

Basics of Overpressure Protection (Instructor-Led Training)

Course Description

This course introduces the basics of overpressure protection to technicians new to the natural gas industry.

Course Prerequisites

- GTA Web-Based Training
 - None
- Instructor-Led Training
 - Basics of Control Valves

Course Objectives

Upon completion of this course, the student will have received instruction designed to assist him/her in the following:

- Explain how pressure-relieving valves and safety valves are categorized and characterized.
- Examine the construction of pressure-relieving valves and safety valves.
- Describe the operating characteristics of pressure-relieving valves and safety valves.
- Describe the terms associated with pressure relief and safety valves.
- Identify the functions of identifications and markings that are placed on pressure-relieving valves.
- State the applicable federal regulations as they relate to pressure-relieving devices.
- Identify American Society of Mechanical Engineers (ASME) procedures pertaining to inspection, maintenance, testing, and adjustment of relief valves.

Course Outline

1. Overview of Relief and Safety Valves
 - a. Terms Used to Describe Safety and Relief Valves
 - b. Valve Construction and Operation
 - c. Seating Arrangements
 - d. Controlling Piston or Diaphragm
 - e. Pilot Valve
 - f. Spring and Spring Washers
 - g. Valve Stem (Spindle)
 - h. Construction and Operation of Relief Valves
 - i. Spring-Operated Relief Valves
 - ii. Pilot-Operated Relief Valves
 - i. Construction and Operation of Safety Valves
 - i. Spring-Operated Safety Valves
 - ii. Pilot-Operated Safety Valves
 - j. Valve Cracking
 - k. Valve Fully Open
 - l. Full Flow Conditions
 - m. Valve Closing
 - n. Huddling Chamber Safety Valves
 - o. Valve Identifications, Markings, and Symbolism
 - p. Identifications and Markings
 - q. P&ID Symbols
 - r. Code Stamps
2. Regulatory Compliance, Professional Standards, and Related Procedures and Documentation
 - a. Federal Regulations
 - b. ASME Standards (B&PV)

Recommended Resources

- GTA Basics of Overpressure Protection Participant Guide.
- GTA Basics of Overpressure Protection Instructor Presentation.
- Internet sites related to industrial overpressure protection.
- Textbooks or other publications related to industrial overpressure protection.