

# Process Hazards Analysis Leader

## C110 Virtual

### **DAY 1: 9:00 A.M. TO 5:00 P.M. (Eastern Time)**

9:00 – 10:00

- Introduction
  - PSM concepts and regulations
  - Risk concepts

10:00 – 11:00

- PHA Regulatory Requirements

11:00 – 12:00

- What-if/Checklist Analysis Technique

2:00 – 3:00

- Fundamentals of what-if/checklist analysis-
- What-if/checklist terminology
- What-if/checklist procedure-Checklist resources

3:00 – 5:00

- Instructor-led What-if/Checklist Exercise

### **Day 2 DAY 2: 9:00 A.M. TO 5:00 P.M. (Eastern Time)**

9:00 – 12:00

- HAZOP Analysis Technique
  - Fundamentals of HAZOP analysis
  - HAZOP technique
  - Identification of critical equipment/alarms/instruments
  - Multiple modes of operation

2:00 – 3:00

- HAZOP Guide Word Exercise

3:00 – 4:00

- PHA Scope
  - Problem definition
  - Statement of objectives
  - Physical scope and limits of resolution

4:00 – 5:00

- PHA Preparation
  - Team selection
  - Data collection
  - Dividing a process into nodes
  - Worksheet preparation

**Day 3 DAY 3: 9:00 A.M. TO 5:00 P.M. (Eastern Time)**

9:00 – 11:00

- PHA Preparation Workshop (practice defining process sections and preparation of worksheets)

11:00 – 12:00

- PHA Meeting

2:00 – 4:00

- Team leader and scribe responsibilities
- First session kickoff
- Techniques for questioning
- Determining adequacy of safeguards
- Common problems and how to handle them
- Follow-up assignments
- Review of results

4:00 – 5:00

- Instructor-led Example HAZOP Analysis (continuous process)

**Day 4 DAY 4: 9:00 A.M. TO 5:00 P.M. (Eastern Time)**

9:00 – 12:00 and 2:00 – 2:30

- HAZOP Exercises

2:30 – 3:30

- Human Factors Concepts

3:30 – 5:00

- HAZOP Analysis Technique for Procedures

**Day 5 DAY 5: 9:00 A.M. TO 5:00 P.M. (Eastern Time)**

9:00 – 10:00

Instructor-led Example HAZOP (procedures)

10:00 – 12:00 and 2:00 – 3:00

- HAZOP Exercises (procedures)

3:00 – 4:30

- PHA Results
  - Report outline
  - Formulation of recommendations

4:30 – 5:00

- Course Review and Summary