



Infi90 201 Course Syllabus

Advanced Configuration, Tuning, EWS, Troubleshooting

Synopsis:

Infi90 201 provides the engineer or technician with an advanced understanding of Function Code application, process tuning, system optimization, Engineering Workstation (EWS) software, On Line Configuration, system communication, power / grounding, and system troubleshooting.

Prerequisites:

Attendees should have attended Infi90 101 or have equivalent experience and have a technical background with a general understanding of process control and instrumentation.

Course Duration:

Five (5) Days

Course Outline:

1. Infi90 Function Code application
 - a. Adaptive Tuning
 - b. Smith Predictor and associated blocks
 - c. Other anticipatory control schemes
 - d. Multi-State Device Driver
 - e. Interpolator, $F(x)$, advanced math functions
 - f. Advanced Feedwater Control
 - g. Advanced Steam Temperature Control
 - h. Advanced Combustion Control
 - i. Other Feed Forward and Advanced Applications
2. Process Tuning
 - a. Bailey PID and Advanced PID characteristics
 - b. Smith Predictor characteristics and modeling
 - c. Tuning of advanced control loops
 - d. Adaptive tuning curves

- e. Using tuning displays on operator consoles
- 3. System Optimization
 - a. Minimum and Maximum Exception Report Period
 - b. Significant Change adjustments
 - c. Module Bus / Controlway Message Timing
 - d. Module Execution Cycle Timing
 - e. Segment Priorities / Update Times
 - f. Checkpoint Overruns
- 4. Engineering Workstation (EWS) Software
 - a. Common Commands
 - b. Line Types
 - c. System Shapes
 - d. User Shapes
 - e. User Macros
 - f. Saving and Loading Modules
 - g. Drawing Compilation
 - h. Drawing Verification
 - i. Common Errors and Ways to avoid them
- 5. On Line Configuration
- 6. System Communication
 - a. Data Highway Message Structure
 - b. Communication Hardware
 - c. Point Tables
 - d. Point Types
 - e. Time Synchronization
- 7. Power and Grounding
 - a. Proper System Common Grounding
 - b. Cabinet Grounding
 - c. I/O Shield Grounding
 - d. Power Source Cleanliness
 - e. Harmonics
- 8. Advanced System Troubleshooting

- a. Normal and Abnormal InfiNet waveforms
- b. Module Bus / Controlway Problems
- c. Grounding Issues
- d. Exception Reporting Problems
- e. Redundancy Problems
- f. System Status Errors
- g. Recovery from ERROR Mode
- h. Fatal and Non-Fatal Errors
- i. Status Bytes
- j. I/O problems