

# LINEARTSACENTER

## LINEAR TRAINING & SKILL ASSESSMENT CENTER

### Course Outline

#### Intermediate Production Instrumentation

This is a course in Production Instrumentation designed to instruct personnel on how to properly break down and rebuild pneumatic components and install various components in a panel and in the field. Personnel will also learn the effects of process control systems and safety control systems, their relationship, and interaction with their associated control panels in a process environment.

#### Program Objective

This course should instruct personnel on how to:

- Understand the basic rebuilding of a relay and pilot, and also, how to test it
- Installing a valve/relay on an SDV (supply and control)
- Installing a Fisher 2100 for an LSL/LSH to send and receive a signal
- How to operate/bypass a panel for testing pilots, new components for a panel addition and/or integrations
- Understand the type of signal that is required for each relay (where it comes from LSH/L, PSH/L, Controlled ESD and Production Shutdown etc...)
- Identify and understand process controls vs. safety system controls on a panel and how to identify each
- Types of devices and their function on a MCP
- Why does everything start at the MCP and how does this affect any other panel?
- What signals are required to maintain the WCP?
- Types of devices and their function on a WCP
- How does the WCP work?
- What needs to happen at the MCP for me to bring on the WCP?
- How to bring on a well (by operating the well control panel)
- Taking the panel out of bypass to maintain proper service
- Trouble shooting a panel (Hands-On)

#### Modules

- 1.1 Understanding Components
- 1.2 Types of Components (Hands-On)
- 1.3 Field Component Installation (Hands-On)
- 1.4 Well Control Panel - SCSSV (Hands-On)
- 1.5 Master Control Panel (Hands-On)
- 1.6 Troubleshooting the Problem (Hands-On)

#### 1.1 Understanding Components

- A. Symbols and Definitions

#### 1.2 Components

- A. Fisher 4660 Pilots
- B. HLR Pilots
- C. BWB Master Relay
- D. Manually Operated Valves
- E. Pilot Operated Valves
- F. Indicating Relay – Pilot Monitoring Valves
- G. Shuttle Valves
- H. Quick Exhaust Valves

### **1.3 Field Component Installation**

- A. Field Components

### **1.4 Well Control Panel (SCSSV)**

- A. Single Well SSV/SCSSV Control System
- B. Hydraulic Fluid Pressurization
- C. Safeguarding the SCSSV
- D. Reservoir (Hydraulic Fluid Storage Container)
- E. Major Components of the Pneumatic Control Circuit
- F. How does a typical Hydraulic Well-Head Control Panel operate?

### **1.5 Master Control Panel (Hands-On)**

### **1.6 Troubleshooting the Problem (Hands-On)**