



## Electrical Safety in Design for Oil and Gas Facilities Core

### MODULE

#### About the Skill Module

This skill module focuses on the design elements of industrial facility power systems common in the energy industry that relate to Electrical Safety. By understanding the effects, causes, and factors associated with shock and arc flash hazards, engineers have the opportunity to design and configure power distribution systems to be as safe as possible. Good design achieves a high degree of safety performance while also achieving high reliability, as well as the ability to perform maintenance and additions while equipment is de-energized but maintaining continuity of service to the facility.

#### Target Audience

Facilities, project engineers, and newly graduated electrical, controls, and instrument engineers (0-5 years) who need to improve their basic understanding of instrumentation and control systems within oil and gas facilities.

#### You Will Learn

- Describe how design, installation, operation, and maintenance work together to achieve safety results
- Identify electrical hazards in the workplace and how to avoid them
- Describe the hierarchy of risk control
- Explain the role of design and engineering in electrical safety
- Describe the causes and effects of shock on the human body
- List techniques used to protect people from electric shock
- Explain the causes and effects of arc flash/blast and the factors that impact arc flash incident energy
- List methods that operations and engineering can use to reduce arc flash risk
- Describe the potential trade-offs between achieving electrical safety and reliability and methods to achieve both
- Explain the importance of working on electrical equipment in a “de-energized” or “dead” state
- List the limited situations that could justify “energized work”
- Describe the design elements that impact electrical safety with the goal of an inherently safe operation
- Describe the operational considerations for electrical work, including:
  - Temporary power equipment
  - Risks of working around overhead power lines
  - Preventative and predictive maintenance strategies
  - Safety impact of unlabeled or mislabeled equipment

## **Product Details**

Categories: Upstream

Disciplines: Instrumentation, Controls & Electrical

Levels: Basic

Product Type: Individual Skill Module

Format: On-Demand , Online

Duration: 4 hours (approx.)

**\$395.00**