Control System - Mark VI Maintenance (Advanced)

Course Outline – Open Enrollment
Course Description

This course is targeted for multi-tasking control room operators, control technicians and engineers providing the knowledge required to properly maintain your Mark™ VI keeping your units available and reliable. It is 100% hands-on, realistic and practical. This is the third of five courses offered in our progressive series on the Mark™ VI Control. This series of courses is the perfect progression in learning your Mark™ VI Control giving you the knowledge and confidence each step along the way to perform your job responsibilities to your fullest potential. As the third course in the Mark™ VI Control series this course is an evolutionary step from Operation and Troubleshooting. This course answers the following questions and many more.

What if your unit is in a critical condition? It’s shutting down, running back, worse it has tripped or you cannot obtain a ready to start. Using your existing troubleshooting skills, or those gained from the Advanced Mark™ VI Troubleshooting course, you have isolated the cause to a singular devise, but how is it to be properly calibrated or replaced? Should you, or how do you, force its variable into a safe state so it can be replaced and what are the consequences? You have received an alarm indicating a valve failure, how can it be stroked, tested, calibrated? What are the differences between pneumatic and hydraulic? You have determined the probable cause of a diagnostic alarm; open or shorted circuit, blown fuse, voter mismatch, how is it to be repaired?

GE Documentation will be taught and used throughout the course, the same way your unit is designed to be operated & maintained.

This course is part of a new series of advanced classes that expands on what was formerly Regional Training. This course is intended for industrial gas and steam turbine users and NOT for customers with Aeroderivative applications.

Duration

5 Days

Target Audience

- Control Room Operators
- Control Technicians
- Engineers

Prerequisites

- Instruction is given in English, therefore a reasonable ability to read and understand spoken English is required
- Those who have previously completed the “Mark VI Operation” and the “Mark VI Troubleshooting (Advanced)” course, or those who possess a high degree of troubleshooting skills.
- GE Mark™ VI Control Owners
- NOTE: Participants will have difficulty participating in this course if they have not attended the courses listed above.
Class Size

Maximum number of students: 10

Learning Objectives

This course will provide basic knowledge on the following:

- Provide the knowledge required to properly maintain your Mark™ VI keeping your units available and reliable
- Troubleshoot and clear diagnostic alarms; open or shorted circuit, blown fuse, voter mismatch
- Maintain systems backup and restoration
- Replace panel hardware such as terminal boards, card and cables

Course Content

LESSON 1

A. Fundamentals Review -
   1. P&IDs, Device Summary, M6B
   2. TMR Architecture & Philosophy
   3. Hardware
   4. Software (Toolbox, M6B, Blockware)
   5. Maintenance & Testing Utilities

LESSON 2

A. Discrete & Analog IO -
   1. Replacement/Repair/Testing
   2. Calibration, HJ Settings, Scaling, Failsafe
   3. Software Configuration

LESSON 3

A. Software Maintenance
   1. Major and Minor Differences
   2. Backup & Restoration
   3. Logic Forcing & Constants Adjust

LESSON 4

A. Valve Testing, Maintenance & Calibration
   1. Operation (Pneumatic & Hydraulic)
   2. Testing & Calibration
   3. Tools (Watch Windows, Trend Recorder)

LESSON 5

A. Mark™ VI Hardware Diagnostics Replacement & Testing
   1. Controller, Card, Terminal Boards, J-Cables
## Revisions

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