Program of Instruction
Course Syllabus

Course Title: Permit Required Confined Spaces Training

Course Duration: 8 hours

Program: Safety Requirements for Entering Confined Spaces

Level of Training: Performance – All employees regulated by the OSHA Standards

Course Description: This course is designed to meet the following objectives:

- Increase the members' knowledge of the type, nature, and physiological effects of confined space entry;
- Develop new attitudes toward health and safety;
- Increase safety conscious behaviors for work in permit required confined spaces, and
- Familiarize members with the atmospheric monitoring equipment, personal protective equipment and rescue equipment used in permit required confined spaces.

To accomplish these objectives, the course design integrates small group activities, hands-on workshops, site simulation exercises, demonstrations, facilitated discussions, and audio-visual aids.

Course Requirements and/or Recommendations: These can be divided into three categories: those completed prior to arriving in class (Pre-Course Work), those completed during class, such as homework assignments and quizzes (Course Work), and requirements completed after class but prior to receiving a certificate of completion. (Post-Course Work)

Summary of Directions
Pre-Course Work**:** None

Course Work: This course meets or exceeds the initial training requirements of OSHA 29 CFR 1910.146 and OSHA 29 CFR 1915 Subpart B, and OSHA 29 CFR 1926 Subpart AA for Permit Required Confined Space workers.

Post-Course Work: None

Course Content:

Module: 1 - Legal Rights and Responsibilities

Terminal Learning Objective:

- Identify which government agencies are responsible for aspects of safety, health and environmental protection.
- Find information you need from OSHA regulations.
- Discuss your health and safety rights on the job.
- Identify your health and safety responsibilities.

Module: 2 - Hazard Recognition, Identification and Evalutaion

Terminal Learning Objective:

- Review confined space classifications and written program requirements.
- Explain the definition of a Confined Space and how to conduct a Confined Space Survey.
- Explain information and requirements on how to identify hazards in confined spaces through monitoring the physical characteristics, biological hazards, mechanical hazards, physical hazards and chemical hazards.
- Exlain how to evaluate the hazards using risk assessments procedures and developing strategies to control the hazards.

Module: 3 – Non-Permit Required Confined Spaces (NPCS)

Terminal Learning Objective:

- Identify controls used to implement safe work procedures for entry into a NPCS.
- Review training requirements for NPCS entry.

Module: 4 – Permit Required Confined Spaces (PRCS)

Terminal Learning Objective:

- Describe entry permits and entry permit requirements prior to entering a PRCS.

- Explain the permit implementation process for entry into a PRCS.
- Review the validity of permits in a PRCS.
- Explain how to close and/or revoke permits in a PRCS.

Module: 5 – Atmospheric Testing

Terminal Learning Objective:

- Identify if the general criteria for atmospheric testing.
- Review testing considerations including instrument calibration and reliability.
- Describe acceptable limits in atmospheric testing.

Module: 6 – Entry Team

Terminal Learning Objective:

- Define the roles and responsibilities of the Attendant.
- Define the roles and responsibilities of the Entrant.
- Define the roles and responsibilities of the Entry Supervisor.
- Define the roles and responsibilities of the Atmospheric Tester.

Module: 7 – Isolation and Lockout/Tagout

Terminal Learning Objective:

- Review the sources which should be secured, relieved or disconnected from the confined space.
- Review the isolation process.
- Reviw the lockout/tagout procedure and implementation.

Module: 8 – Ventilation

Terminal Learning Objective:

- Define methods of ventilation prior to entry.
- Review calculation methods for volume of air requirements.
- Review hazards caused by ventilation equipment and methods to mitigate them.

Module: 9 – Cleaning / Decontamination

Terminal Learning Objective:

- Describe cleaning and decontamination procedures for the confined space.
- Describe entry team member and equipment decontamination process following a confined space exit.

Module: 10 – Personal Protective Equipment

Terminal Learning Objective:

- Define general PPE requirements for confined space entry.
- Review selection criteria for PPE.
- Review inspection methods of PPE and requirements for disposal and replacement.

Module: 11 – Auxillary Equipment

Terminal Learning Objective:

- Review equipment used for entry and exit.
- Review retrieval equipment methods.
- Review fall protection requirements.
- Review electrical equipment hazards and uses in confined spaces.

Module: 12 – Safety Signs and Symbols

Terminal Learning Objective:

- Identify safety signage requirements and posting requirements.

Module: 13 – Emergency Response, Evacuation and Rescue

Terminal Learning Objective:

- Review the requirements of an Emergency Response Plan.
- Identify respiratory protection equipment, inspection requirements, and usage.

VARIOUS SMALL GROUP EXERCISES

These small group exercises will demonstrate how to use site specific information about confined space entries to reinforce the training module presented. They are designed to strengthen the modules core objectives and answer questions about job planning process.

HANDS-ON SIMULATION / EVALUATION

A confined space entry team will role play the various responsibilities including confined space evaluation, monitoring, permitting, and rescues.

COURSE EXAM

Participants will take a 50-question (multiple choice) exam. Minimum passing score is 70%.

EVALUATION STRATEGY:

A written test is conducted at the completion of the course. In addition, several simulated evolutions and scenarios are used throughout the course.

References:

Cohen, Beverly S. *Air Sampling Instruments for Evalution of Atmospheric Contaminants*. American Conference of Governmental Industrial Hygienists, Inc. 2001.

DHHS (NIOSH) Publication No. 80-106, *Criteria for a Recommended Standard: Working in Confined Spaces*. National Institute for Occupational Safety and Health, 1979.

Harris, Michael K., Lindsay E. Booher and Stephanie Carter. *Field Guidelines for Temporary Ventilation of Confined Spaces*. American Industrial Hygiene Association, 1996.

OSHA 2254-09R 2015, *Training Requirements in OSHA Standards*, www.osha.gov – 2015

ANSI/ASSE Z117.1 – 2016, *Safety Requirements for Entering Confined Spaces*, American Society of Safety Engineers. Park Ridge, Illinois, 2016

OSHA 29 CFR 1910.146, *Permit-Required Confined Spaces*, www.osha.gov

OSHA 29 CFR 1910.147, *The Control of Hazardous Energy (Lockout/Tagout)*, www.osha.gov

OSHA CFR 1915 Subpart B, *Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment*, www.osha.gov

OSHA CFR 1926.1201-1213, *Confined Spaces in Construction*, www.osha.gov

Rekus, John F. *Complete Confined Spaces Handbook*. Lewis Publishers an imprint of CRC Press, 1994

Schroll, R. Craig. *Confined Space Safety & Rescue*. FIRECON, 1990

Spellman, Frank R. *Confined Space Entry: Guide to Compliance*. CRC Press, 1998

Course Schedule

DAY ONE

Start Time: 08:00 to 17:00

Event	Duration
Orientation and Introductions – Course Objectives - Registrations	.5 hour
Module 1: Legal Rights and Responsibilities	.5 hour
Module 2: Hazard Recognition, Identification and Evaluation	1 hour
Module 3-4: Non-Permit and Permit Required Confined Spaces	1 hour
Module 5: Atmospheric Testing	1 hour
Lunch	
Module 6: Entry Tream	1 hour
Module 7: Isolation and Lockout/Tagout	.5 hour
Module 8-9: Ventilation and Cleaning / Decontamination	.5 hour
Module 10: Personal Protective Equipment	.5 hour
Module 11-12: Auxillary Equipment and Safety Signs and Symbols	.5 hour
Module 13: Emergency Response, Evacuation and Rescue	.5 hour
Final Exam	.5 hour