLC, SCADA and AC Drives for Industry
- SCADA and the Impact of Smart Grid
- SCADA Systems - Transitioning from Beginner to Advanced
- SCADA, IEC 61850 and Substation Automation workshop
- Uncertainty and Risk Management in Electricity Markets
- Modern Power System Analysis
- Reliability Centered Maintenance
- Demand Side Management
- Energy Markets Strategic Planning
- Economic Dispatch and Power System Planning
- Power Systems Planning and Operations
- Energy Trading and Energy Markets
- Energy Markets, Risk Assessment and Financial Management
- Reliability and Risk Applied to Physical Assets
- Economic Dispatch & Grid stability Constraints in Power Plants
- Power System State Estimation
- Communication Interfaces in Smart Grid
- Distributed Generation
- Distributed Wind Generation and its Impacts on the Network
- Modelling Analysis for Modern Electrical Systems
- Power Systems Economic Operation
- Reactive Power and Voltage Control on Electrical Networks
- Real Power & Control on Power System
- Substation Automation Systems
- Power System Reliability
- Power System Restoration
- Methodologies & Implementation Strategies
- Fundamentals of Power Systems

COURSE INSTRUCTOR

STEPHANUS ROUX



Stephanus Roux has over 40 years of practical experience in engineering, maintenance, commissioning, production and construction, that were gained with companies such as Caltex, Fedmis, AECI etc. Stephanus gained his engineering experience through major EPCM companies such as Hatch, FLUOR, Worley Parsons and the like, as both lead Engineer, Engineering Manager and Project Manager and also as a freelance Instructor.

Stephanus has conducted courses and seminars, in excess of 200 over a 10-year period. His group audience are mostly Engineers and Boiler professionals who consistently ranked him as "Excellent" or "Very Good". Stephanus is currently in the process of completing some technical books that will be published in an e-book format in due course

