



IWU PHYSICAL PLANT SAFETY PROGRAM

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STANDARDS

Permit-Required Confined Spaces (PRCS), Title 29 Code of Federal Regulations (CFR) Part 1910.146

1.0 INTRODUCTION

IWU is committed to providing a safe and healthful work environment for our entire staff. To achieve this goal, the following written program identifies all Permit-Required Confined Spaces (PRCS) and the procedures that shall be used to eliminate or control hazards associated with PRCS operations.

2.0 RESPONSIBILITIES

2.1 Overall Program Responsibility

2.1.1 IWU is responsible for the overall implementation and maintenance of any written program or any certification concerning the requirements of the permit-required confined space standard at our facility.

2.2 Permit-Required Confined Space Evaluation

2.2.1 IWU is responsible for evaluating the workplace to determine if any permit spaces are present.

Note: A confined space is a space which:

- Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- Has limited or restricted means for entry or exit (for example, vaults and pits are spaces that may have limited means of entry); and
- Is not designed for continuous employee occupancy.

A permit space is a confined space which has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere;
- Contains a material that has the potential for engulfing an entrant;
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
- Contains any other recognized serious safety or health hazard (i.e., electrical, mechanical, etc.).



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2.3 Training : IWU is responsible for ensuring that all affected personnel are properly trained and that refresher training is given. Personnel who may be included are any Authorized Entrants, Attendants and Entry Supervisors.

2.4 Equipment

2.4.1 IWU will ensure that all equipment needed for safe entry into any permit spaces and non-permit spaces is available and in proper working order.

2.5 Rescue Services

2.5.1 IWU will ensure that rescue and emergency services have been developed.

3.0 PERMIT SPACE EVALUATION AND CLASSIFICATION

3.1 Non-permit confined space means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious harm.

3.2 Permit spaces can be entered using alternate procedures when:

3.2.1 The employer can demonstrate that the only hazard posed by the permit space is an actual or potential hazardous atmosphere; and

3.2.2 The employer can demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry; and

3.2.3 The employer develops monitoring and inspection data that supports the demonstrations required.

3.3 Permit spaces requiring a full permit shall be performed in full compliance with OSHA standards.

3.4 IWU has evaluated the workplace and determined that both non-permit and permit required confined spaces exist on campus. Appendix A contains a list of all Permit Required Confined Spaces by classification and the intended entry method.

3.5 Note: A commonly found situation is a PRCS where the only hazard is a mechanical and/or electrical hazard and these hazards can be locked out from



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outside the space. This eliminates the hazard and enables the space to be reclassified as non-permit as long as those hazards remain eliminated.

3.6 When air monitoring indicates acceptable entry conditions without the use of ventilation, the following questions must be asked:

- 3.6.1** Is there a "potential" for an atmospheric hazard to develop in the space or can the space be determined to be totally free of hazards (non-permit)?
- 3.6.2** What chemicals may be in the space? Review those SDS.
- 3.6.3** Will entrants be disturbing chemicals in the space, taking chemicals into the space?
- 3.6.4** Doing hot work?
- 3.6.5** Is there ongoing oxidation (rusting) or organic decomposition (rotting) processes in the space?

4.0 PREVENTION OF UNAUTHORIZED ENTRY

4.1 If permit spaces are identified at our worksite **IWU** will inform exposed or potentially exposed employees of their existence and hazards. The method(s) that will be used will be:

- 4.1.1** Posting of danger signs at each permit space reading "**Danger-Permit-Required Confined Space Do not enter**" or similar language.

4.2 It has been determined by **IWU** that the permit spaces identified at our workplace may not be entered by an employee until the following measures have been taken to prevent the employee from entering the space(s):

- 4.2.1** See section 5.

5.0 SAFE ENTRY CONDITIONS

5.1 Entry into PRCS shall not be attempted unless the following conditions exist:

- 5.1.1** Oxygen levels are between 19.5% and 23.5%.
- 5.1.2** Flammable gas, vapor or mist concentration is 10% or less of the lower flammable limit (LFL).
- 5.1.3** Concentrations of combustible dust are kept below the LFL and shall not obscure vision at distances of 5 feet or less.
- 5.1.4** All substances which have an OSHA PEL (Permissible Exposure



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Limit), and which cause acute illness or would impair the entrant's ability to self-rescue, will be controlled within the space to a concentration equal to 50% of the PEL.

- 5.1.5 All electrical, mechanical and other kinetic hazards within the space shall be locked out, de-energized or safety blocked per OSHA safety standards.
- 5.1.6 Engulfment or entrapment hazards shall be eliminated or controlled.
- 5.1.7 All of these conditions shall be confirmed and noted on the Entry Permit prior to entry.

6.0 SAFE ENTRY PROCEDURES AND EQUIPMENT

- 6.1 Safe entry procedures have been developed for each permit spaces at our facility. These procedures specify the proper methods and equipment necessary to conduct the entry operation in a safe manner.
- 6.2 Where hazards posed, tasks performed and/or equipment and training needed are similar, the procedures would cover multiple spaces. They should indicate the specific PRCS they apply to.
- 6.3 The written entry permit exercised and reviewed prior to each entry is the checklist utilized to ensure all the procedural steps for a safe entry have been taken.
- 6.4 Appendix B lists the variety of equipment available for use in PRCS entries. The Training Section 9 lists the training to be used to certify the skills, knowledge and understanding required to perform certifications and entries.

7.0 HOST EMPLOYER'S RESPONSIBILITIES WITH CONTRACTORS

- 7.1 When contractors are involved in permit space entry work at our workplace, **IWU** will inform the contractor of the following information and coordinate any entry operations:
 - 7.1.1 The location of the permit spaces at our facility. Notify the contractor that entry into these spaces is only allowed through a permit space program, alternative procedures or space reclassification.
 - 7.1.2 Our rationale for listing the space as a permit space, such as any identified hazards, and our experiences with the particular space.
 - 7.1.3 Precautions that we have implemented to protect employees working in or near the space.



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7.2 IWU will debrief the contractor at the completion of the entry operation, or during if a need arises, and if any hazards were confronted or created during their work.

8.0 CONTRACTOR'S RESPONSIBILITIES

8.1 Contractors may not be aware of their responsibilities under the standard. Host employers must proactively seek this information.

8.2 When a contractor is hired to perform work in a PRCS, **IWU** will:

8.2.1 Obtain from the contractor any information on the hazards (chemicals, equipment, tasks) the contractor's employees will introduce into the permit space.

8.2.2 Determine whether our employees will be working in or near a PRCS where they may be exposed to the contractor's hazards. Coordinate entry operations with a designated contractor representative.

8.2.3 Obtain from the contractor the PRCS entry program/procedures they will be utilizing.

8.2.4 Hold a debriefing conference with the contractor at the completion of the entry operation or during the entry operation (if needed) to exchange information on any hazards confronted or created.

9.0 TRAINING


9.1 Training must be given to each employee who has access or potential access to a permit space. The amount and type of training needed will depend on the individual's job responsibilities. The overall intent of this training is to give employees the understanding, knowledge, and skills necessary for the safe performance of their assigned duties in relation to the entry of PRCSs.

9.2 Awareness Training - Awareness training for employees potentially exposed to permit spaces. This training provides knowledge regarding:

9.2.1 The existence, location and danger posed by PRCS in the company,

9.2.2 The design, content and purpose of any warning sign posted or other means of warning

9.2.3 The prohibition of entry into PRCS unless expressly authorized by a

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permit or certification.

9.3 Training Required for All PRCS Entry Categories:

9.3.1 Training for entry into any PRCS shall include (as applicable):

- 9.3.1.1** The hazards associated with any atmospheric contaminants including their acceptable entry levels and symptoms of overexposure.
- 9.3.1.2** Awareness training to recognize other potential hazards in or around the space.
- 9.3.1.3** Any conditions which may make it unsafe to remove the entrance cover.
- 9.3.1.4** The need for prompt guarding of the entrance opening.
- 9.3.1.5** Atmospheric testing equipment including: use, calibration, maintenance, testing protocol, pre-entry testing, and frequency of testing.
- 9.3.1.6** Train employees on the hazards associated with the space (i.e., mechanical, chemical, atmospheric) and the methods needed to eliminate the hazards including: isolation techniques; lockout/tagout; disconnection and misalignment of pipes; double block and bleed; blanking and blinding; removal of engulfment hazards; elimination of hazardous atmosphere by draining, inerting, purging, cleaning, and venting.
- 9.3.1.7** Procedures the employee must follow if a prohibited condition is detected.
- 9.3.1.8** When to exit the space.
- 9.3.1.9** The evaluation process to be used for reentry if a hazardous atmosphere is detected or the entrant(s) vacate(s) the space and returns some time later.
- 9.3.1.10** Train employees on the use of entry equipment, including ladders and intrinsically safe lighting.
- 9.3.1.11** Personal protective equipment (e.g., gloves, hard hats, boots, etc.) and its use, limitations, and required maintenance.
- 9.3.1.12** A review of the completed written permit with the employee prior to entering the space.

9.4 Specific Personnel Titles for Full Permit-Required Confined Space Entry Operations

9.4.1 Entry into any PRCS where a full PRCS program is mandated will



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require the employer to designate an entry team. Each team will consist of an:

- 9.4.1.1** authorized entrant(s)--can simultaneously be entry supervisor
- 9.4.1.2** attendant(s)
- 9.4.1.3** entry supervisor(s)--can simultaneously be authorized entrant

9.5 These team members will need the following training on these duties which are over and above training for all PRCS entrants:

9.5.1 Authorized Entrants

- 9.5.1.1** Maintain a continuous means of communication with the attendant.
- 9.5.1.2** Alert the attendant in the event of an emergency.

9.5.2 Attendants

- 9.5.2.1** Maintain an accurate account of the authorized entrants.
- 9.5.2.2** Remain at their assigned station until relieved by another attendant or until the permit space entry is complete.
- 9.5.2.3** Monitor conditions in and around the permit space.
- 9.5.2.4** Summon rescue and applicable medical services in the event of an emergency.
- 9.5.2.5** Perform non-entry rescue procedures.
- 9.5.2.6** Perform appropriate measures to prevent unauthorized personnel from entering the permit space.
- 9.5.2.7** Maintain communication with authorized entrants in the space.

9.5.3 Entry Supervisors

- 9.5.3.1** Verify that the safeguards required by the permit have been implemented.
- 9.5.3.2** Verify that rescue services are available and that means for summoning them are operable.
- 9.5.3.3** Cancel the written permit and terminate the permit space entry when required.
- 9.5.3.4** Remove personnel who are not authorized to enter the permit space during entry operations.
- 9.5.3.5** Periodically, determine that the entry operation is being performed in a manner consistent with the requirements of the



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permit space entry procedures and that acceptable entry conditions are maintained.

9.5.3.6 Procedures for annual review of canceled permits.

9.5.3.7 Any other information necessary to ensure employee safety during a permit space entry operation.

9.5.3.8 Documentation of the training.

9.5.4 Rescue personnel: At this time with the available services nearby, Illinois Wesleyan University will not provide our own Rescue & Emergency Services. Because of that decision we are not required to purchase or provide additional rescue training or rescue equipment to our employee's. Local rescue shall be identified which meets Appendix F of the 1910.146 standard.

9.6 See Appendix C for documentation of training.

10.0 RESCUE AND EMERGENCY SERVICES

10.1 The precautions and procedures outlined in our written PRCS program are designed to ensure that our employees are safe while working in permit spaces. Under no circumstances do we expect our employees to enter a permit space where hazards have not been eliminated or effectively controlled.

10.2 **IWU** has not made arrangements for off-site rescue and emergency.

10.3 If rescue and emergency services are needed, we will contact 911.

11.0 PERMIT-REQUIRED CONFINED SPACE PROGRAM REVIEW

11.1 Within one year of any entry operation, **IWU** will conduct a review of the program using the cancelled entry permits to identify any deficiencies in our program. A review will be conducted sooner if there is reason to believe that the program does not adequately protect our employees. Any corrective measures will be documented by a revision of the program. Employees will be trained on any changes. Additionally, employees who note any inadequacies with the program can contact Physical Plant Director.

11.2 If no permit space entry operations are conducted during the year, no review is needed.



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APPENDIX A

Permit-Required Confined Space Lists:

1. The following spaces have been determined to be PRCS and will be entered using full-permit entry procedures.

Any of our vaults, i.e. sewer, steam, ground water, electrical, phone or pits

2. The following spaces have been determined to be PRCS and can be entered using alternate entry procedures:

None

3. The following spaces have been determined to be non-permit spaces or will not be entered until conditions within the space have been altered to achieve non-permit status:

None



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APPENDIX B

Equipment used in PRCS entries (to include as needed):

1. Properly calibrated testing and monitoring equipment;
2. Ventilating equipment needed to obtain/maintain acceptable entry conditions;
3. Communications equipment, if necessary;
4. Personal protective equipment insofar as feasible engineering and work practice controls (i.e., lockout/tagout) do not adequately protect employees;
5. Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency;
6. Barriers and shields;
7. Equipment, such as ladders, needed for safe ingress and egress by authorized entrants;
8. Rescue and emergency equipment, including full chest harness and lifting device.
9. Any other equipment necessary for safe entry into and rescue from permit spaces.



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APPENDIX C

DOCUMENTATION OF TRAINING

The following is a list of employees who have been equipped and trained to serve as authorized entrants or as entrants using non-permit or alternate procedures at our facility:

Authorized Entrants(s)	Trainer	Date of Training
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The following is a list of employees who have been equipped and trained to serve as attendants:

Attendant(s)	Trainer	Date of Training
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The following is a list of employees who have been trained to serve as entry supervisors:

Entry Supervisor(s)	Trainer	Date of Training
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The following is a list of employees who have been trained to serve as Rescue Personnel:

Rescuer(s)

Trainer

Date of Training
